# **Appearance Change**



Package	FROM: OMLF	TO: UDLF	Remarks
Top Package Appearance	Pin 1 Indentation mark  MATRIX BOTTOM CORNER GATE	Pin 1 indentation mark  Gate  Gate  Gate mark  UDLF TOP CORNER PIN GATE	OMLF: Corner mold gate UDLF: Top mold gate Package Dimensions: No change
Bottom Package Appearance	OMLF BOTTOM PACKAGE	UDLF BOTTOM PACKAGE	Package Dimensions: No change

# f Materials Change Description

MATERIALS	FROM	то	REMARKS
Die Attach	Ablestik 8361J	Ablestik 8361J	Same
Nire type	Gold Wire	Gold Wire	Same
Mold Compound	Sumitomo G700LS	Sumitomo G631HQ	G631HQ is qualified
_ead Finish	Matte Sn	Matte Sn	Same



# Lead Frame Format Change of Select QFP Products in Amkor Philippines

# Qualification Results Summary for QFP at AP1

TEST	SPECIFICATION	SAMPLE SIZE	RESULT
Temperature Cycle (TC)*	JEDEC JESD22-A104	3 x 32	PASS
Solder Heat Resistance (SHR)*	JEDEC/IPC <i>J-STD-020</i>	3 x 11	PASS
Highly Accelerated Stress Test (HAST)*	JEDEC JESD22-A110	3 x 32	In Process Est. Completion Nov 2019
High Temperature Storage (HTS)	JEDEC JESD22-A103	1 x 32	PASS
Unbiased Highly Accelerated Stress Test (UHAST)*	JEDEC JESD22-A118	3 x 32	PASS
Electrostatic Discharge Field Induced Charge Device Model	ANSI/ESDA/JEDEC JS-002	3/voltage	PASS ±1250V

<sup>\*</sup> Preconditioned per JEDEC/IPC J-STD-020.

### **DeltaQualifikationsMatrix**

Kurze Produkt- und Technologiezyklen elektronischer Bauelemente sowie neue Umweltauflagen (Bleiverbot Flammhemmer, …) führen häufig zu prozeß- und werkstofftechnischen Änderungen an Bauelementen, Leiterplatten, Verbindungstechnik und Schaltung, welche evaluiert werden müssen. Eine geeignete Methodik zur Handhabung von Änderungen an elektronischen Bauelementen beschreibt die ZVEI "Guideline for Customer Notifications of Product and /or Process Changes (PCN) of Electronic Components specified for Automotive Applications". Ein wesentlicher Teil dieser Guideline sind die hier vorliegenden Matrizen, welche sich als Empfehlungen für die Evaluierung von typischen Änderungen an elektronischen Bauelementen verstehen. Dies sollte Teil des offenen und risikobewussten Dialoges zwischen Lieferant und Kunden sein. Diese DeltaQualifikationsMatrizen wurden durch den Industriearbeitskreis "PCN DeltaQualifikationsMatrix" und den DeltaQualificationMatrix" together with component experts from the ZVEI Working Group "PCN-Bauteilexperten des ZVEI Arbeitskreis "PCN-Methodik" erarbeitet. Der Inhalt wurde basierend auf dem aktuellen Stand der Technik erstellt und erhebt keinen Anspruch auf Vollständigkeit. Im Einzelfall ist ggf. ein abweichendes

#### Anwendung der DeltaQualifikationsMatrix (auszufüllen durch den Bauelementehersteller)

Vorgehen abzustimmen, da kundenspezifische Vereinbarungen zur Qualifikation zu berücksichtigen sind.

- a) Diese Tabelle ist nur bei Änderungen anzuwenden. Neugualifikationen und Sondergualifikation (z.B. Verguß von Modulen) sowie Information Notes bleiben von diesen Matrizen unberührt.
- b) Ist eine Änderung in dieser Tabelle nicht aufgeführt, so ist der Qualifikationsumfang zwischen Kunde und Lieferant abzustimmen.
- c) Die Matrix der Aktiven Bauelemente ist so aufgebaut, dass zwischen integrierten Halbleitern (AEC-Q100 Rev.H) und diskreten Halbleitern (AEC-Q101 Rev. D1) auszuwählen ist (Zelle D4). Für Passive Bauelemente gilt die AEC-Q200. Für LED's gilt die IEC 60810.
- d) Alle Änderungen in der PCN sind in der Spalte B durch ein Kreuz (x) zu markieren und werden dadurch farblich hervorgehoben. Sofern dies geschehen ist, werden im Feld "Tests, which should be considered for the appropriate process change" (Zeile 83 für Aktive Bauelemente, Zeile 466 für Passive Bauelemente oder in Zeile 77 für LED's) alle in Betracht zu ziehenden Zuverlässigkeitstests
- e) In "Tests, which should be considered for the appropriate process change after selection of condition table" (Zeile 85 für Aktive Bauelemente, Zeile 468 für Passive Bauelemente oder Zeile 79 für LED's) wird die Anpassung der in Betracht zu ziehenden Tests in Folge der Relevanz bezüglich der Änderung berücksichtigt.
- Dazu ist die Tabelle "Conditions" entsprechend der Auswahl (A/B/C) mit einem (x) zu bewerten. f) In "Suppliers performed tests" (Zeile 87 für Aktive Bauelemente, Zeile 470 für Passive Bauelemente oder Zeile 81 für LED's) dokumentiert der Bauelementehersteller die durchgeführten bzw. geplanten Tests.
- g) Falls von der Testempfehlung abgewichen wird, so sollten diese Abweichungen vom Bauelementehersteller angezeigt und kommentiert werden. Hierzu ist der Bereich "Reason for exception of tests" (Zeile 89 für Aktive Bauelemente, Zeile 472 für Passive Bauelemente oder Zeile 83 für I FD's) zu
- Werden die in Betracht zu ziehenden Tests durch generische Daten (G) belegt, ist dies ebenfalls hier anzuzeigen und zu begründen.

#### Die Einstufung des Untersuchungslevel erfolgt in folgende Kategorien

- "C: Component level": Die Evaluierung der Änderung am Bauelement ist durch Untersuchungen schließlich am Bauelelement beim Bauelementehersteller durchführbar. Zur Evaluierung der Änderung dürfen Ergebnisse aus bereits durchgeführten Untersuchungen herangezoger werden, wenn diese zu einem ähnlichen Bauelement bereits vorliegen (Generische Daten).
- "B: Board level": Die beschriebene Änderung hat möglicherweise Einfluss auf die Verarbeitbarkei des Bauelementes im Steuergerät. Die Evaluierung der Änderung wird wie unter C beim Rauelementehersteller durchgeführt. Zusätzlich ist durch den Kunden/Steuergerätehersteller die Verarbeitbarkeit zu prüfen, die z.B. abhängig von der Änderung, Zuverlässigkeitsuntersuchungen auf applikationsrelevanten Testbords erfordert.
- \*A: Application level\*: Die beschriebene Änderung hat möglicherweise Einfluss auf die Applikation/ das Steuergerät. Die Evaluierung der Änderung wird wie unter C oder B durchgeführt. Zusätzlich ist vom Kunden/Steuergerätehersteller der Einfluss der Änderung im Steuergerät durch geeignete Untersuchungen zu bewerten. Dieses Vorgehen ist mit dem OEM abzustimmen. Hierbei ist zu berücksichtigen, ob die Steuergeräte- / Baugruppenanforderungen durch andere Qualifikationen bereits hinreichend abgesichert sind (applikationsspezifische Risikobetrachtung).
- \*: Not relevant for qualification matrix": Änderung(en), die nicht in A, B oder C eingestuft werden können und somit nicht relevant für die DeQuMA sind.

Änderungen die nur eine Infornation Note benötigen (bei der Bewertung Risk on Supply Chain als "I" gekennzeichnet), dürfen nicht in der DeQuMa angekreuzt werden, da Sie ansonsten den erforderlichen Evaluierungslevel verfälschen. Für als "I" bewertete Änderungen ist das Information Note Formblatt zu verwenden. influence evaluation level and test effort.

- <u>Wichtige Hinweise</u>
   Zur formgerechten Anwendung der DeltaQualifikationsMatrizen steht auf der Homepage des ZVEI AK ein Tutorial hereit (ZVEI-Tutorial)
- ID Nummer: ist eine eindeutige Identifikationsnummer f
  ür iede angegebene Änderung, die in den ZVEI PCN DeltaQualifikatiosMatrizen identifiziert ist. Die gleiche ID Nummer wird zur Identifizierung der Änderung im PCN Form Sheet verwendet
- Die mittels Matrix identifizierten Tests sind in Betracht zu ziehen, d.h. es ist zu pr

  üfen, ob der jeweilige Test für die spezifische Änderung in dieser Form notwendig ist. Abweichungen oder
- generische Daten sind im Detail zu begründen.
   Die Spalte "Further applicable conditions", Bemerkungen und Fußnoten sind unbedingt zu beachten, da sie wichtige Hinweise und Einschränkungen enthalten.
- Zur Nutzung aller Funktionen muss in Excel die Anwendung von Makros freigegeben sein

## **DeltaQualificationMatrix**

#### General

Short product and technology cycles as well as new environmental regulations ("Pb-free", flame retardants, ) frequently result in process and material changes of components, printed circuit boards, assembly echniques and circuit layout which have to be evaluated. The ZVEI "Guideline for Customer Notifications of Product and /or Process Changes (PCN) of Electronic Components specified for Automotive Applications' describes an appropriate methodology for dealing with changed electronic components. The qualification matrices in this guideline are recommendations for how to assess typical changes of electronic components endations promote an open risk-based discussion between supplier and customer regarding qualifications.

The DeltaQualificationMatrices were developed by the Industry Task Force Team "PCN Methodology". Actual content represents state-of-the-art technology and does not claim to be comprehensive. Deviation from proposed guideline should be mutually agreed as customer specific requirements have to be considered

#### <u>DeltaQualificationMatrix Application</u> (completion by component manufacturer)

- a) This table has to be used for changes only. The matrices are not applicable for new product. special qualifications (for instance for encapsulation of module) or Information Notes.
- b) If a change is not listed in this table, the qualification plan has to be defined and agreed between customer and supplier.
- c) The matrix for Active Components requires the user to chose between integrated circuits (AEC-Q100 Rev. H) and discret semiconductors (AEC-Q101 Rev.D1) (cell D4). For Passive Components AEC-Q200 is used. For LED'S the IEC 60810 is used.
- d) All changes as listed in the PCN have to be marked by a cross (x) in column B and will appear colored. The relevant reliability tests are then shown in "Tests, which should be considered for the appropriate process change" (row 83 for Active Components, row 466 for Passive Components, respectively in row 77 for LED's).
- e) In "Tests, which should be considered for the appropriate process change after selection of condition table" (see row 85 for Active Components, row 468 for Passive Components. or row 79 for LED's) is for modification of the found relevant tests under consideration of the weight of change. Related table "Conditions" has to be assessed per proposed letters with an (x).
  f) In "Suppliers performed tests" (here row 87 for Active Components, row 470 for Passive
- Components, or row 81 for LED's) the component manufacturer documents the planned and
- a) In case of deviations from tests, which should be considered this should be notified and commented by the component manufacturer in the area "Reason for exception of tests" (see row 89 for Active Components, row 472 for Passive Components, or row 83 for LED's). Test results in form of generic data (G) are allowed when notified and justified.

#### Evaluation Levels are categorized as follows

- "C: Component level": The evaluation of a change at component level by the component manufacturer is sufficient. Generic data from other relevant evaluations can be used.
- "B: Board level": The intended change described in the PCN may influence processability / manufacturability of the component at board level. Therefore additional evaluation by customer may be necessary, for example reliability tests on application relevant testboards, depending on change.
- "A: Application level": The intended change described in the PCN may influence the properties of the application (e.g. Electronic Control Unit). In addition to the evaluation under C or R the influence of the change in the application is evaluated by suitable investigations by the customer. The scope of the evaluation has to be aligned with the OEM. It has to be considered whether the application / assembly requirements are already sufficiently safeguarded by other qualifications (application specific risk assessment).
- " \*: Not relevant for qualification matrix": Changes which fulfill neither A.B nor C definitions

Changes indicated as "I" shall not be marked in the DeQuMa. For those changes the InformationNote sheet shall be used. As the DeQuMa is desired for PCN only, a marking of "I"-changes would automatically

#### Important Notes

- To use the matrices in the right form the ZVFI working group provides a Tutorial on its homepage
- ID number: is a unique identification number for each indicated change defined in the ZVELPCN DeltaQualificationMatrices. The same ID number is used in the PCN Form sheet to identify the
- Tests identified by the matrix have to be considered and checked if they are necessary to assess the specific change. Test modifications or generic data have to be justified in detail.
- "Further applicable conditions", comments and notes need attention, as they provide important hints
- In order to use all functions in EXCEL, macros have to be allowed.

## **History of DeQuMa**

Version	Remarks
2.0	Revised by ZVEI PCN Methodology Workgroup in March 2015
2.1	Released March 2015
2.1.1	Active Components - delete write protection in comments
2.2	Solved problems with some ActiveX configurations
2.2.2	Solved Problems in Active Components
2.2.3	Solved Problems ActiveX, Active Components SEM-DE-02 (Design changes in routing) error fixed
2.2.4	Minor fixes
3.0	General Revision by ZVEI PCN Methodology Workgroup in June 2016
	Changes are indicated by underlining in the read only version named Changes_DeQuMa_rev3_vs_rev2.xlsx
3.0.4	Expert Release
3.0.5	Fixing of macro bugs
3.1	Final Release (orthographic and punctuation corrections)

Worked on	AD9883, Highly Integrated Graphics Interface Chip Includes																							
(Name, Function	Three 8-bit/110 MSPS ADCs																							
	01-Oct-19		Form provided by ZVEI - Revision 3.1 - December 2016																					
PCN number																								
	Jordan D. Placido	-								MATE	ERIAL PERF	ORMANC	E TEST	RESULT	S (on the	hasis of A	FC-0100 R	evision H)				add	tional to AEC	
For integrated circuits or discrete semiconductors select below	AEC-Q100 Revision H						include	es integ	rated circu	uits (e.g.	ASICs, μ-C	ontroler,	memorie	s, voltaç	e regula	itors, smar	power de	vices, logic	devices	, analog o	devices	i,)	Q10x	
Mark change with an "x"	Assessment of Impact on Supply Chain regarding following aspects -contactual agreements -sectival interface of processability/ment-based positions of customer -contactual agreements -section in the following professioners	Remaining risks on Supply Chain?	Understanding of semiconductors experts		Prefuzion nerrix  A / B / C	Further applicable conditions	dies or audition site des city.	50	mperature Humidity Bies or bias ad HAST focilities of Unit asset HAST	Jones Temperature Cycling	In inspendice Socials Lie In Temperature Operating Life in) Life Falure Rare	M Endurancu, Data Retenton, and Operation e re Bond Shear	re Bond Pull Identifility yakai Omersions	dör Bal Sharr ad integity schmignisch	na Dapanding Dielectric Breaksfoam	stillame trecion gative Bias Temperature hazability vas Majnakon	actoric Dischage irran Body Madel schoric Dischage anged Device Model	bh up cateal Diambuion innebriest on	adomagnatic Compatibility ant Grout Characterization	atiros atiros medicibaciogo Tost	okaje Drop Torque	i Shear emal Water Vapor 1994 test Conore 12-42 "BODO JUSCOS!)	rander-Matylate repetition of current of changed device anactarization, electrical distribution	Remarks
D 0	Type of change	No Yes		A: Application le B: Board evel	B: Board evel C: Component b 1: Not relevant		be evaluated by	is of specifications are material only	HB 20	2 2 1	TO. H.	M NOS	W S OC	88 - 8	E 900.	2 6 2	es es	10 B B CO B B CO B CO B CO B CO B CO B CO	3 8 O	8 2 E	T. UK	SC AN	£85	
SEM-ANIO1	ANY Any change with impact on agreed upon contractual agreements	P   P	Not relevant for technical evaluation.				YE SE	őě	A2 A3	4 A5 /	46 B1 B2	B3 C1	C2 C3 C4	CS C6 D	D2 1	D3 D4 D5	E2 E3	E4 E5 E7	E9 E10 E	E11 E12 G1-	4 05 06	G7 G8		
SEM-AN-02	Any change with impact on agreed upon constructed agreements.  Any change with impact on processability/manufacturability at customer, which is not covered in the matrix below.	P P	Not relievant for technical evaluation.  Any change which is not covered in the matrix below, but nisk assessment at customer is recommended.		В										-									
SEM-DS-01	DATA SMEET  Change of datasheet parameters/electrical specification (min./max.hyp. values) and/or AC/DC magnification.		Update of data sheet because of technical change e.g. recommendations for pull-up) of the product.	ouli-down or NC	Α .																T.			
SEM-DS-01	specification  Correction of data sheet / errata		of the product.  No bedinical change of the product, only connection in description (wording, drawing,) (ij): In case of destoral changes,) (ij): In case of other on product integrity,) (iii): In case of other on product integrity,)		A .										-									
SEM-DS-03	Specification of additional parameters	I P	Description of a new not previously covered personnels. No scholical change of the product.  (I): Definition of mere passance which was not described an arrange change. Only in continuous with other changes.		A																		-	
SEM-DE-01	GESION  Casign changes in active elements. 1)	P P	Pry device relevant changes in design / layout of sharmes with without on other wheel 1, Net insteads.  Net financiar is adjust product parameter within Application to adjust product parameter within speciful process window and design a false.	yout	A Pi	same check if data sheet is affected (SEM-DS-01).			-   -	• M		D,J -		0	D	D D D					F -			
SEM-DE-02	Design changes in routing . *)	P P	Any change of wing between elements in chip design. Impoct with effect on data sheat.  1, Next heckeder.  1, Next heckeder.  1, Next heckeder.  2, mask changes in metal fix for section (based on external 8D report pacified design rules.	corrective rt)	C A:	Impact on EMC behavior cannot be evaluated / excluded on imponent level.  If impact on electrical function is not excluded on component ref.  excess check if data sheet is affected (SEM-DS-91).		-		А М					-								•	
SEM-DE-03	Die strink <sup>3</sup> )	РР	Shrink of active area.  Typical shrink of die.  Typical shrink of die.		A Ph	ease check if change in process technology (SEM-PW-03) is to affected. case of Cu wire product please consider AEC-Q006.				- M		D,J -												
SEM-DE-04	Ferneure modification		Visignated stathware by design or memory as affected by applier. (B) Firmware readilation or update without effect of increase and extraction professional and accustome (bug P): Firmware modification or update with effect of the visignation and the customes are considered and the customes and the customes are customes and the customes and the customes are customes are customes and the customes are customes and the customes are customes and the customes are customes are customes and the customes are customes are customes are customes and the customes are customes are customes are customes and the customes are customes are customes are customes are customes and the customes are cust	nunities ctional	A	case of Cu wire product please consider AEC-Q006.									-									
	PROCESS - WAFER PRODUCTION			ant minus	_					-														
SEM-PW-01	New / change of wafer substate material	P P	e.g. different wafer material to cur New wafer material. material (like change from EPI mat EPI material).	erial into non-	C In	case of Cu wire product please consider AEC-Q005.		•	-   -						-			- • •					•	Qualification effort acc. AEC-Q100: see diffusion/doping
SEM-PW-02	New wafer dismeter	P P	Change of water dismeter resulting in equipment and process changes.			pact on changes in SEM-PW-09 and/or SEM-EQ-01.  If thermal conductivity is affected like MOSPET: KGBT, BGA.		-		ЕМ		- E	E		-		E E	E • -					•	AEC-Q100: "For broad changes that involve multiple attributes (e.g., als., materials, poccassal, refer to section 3.1.3 of this appendix and section 2.3 of Q100, which allows for the selection of worst-case last vehicles to cover all the possible permutations."
SEM-PW-03	New final wafer thickness		Change in final wafer thickness.			If thermal conductivity is affected (like MOSFET; IGBT, BGA, chage, stacked cles,) If impact on Elizo behavior cannot be evaluated / cluded on component level. case of Cu wire product please consider AEC-Q006.	•	-	-   -	ЕМ		- E	Е		-		E E	E • -					٠	
SEM-PW-04	Change of electrically active doping/implantation element	P P	Change in electrically active doping / implantation element resulting in a new technology.  Change of order material and i or note determine.		Α .			•	-   -	- M	· • #				-						11-		•	
SEM-PW-05	Change of gate material / dielectrics		Change of gate material and / or gate defectric material.  Change of bottom layer of die (between die and		A A:	If thermal conductivity is affected (like MOSFET; IGST, BGA		•	-   -	• M		D,J -			-						11.		•	
SEM-PW-06	New / change of backside operation (grinding / metalization)	P P	Change of bottom layer of die (between die and leadfarm). Change in process, material, or dimensionan secsassry. Namative see SEM-PW-09		C PR	If thermal conductivity is affected (like MOSFET; KGBT, BGA ckape, stacked dies,) If impact on EMC or ESD behavior cannot be evaluated / cluded on component level.		-		• M	• •				-		м м	• • •		н		н	•	AEQ-Q100: Applicable to all smart power devices
SEM-PW-07	New / change of metalization / vias / contacts	P P	Change in metallization of bondpads, material, layer thickness specifically for chip frontaids and internal layers.	ion		case of Cu wire product please consider AEC-Q005.		-		• M			•		-						l-l-		•	
SEM-PW-08	New / change of passivation or die coating (without bare die)	P P	Change of top layer on die (between mold compound and die).  e. g. addition of polyimide		tur In	range of intrinsic mechanical stress might influence electrical notion.  case of Cu wire product please consider AEC-0006.	•	-	• •	• M	- • #,N	D,J •	•		•								•	
SEM-PW-09	Change in process technology (s. g. process changes like lithography, etch, oxide deposition, diffusion, die back auflice preparation/backgrind,)	Р	(-): If the change in process technology does not (-): a.g. change from wet to dry at schools the integrity of the final product.  (P): If the change is process self-chadge can whateroom the integrity of the final product.  (P): a.g. change of layer thickness	iching, tical oven for	A Pin	sase also check changes described under EQUIPMENT. sase check if change is described by specific type of change this matrix.	•	-							-				-   -				٠	Qualification effort depends on type of change.
SEM-PW-10	Process integrity: Suring within specification	P	Variation within process specification (-): If suring which process specification does not influence the integrity of the final product. (-): a.g. process control (P): If remaining risk on product specification is anticipated.		C Pi	same check if DATA SHEET is affected. same check if SEM-PW-99 is affected.		-							-								٠	
SEM-PW-11	Change of wafer supplier.	Р	(-): If no remaining risk is supply chain sold:  If y): If the charge of under supplier can influence the integrity of the final product.  (P): If on, new supplier can tention and of or electrical behavior tention and of or electrical behavior	d does not on substrate r.	C into	of on component, basind on test shucture (typical for IC), struction on component level for discrete components pectod.  See See See See See See See See See Se			-   -						-								•	Qualification for IC 5 µ-Cortobler difficult on product level. Characterisation on wafer lev- urly on test structure.  AEC-Q100: You broad changes that involve multiple attributes (e.g., site, materials, processes), when season A1 of this appendix and section 2.5 old/100, which allows for the selection of social-case test whickes to cover all the possible premulations.*
SEM-PW-12	Change of specified water process sequence (deletion and/or additional process step)	Р	Any change which is not covered by another type (-): a.g. change of cleaning proce of change. Risk is to be assessed.  (P): No Risk to Eupophy chan:  (P): Risk for Dupphy chain (influence on product standard implication (is protect of stepthy).	ss in water don after incuit against	с			-							-									
SEM-PW-13	Move of all or part of wafer fab to a different location/site/subcontractor	P P	Water tab transition with additional changes (described above). e.g. dual source / fab strategy		A in	case of Cu wire product please consider AEC-Q006.		-		• м		J •			•					н		н	•	AEC-Q100: "For broad changes that involve multiple attributes (e.g., site, materials, processes), refer to section A1.3 of this appendix and section 2.3 of Q100, which allows for the selection of worst-case test vehicles to cover all the possible permutations."
SEM-PW-14	Lifegraphy	Р	Councy in precess advinigue for lifeographic process and remarks a	cess to X-say	C Ph	ease also check changes described under EQUIPMENT.			•	• м					-								•	

				1							_															_
SEM-PW-15	Oxide / Interfayer Dielectric	-	Change in process technique for caide / interlays discritic process.  [—]: If the change in process technology does not influence the integrity of the final product.  [P]: If the change in process technology can influence the integrity of the final product.		A	Please also check changes described under EQUIPMENT.	• .	-	• м	-	• #,N	D,J	-		 •	-	.   .			-						
	BARE DIE																									
SEM-8D-01			P Change in final wafer thickness.	Change in final chip/die thickness	A				- E M		• •	-	E E		 •	- E	E E			-				•	•	
SEM-BD-02	New / change of frontside metallization	Р	P Change in bondpads, material, pad pitch, surface changes, layer thickness	e. g. change from ASCu to ACu e. g. change in over pad metalization	В	In case of Cu wire product please consider AEC-Q006.	• •	•	• • M		• -	-			 			• •	•	-			-			
SEM-BD-03	New / change of backside metalization	Р	P Change of bottom layer of die (between die and leadhame). Change in process, material, or dimensions.	e. g. change from CriNWAu to CriNWAg	A		•   •		• M	-	• -	-			 		-   -	• •	• -	-	-   -					
SEM-BD-04	Change of water setup or number of possible good dies on water.		P Needed information for pick & place machine. (I): amount of possible good dies on water (P): influence on water setup and water mapping	(ii): e.g. change from 350 to 240 good dies on water	B																					
SEM-0D-04	Crange or water setup or number or possible good data on water.		(P): influence on water setup and water mapping	(P): e.g. information change for pick & place machine.																		Ш				
SEM-BID-05	Change of optical appearance of wafer edge region (like inide coverage or edge exclusion)	1	P Selection of disa in wafer edge region which have full electrical functionality. (I): in case of wafer edge is affected only (P): in case of single die is affected	(f): e.g. appearance of water edge (rounded instead of square) (P): e.g. polytride as new coating on die	В			-		-		-			 - 1					-						
SEM-BD-05	Die scribe or seperation		Needed information for sawing and pick & place machine.  P (p: If the change in sawing process does not influence the integrity of the final product.  (P): in case if product is delivered on wafer.	(f): e.g. if product is delivered as known good die (in tape and rest) (P): e.g. information change for pick & place machine. e.g. information change for sawing machine.	В	Please check if SEM-80-94 is affected.			• • м																	
SEM-BID-07	Dis Preparation / Clean	-	Py: in case if process technique for die preparation dissaring     (-): If the change in process does not influence the integrity of the final product.  (P): If must compare the process does not influence the integrity of the final product.  (P): If must compare the process does not influence the integrity of the final product.	e.g. information change for sawing machine.  (-): e.g. change of cleaning time.  (P): e.g. change in cleaning procedure after change of sawing equipment.	В	Please check if SEM-8D-96 is affected.			- M			-								-		н .		-		
SEM-BD-08		Р	P Change of top layer on die.	e.g. addition of polyimide e.g. change of polyimide thickness	В	In case of Cu wire product please consider AEC-Q006.				-		-			 -		-  -	ļ			-  -				,	
	PROCESS - ASSEMBLY  Change in critical dimensions of package		P Change in dimensions of existing package.	e. g. changes in package dimensions (further development).	В				• • M					т.						Til	H . I	- н г		-		
		P									-   •								+	H	H					
SEM-PA-02	Change of leadframe base material	Р	P New leadhams material in new composition.	e. g. change from alloy42 to copper e. g. change between two different copper alloys	В				• • M			-			 - [		-  -	1 -	•	L	n -	- н	G	-		
X SEM-PA-03	Change in leadframe dimensions	Р	Change in leadframe dimensions which has impa to the specified electrical parameter acc. data sheet or specification (e.g., heat sink, pin dimensions, die paddle sim,) Not included: Variation within specification.	ct e. g. change in lead frame geometry	В	ESD investigations are only necessary if internal ground and power supply connection of leadframe is affected. At if may not no EMD behavior cannot be evaluated i excluded on component level. In case of Cu wine product please consider AEC-0005.	• .	- 1	м	-	-   -	-	-   -   -				-  -		•	L	н -			-		
SEM-PA-04	Change of lead frame linishing material / area (internal)	Р	P Change of surface material of die attach pad and second bond area (e.g. influence in adhesion to mold compound, wedge bond reliability)	g. change from Ag flash to NP protection layer     g. change from Ag spot to Au spot     e. g. increase of silver plating area	С	In case of Cu wire product please consider AEC-Q005.			• м			-	- с • -		 - 1		-  -	<u> </u>		L	н -	н .	-	-		For wire bond strengh test: Pre- & Post-process change comparison to evaluate process change robustness (AEC-Q101).
SEM-PA-05	Change of lead and heat slug plating material/plating thickness (edennal)	Р	P Change in material and / or process resulting in a new technology (e.g. pure tin).		В			•	• • M			-	- с • -		 					L	н -	н .				
SEM-PA-06		Р	P Stack die or die to substrate (lip chip)	e.g. change of layer thickness e.g. change to Pb-free material e.g. change of copper pillars	С				• • M						 				١.	L	-   -			-		
		1		w. y. www.ge or copper preses		A: If impact on EMC behavior cannot be evaluated / excluded on component level (if die attach has impact on electrical conductivity).			M											Ħ	Ħ	Ħ				
SEM-PA-07	Die attach meterial	Р	P Change of die attach material and / or process sesuting in a new technology (e.g. soft solder, epoxy, etc.)		С	In case of Cu wire product please consider AEC-Q006.		•	• M	-	•	-		•	 -		-   -		•	L	н -	- н і	4 -		•	
SEM-PA-08	Change of wire bonding	Р	Material, dismeter, change in bonding diagram p and for change in process resulting in a new technology.	e.g. change from Au to Cu material e.g. change from 25pm to 23pm diameter e.g. change from single to double bond e.g. change from slich bond to stich on ball bond.	С	A: In case of bond diagram change and EMC cannot be evaluated on component level.  Please also check changes described under SEM-CO-01.  In case of Clu wire bonding please consider AEC-Q006.		•	• • a			-		<b>.</b>			,	ı	•	- 1	н -				•	Parameter Analysis: Circidy vaculand only for Power divices. It is general: Dies sold for material change with impact on bondprocess (e.g., from Au to C recommended. ACC-0100: "For broad changes that involve multiple attributes (e.g., site, makerials, processes), refer to section A1 of this appenda and section 2.3 of 100, which allowed for the selection of secret-class test valvetes to rower all the groading processes; and the secret change of the selection of secret-class test valvetes to rower all the groading permittendings.
SEM-PA-09	Substate / Interposer	Р	P Change of BGA substrate	e.g. changes in routing	В	A: Impact on EMC behavior cannot be evaluated / enduded on component level.  A: If impact on electrical function is not excluded on component level.  In case of Cu wire product please consider AEC-QDDE.		•	• • м					т						L	н -	- н і	٠.			
SEM-PA-10	Die Overssal / Underfill	-	Supporting layers for complex packages like flip- thip and / or change in process assulting in a new technology. [-]: If change does not influence the integrity of the final product. [P]: If impact on product integrity is anticipated.	(-): e.g. change of dispensing speed (P): e.g. change of underfill material	С			•	• • м			-								-	-  -	1	4 -			
X SEM-PA-11	Change of mild compound / encapsulation material	Р	P Change of mold compound / encapsulation material.	e.g. change to green mold compound e.g. change of filler particles	В	A: impact on thermo-mechanical siness caused by mismatch of mold compound, inteleconnecting technology and canter as exident articipated (postellit for Proceed Devises).  Air in case of high Integrating signals (> 257(s) is should be asset of high Integrating signals (> 257(s) is should be asset of high Integrating signal processor().  In case of Cut whe product pleases consider AEC-QDOS.			м			-		- <b>.</b> -	 -	-   -	-  -			L	-   -					
SEM-PA-12	Change of harmetic sealing	Р	P  Affected areas are material and process of hermatic (e.g. ceramic) packages, capped die ar sealed devices (e.g. pressure sensors)	e.g. change of sealing material for RoHS	В	A: impact on EMC behavior cannot be evaluated / excluded on component level (if encapsulation / sealing has impact on electrical conductivity).				•		-	<b>.</b>		 - 1					-	•		-	-		
X SEMPA-13	Change of product marking		Change of marking on device and / or change in process resulting in a new technology  (f): If change does not influence the integrity of the final product.  (P): If impact on product integrity is analogated.	((i): e.g. change of appearance (additional marking)  (P): e.g. change from inked marking to laser marking e.g. marking of pin 1	В				. [.	-		-	- в -							-	-					
SEM-PA-14	Change in process technology (e.g. sawing, die atlach, bonding, molding, plating, bim and form, lead frame preparation,)	-	(-): If the change in process technology does not influence the integrity of the final product.  (P): If the change in process technology can influence the integrity of the final product.		В	Please also check changes described under SEM-EG-01. Please check if change is described by specific type of change in this matrix.				-		-			 -					-				-		
SEM-PA-15	Process integrity: having within specification	-	Variation within process a predication  (-): If having within process a predication does no influence the integrity of the final product.  (P): I impact on product specification is articipated.	f (): s.g. process control	С							-					.			-						
SEMPA-16	Change of direct material supplier	-	Change of suppliers for clinict materials which an used in assembly process (BCM).  [-]: If change does not influence the integrity of the final product.  [P]: If impact on product integrity is anticipated.		С	Please check if material is changed														-						See change of material.
SEM-PA-17	Change of specified-assembly process sequence (deletion and/or additional process step)	-		(-): e.g. additional cleaning step e.g. deletion of optical inspection d (P): e.g. change lead finishing pre-trim & form to post trim & form	С					-		-			 -					-						Qualification depends on specific change.
SEM-PA-18	Move of all or part of sasembly to a different location/site/subcontractor.	Р	P Assembly transfer or relocation	e.g. dual source / fab strategy	с	A or BC impact on other type of changes described under PROCESS. ASSEMBLY and SEM-EQ-01. In case of Cu wire product please consider AEC-Q005.			• • м			-		т•.						L	н -	- н і	H G			Whister tests have to be done on monitoring basis!  AEC-2100: "For broad changes that involve multiple attributes (e.g., site, materials, processes), refer to section A.1.3 of this appends and section 2.3 of 100, which allows that the section of the operation section and section 2.3 of the section of the operation section and section 2.3 of the operation section and section 3.3 of this appends and section 3.3 of this appends and section 3.3 of this appends are section 3.3 of the sect
SEM-PA-19	Die scribe or separation	-	Separation process from single water to dies. (-): If the change in process does not influence the integrity of the final product. (P): If impact on product integrity is anticipated.	(-)c e.g. change of kerf width (P)c e.g. change from sawing to laser cut	С			•	• м	-		-			 - 1					-						
SEM-PA-20	Die Preparation / Clean	-	Change in process technique for die preparation desning P (-): If the change in process does not influence the integrity of the final product. (P): If impact on product infagrity is anticipated.	(-): e.g. change of cleaning time.	С			•	- м	-		-			 -		-   -			-	-  -	- н				
SEM-PA-21	Molding / Encapsulation process  PACHNO/SHIPPING	-	Change in process technique for molding / ercapsulation.  P. (-): If he change in process does not influence the integrity of the final product.  (P): If impact on product integrity is anticipated.	()c e.g. tuning within process specification	С			•	• м		•	-			 -		- ]-			L	-  -					

									 	1 1 1				- 1		-1-1			 -1		
SEM-PS-01	Packing/shipping specification change		Packing/shipping specification change.				_	1 - 1 - 1 - 1	 										 +	•	
SEM-PS-02	Dry pack requirements change	Р	MSL)		•				 											-	
SEM-PS-03	Change of carrier (tray, reel)	P	P Change of carrier (tray, reel)		В				 			-  -  -									
SEM-PS-04	Change of lidesting	1	Change of labelling also on real.  (ii): Change of material label without impact on barcode.  (iii): Changes of material label information which affects data processing at customer.	(f) e.g. additional information (RoHS stamp) (f) e.g. change of defined nomenclature for data processing	В	i i i i i i i i i i i i i i i i i i i			 						-   -   -					-	
	EQUIPMENT																				
SEM-EQ-01	Production from a new equipment/loof which uses a different basic technology or which due to its unique form or function can be expected to influence the integrity of the final product	Р	Change in process technique which is not already covered above.	Change from single wafer to batch process (e.g. over pad metalization) e.g. dambar cutting (mechanical to laser cutting)	A				 			.   .   .	-  -		-					-	Affected process change is to check.
SEM-EQ-02	Production from a new equipment/bod which uses the same basic suchnology (replacement equipment or extension of estating equipment pool) without change of process.	-	PCN required for dedicated equipment for sensitive component production.  [-]: If change does not influence the integrity of the final product.  [P]: If impact on product integrity is anticipated.	(-): e.g. extension of existing equipment pool (P): e.g. extension of dedicated equipment in case basic technology still need to be proven	С				 						-   -   -					•	
SEM-EQ-03	Change in final lest equipment type that uses a different technology.	Р	P Change of tester (only in case of bare dis: final test means wafer test.)	e. g. change tester equipment from LTX to Teradyne	С				 						- • -					•	Gage R&R / delta correlation
	TEST FLOW																				
SEM-TF-01	Move of all or part of electrical water test and/or final test to a different location/site/subcontractor	Р	P Tester transfer or relocation. Check impact on SEM-AN-01	Dual source strategy	O				 			-	-  -		· • .					•	Gage R&R / delta correlation
	Q-GATE																				
SEM-QG-01	Q-GATE  Owage of the test coverage/leading process flow used by the applier to ensure data wheat coverage of the test coverage of t	-	e.g. test flow block, reduction from three temperature measurements to two temperature measurements, charge in burn in / an in process (-): If change does not influence the integrity of the final product.  (P): If impact on product integrity is anticipated.	(-): e.g. test implemented without customer requirement (P): e.g. reduction from three temperature measurements to teo temperature measurements e.g. change in burn in / sun in process.	С				 -  -				-  -		· .						Parameter Analysis: Delta correlation  * For 'burn in' changes EUR recommended
	Change of the test coverage/lesting process flow used by the supplier to ensure data sheet corrollisms (i.e., elimination/addition of electrical measurementhest flow block.	-	Immperature measurements to two temperature measurements, change in burn in / nun in process (): If change does not influence the integrity of the final product.	requirement (P): e.g. reduction from three temperature measurements to two temperature measurements					 						- • -						
	Change of the test coverage/lesting process flow used by the supplier to ensure data sheet corrollisms (i.e., elimination/addition of electrical measurementhest flow block.	-	Immperature measurements to two temperature measurements, change in burn in / nun in process (): If change does not influence the integrity of the final product.	requirement (P): e.g. reduction from three temperature measurements to two temperature measurements					 												
	Orange of the lest consequencing process flow used by the acquire to ensure data sheet complication label, and electrical measurement less flow block; will assure of a mentioning procedure or sampling and the block; will assure the acquire of a mentioning procedure or sampling.	-	Immperature measurements to two temperature measurements, change in burn in / nun in process (): If change does not influence the integrity of the final product.	requirement (P): e.g. reduction from three temperature measurements to two temperature measurements				• • M	 												
	Orange of the lest consequencing process flow used by the acquire to ensure data sheet complication label, and electrical measurement less flow block; will assure of a mentioning procedure or sampling and the block; will assure the acquire of a mentioning procedure or sampling.	ction of c	were executive measurement to two inexpensions measurements, change in boars in 7 and in processing (-); If change does not influence the imaginy of the processing of the change does not influence the imaginy of (9); If impact on product integrity is anticipated.	requirement (P): e.g. reduction from three temperature measurements to two temperature measurements					 -   -							· .	• L	1			
	Carego of the text consempleating process for exactly the applier to mean data that consempleating process for exactly the applier to mean data that exactly consistent or exactly process to exactly an exactly consistent or exactly process or exactly process of exactly process or		were executive measurement to two inexpensions measurements, change in boars in 7 and in processing (-); If change does not influence the imaginy of the processing of the change does not influence the imaginy of (9); If impact on product integrity is anticipated.	requirement (P): e.g. reduction from three temperature measurements to two temperature measurements					-  -	- • •						• •	• L				
	Comp of the tea commission of protest fire early is explice to early an explice to early and the explication of early and	ction of c	were executive measurement to two inexpensions measurements, change in boars in 7 and in processing (-); If change does not influence the imaginy of the processing of the change does not influence the imaginy of (9); If impact on product integrity is anticipated.	requirement (P): e.g. reduction from three temperature measurements to two temperature measurements		-   -   -			x	- • •	• • •										

Not required.
 Information Note required.
 P PCN required.

Asilie or \*\* includes that printermous of that shees had should be considered for the appropriate process change.

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	(Name, Function)  Date:	Max Mustermann		Form provided by ZVE1 - Revision	3.1 - December 2016																					
	PCN number:														Devi	ce evalu	ation									
	Signature:														additional to	AEC-Q200	Revision D								addition C	i to AEC-
Mark change with an "x"			_	1		Evaluation for at A / B / C	gowly age to	9																	Boon	estodon estodon
		Assessment of Impact on Busphy Chain regarding following aspects - contractual algorithms of processability/mendaturability of customer - set/mical irrafters of processability/mendaturability of customer - form, fit, function, quality performance, reliability	Remaining risks on Supply Chain?	Understanding of compone experts	nt Examples to explain	Further applicable co	International by dealer and Co. C. 2000 Revision I	High Temp Especiae (Born Temperature Cycleg	Destructive Physical Analysis	Bissed Hund by Operation Life	External Missal	Physical Diversion Territori Strongh (Leebid) Resistence to Scheets	Mathemical Brock Vitration	Resistance to Subtering He	Thermal Shock  Thechostatic Discharge (TS)	Sobiestilly	Electrical Characterization Flavorablely	Board Plac Terrebul Strangth (SAID)	Beers Load Test  Rare Refardnose	Roserion UN Surge Vehage	Soft Spray.	Shar Breedh	Faut Gunert Durolity Endort Lie Mode Verticals	Jury Bart Endurance	Load Dump Bridannos Whelson Tool (180, 6006-T2-62, 4806 C.)	Remarks  Remarks  (I) projection of projecti
component NETWORKS & RESISTORS		Type of change NETWORKS & RESISTORS	No Yes			5201	Y G	2 '				B 11 0	" "		N 17	-	11 22	21 22	2 2	a 2	2 3		2 2	34	-	
NETWORKS & RESISTORS NETWORKS & RESISTORS	PAS-RES-AN-01	Any change with impact on special customer characteristics/contractual agreements  Any change with impact on processability/manufacturability at customer, which is not covered in	P P		Not relevant for technical evaluation.	•																		-		-
NETWORKS & RESISTORS	PAGE AND	Any change with impact on processability/manufacturability at customer, which is not covered in the matrix below.  DATASHEET	P P		Technical interface means component terminals.	В							1 - 1 -	<u> </u>											• •	•
NETWORKS & RESISTORS		Change of datasheet parameters/electrical specification (min./max./lyp. values) and / or AC/DC specification	РР	Change of application relevant information Not included: Editorial changes.	e.g. lighten of electrical parameter distribution	A Ruk assessment depending of for each application.	on change									-										-
	PAS-RES-DS-02	Correction of data sheet	I P	No technical change of the product, of correction in description (wording, drawing,) (R: in case of editorial changes, (P): in case of impact on product intentity.	e.g. data sheet correction because of new information about component behavior									.   .												-
METALORIES & DESCRIPTION	PAS-RES-DS-03	Specification of additional parameters	I P	Beactifolion of a new not previously covered persenter. No technical change of the product. (It is influence (IP): Risk assessment depending on change for each application to provide violence of additional parameters (sta- valuation).	e.g. adding new (leated) parameter.																	-				-
NETWORKS & RESISTORS		MATERIAL.  Change of material composition - Ink/Wire material of Resistor element		Change of Ink / Wine material		С						- W -	1.1.		• F		в .		- R	.   .	.   .				.   -	•
	PAS-RES-MA-02	Change of material composition - Ink/Wire material of Terminal element		Change of Ink / Wire material	e.g. AgPd paste, Ag paste, lead wire , NiCr for side termination	В						- w -	-		• F		в .		- R					-		•
		Change of material composition - Package/ Mold	P P	Change of Package	e.g. for chip res: final coating, eposy	В					•							• •	- R		 N .					Check whether AOI at tier 1 can be affected.
	PAS-RES-MA-OS	Change of material composition - Passivation  Change of material composition - Substitute material	P P	Change of Passivation /Inner protecti Change of substrate material		C C									•		в -									Amorphy
NETWORKS & RESISTORS	PAS-RES-MA-06	Change of supplier of material DESIGN		Change to a new or additional materia supplier at component manufacturer.		С											в •		- R	<del></del>	N -					Assumption material specification terrains unchanged. Otherwise see change of material.
NETWORKS & RESISTORS	PAS-RES-DE-01		I P	Change of package Change of passivation/Inner protection	n e.g. change of glass, laquer, eposy,	B C	: 1								: :		•	•	- R		 N -					
NETWORKS & RESISTORS	PAS-RES-PR-01	Changes of Inner construction - Passivation PROCESS  Changes in process technology or manufacturing methods - Ink Fine	. P	1	e.g. change of firing profile e.g. change from normal atmospher to nitrogen atmospher	С						- R -					в .									
NETWORKS & RESISTORS NETWORKS & RESISTORS	PAS-RES-PR-02	Changes in process technology or manufacturing methods - Ink Print		Change of ink print process Change of ink print process Change of trim process		С						- R -			•			R R	- R							
NETWORKS & RESISTORS	PAS-RES-PR-04	Changes in process technology or manufacturing methods - Trim  Changes in process technology or manufacturing methods - Lead Form	. P	Change of lead form process	e.g. change from mill trimming to baser trimming e.g. change from bending to punching	C B										•	в -	-			N -		: :			:
NETWORKS & RESISTORS		Changes in process technology or manufacturing methods - Termination Attach  Changes in process technology or manufacturing methods - Marking	. P	Change of termination attach process  Change of marking process	e.g. chip resistors: electropisting process e.g. welding of leads for through put devices. e.g. change from tempon printing to leaser marking	B B				· · ·				•			в .				N -					•
NETWORKS & RESISTORS NETWORKS & RESISTORS	PAS-RES-PR-07	Changes in process technology or manufacturing methods - Molding Process inlegifly: tuning within specification PACKING / SAMPRING - NEW MATERIAL, CRITICAL DIMENSIONS	. P	Change of marking process Change of molding process Variation within process specification	e.g. process control	B C	-		:			: : :	- : :		: :		: :	: :	- R				: :		: :	-
NETWORKS & RESISTORS NETWORKS & RESISTORS	PAS-RES-PN-01	PACKING / SHPPING - NEW MATERIAL, CRITICAL DIMENSIONS Packing / shipping specification charge (bossning of tolerances)	P P	Change of packing specification.	e.g. number of pieces on real.	В							1 - 1 -	4								1.1		- 1		-
NETWORKS & RESISTORS		Dry pack requirements change		Change of dry pack requirements.		В	-															-		•		-
		Change of carrier (tray, neel) PACKING / SHIPPING - VISUAL INSPECTION	PP	Change of carrier	e.g. change by material e.g. change by geometry.	В	•						1.1.	<u> </u>						<u> </u>						-
NETWYDAY & DESISTING	PAS-RES-PV-01	Change of labeling	I P	Change of labelling, also on reel.	(f) e.g. additional information (Roh'S stamp) (P) e.g. change of customer specific information	В										-										-
NETWORKS & RESISTORS	PAS-RES-PV-02	Change of product marking		Marking on device.	e.g. change of content of marking e.g. change of method of marking e.g. change of appearance of marking	В										-						-				-
ANTINODOS A DECUETORO	PAS-RES-PV-03	Change of packing latepping specification	РР	Change in packing specification whic does not described a change of dimensions or material of the packing	th e.g. change of documentation in packing specification											-										-
NETWORKS & PESISTORS	PAS-RES-EQ-01	LOGISTICS / CAPACITY / TESTING - EQUIPMEMENT  Production from a new equipmentition which uses a different technology or which due to its unique form of function can be expected to influence the integrity of the final product.		Change in process technique which is already covered above. Note: Changes affecting the product covered by the table require also a Pr		С											в .									Test effort depends on final risk assessment. Performance lest according to affecte process change.
NETWORKS & RESISTORS	PAS-RES-EQ-02	Production from a new equipmentition which uses the same basic technology (replacement equipment or editation of editing equipment pool)	. р	covered by the table require also a Pi PCN required for dedicated equipme for sensitive component production.		С											в .									process change.
NETWORKS & RESISTORS	PAS-RES-EQ-03	equipment or exention or exent graphent pool  Change in final test equipment type that uses a different technology	P P	Change of final test equipment which different technology. PCN required for dedicated equipme		С										-	в .									Gage R&R / delta correlation
NETWORKS & RESISTORS NETWORKS & RESISTORS		LOGISTICS / CAPACITY / TESTING - PROCESS FLOW	-	for serviceve construents.																		++				
NETWORKS & RESISTORS	PAS-RES-PF-01	Manufacturing site transfer or movement of a part of production process to a different location/site	РР	Change of manufacturing site.  Note: Reorganization inside one plantisite is not affected	Movement or transfer of manufacturing site or process step(s) to a different location/site.	В					•	.   .   .				-	в .		- R		Ν -	-		-	•	•
NETWORKS & RESISTORS	PAS-RES-PF-02	Elimination or addition of a manufacturing process step	. Р	Change of manufacturing process sequence.	e.g. washing / cleaning process e.g. change of order of processes	С							-			-	в .		-							Characterisation depends on impact of production flow.
NETWORKS & RESISTORS	PAS-RES-QG-01	LOGSTICS / CAPACITY / TISTING - O-GATE  Change of last coverage used by the supplier to ensure data sheet compliance (e.g., elemations/distion of electrical measurement/lest flow block, relaxed-onlenhancement of more/steing procedure or exampling)	. Р	Change of test coverage.	e.g. change from 100% to xample inspection e.g. text flow block, reduction from three to two temperature measurements e.g. change in burn in/hun in process.	c										-						-		-		R (electr. funct.): fest coverage. R (reliability) only for change in burn i
INDUCTORS		NOUCTORS																								
MOUTTORS	PAS-IND-AN-02	Any change with impact on special customer characteristics/contractual agreements  Any change with impact on processability/manufacturability at customer, which is not covered in the matrix below.	P P		Not relevant for technical evaluation.  Technical interface means component terminals.	В																				-
INDUCTORS		DATASHEET  Change of dataheet parameters/electrical specification (min./max./lyp. values) and / or ACIDC		Change of application relevant information Not included: Editorial changes.		A Risk assessment depending of for each application.	on change																			- 1
INDUCTORS	PAS-IND-05-01	specification  Correction of data sheet	r P	No technical change of the product, of correction in description (wording,	e.g. sighten of electrical parameter distribution inly e.g. data sheet correction because of new information about component behavior	A for each application.																				_
INDUCTORS				crawing) (§: In case of editorial changes. (P): In case of impact on product integrity.  Description of a new not previously covered parameter.																						
NO CTORS	PAS-IND-DS-03	Specification of additional parameters	I P	bearings.  Description of a new not previously covered parameter.  No technical change of the product.  (it: no influence (P): Risk assessment depending on change for each application to provide widence of additional parameters (sta evaluation).	e.g. adding new (tested) parameter.	*																				-
INDUCTORS		MATERIAL																								

INDUCTORS INDUCTORS																										
INDUCTORS  INDUCTORS	PAS-IND-MA-01	Change of material composition - Bobbin Material	p p	Material without magnetic function	e.g. change from Thermoset to Thermoplastic	В				.   .   <b>.</b>   <b>.</b>															_	
INDUCTORS				maserce														_				_				
INDUCTORS	PAS-IND-MA-02	Change of material composition - Core Material	P P	Change of core material, which is material with magnetic function	e.g. change from NZn into MnZn	Α.				-   -   -   •	•			•   -   -	в •	-			-				-		•	
INDUCTORS	PAS-IND-MA-03	Change of material composition - Insulation Material	р р	Change of insulation material	e.g. who insulation, insulation tapes, e.g. change from Polyurethane to Polyamide	С								• A -	в •										_	
									+-														_			
	PAS-IND-MA-04	Change of material composition - Lead Material	P P	Change of lead material	e.g. change from tin coverd to non-coverd lead material	В	- •				•		•			•	•		-				-	•	-	
																									Ele	ectrical function affected if schanical stress distribution anges. ACI, wave soldering and and coating has to be assessed. St. night change.
	PAS-IND-MA-05	Change of material composition - Mold Compound	PP	Change of mold compound material	e.g. change to green mold	В	•		•	•   •   •   •	•	·   ·   •   •   ·		• • •	в •				- 1		- 1				• che	anges. ACII, wave soldering and and coaling has to be assessed.
INDUCTORS									+		-					+ - 1		_				_	+ +		WS	2. might change.
	PAS-IND-MA-06	Change of material composition - Solder Material	РР	Change of solder material at internal connection.	e.g. change of SnAgCu composition	В					•		•			•	•   •		- 1				-	•	-	
INDUCTORS				Wire for wounded inductors.							_											_				
NAME AND ADDRESS OF THE PARTY O	PAS-IND-MA-07	Change of material composition - Wire / Foil Material	РР	Whe for wounded inductors. Foll for multibayer inductors (inner electrode).	e.g. change of Cu composition	В	•				•			. A .	в -	•	•   •	1	- 1				- 1		•	
NEOCIOIS																										
	PAS-IND-MA-08	Change of material composition - Glue	PP	Change of glue material	e.g. change from glue A into glue B	С	•			·   ·   •   ·	•				в .	-			- 1				- 1		• Co	insiders in case of core-core glue sair gap.
	PAS-IND-MA-09	Change of supplier of material	_	Change to a new or additional material	e.g. for 2nd source purpose	С								_	в .										And And	sumption material specification mains unchanged. Otherwise see ange of material.
INDUCTORS	PASILDIANG	Change of supplier of material	. Р	Change to a new or additional material supplier at component manufacturer.	e.g. for 2nd source purpose	C	•				•			•	в .				- 1						cha	mains unchanged. Otherwise see ange of material.
	PAS-IND-MA-10	Change of material composition - Potting Material	P P	Change of potting material	e.g. change from epoxy reain to silicon	с	A: If influence on other connections on PCB or laquer expected.								в -										•	
INDUCTORS		DERGN					PCB or siquer especials.												$\perp \perp$							
NEOCIGIS	PAS-IND-DE-01	Changes of termination, surface finish, shape, color, appearance or dimension structure - Bobbin		Material without magnetic function	e.g. construction / dimension change of bobbin	В			Τ.				T = T		в .											
INDUCTORS							•				•															
NAME AND ADDRESS OF THE PARTY O	PAS-IND-06-02	Changes of termination, surface finish, shape, color, appearance or dimension structure - Lead Terminals	I P	Change of lead/terminals	e.g. change from PTH terminals to SMD terminals	A					•		•	- · ·		•	•   -		-				-		• Em	lect regarding EMC relevant for hi quency only.
neocioro .	PAS-IND-DE-03	Changes of termination, surface finish, shape, color, appearance or dimension structure - Mold		Change of mold	e.g. new mold material with different colour	В									в .										• Par	rameter Analysis only for reponents where mold material ha
INDUCTORS		Changes of termination, surface finish, shape, color, appearance or dimension structure - Mold				В	•																		та	mponents where mold material ha agnetic function
	PAS-IND-DE-04	Changes of inner construction - Core Construction	. Р	Change of core construction, which is material with respect function	e.g. change fromdrum core & shield core into pot core & cover plate core	A			•		•			•	в -				-				-		•	
ALL LUIG	PAS-IND-DE-05	Changes of inner construction - Insulation System		Change of insulation system	e.g. who insulation, insulation tapes, e.g. change from Polyurethane to PTFE (Tellon)	С								- A -	в .											
INDUCTORS		Changes or when Conditionan - Insulation System		Charge of insulation system	e.g. change from Polyurethane to PTFE (Tellon) e.g. change from round cross section to review size				-		-+							_								
	PAS-IND-DE-06	Changes of inner construction - Wins / Foil Construction	. Р	Change of wire / foil dimensions	e.g. change from round cross section to rectangular cross section e.g. from single wire to litz wine	В					•				в .		•								•	
	PAS-IND-DE-07	Changes of termination, surface limits, shape, color, appearance or dimension structure - Potting Material			e.g. change of polling (filling) height		If data sheet is affected (PAS-IND-DS- 01)								в .											
		PROCESS	LILP	unange of potting dimension	e.g. crange of potting (filling) height	e	01)		٠.		•	•   •   •   •   •		-1-1-	в .		-   -	.   .							•	
INDUCTORS																									Me	chanical damage of wire,
	PAS-IND-PR-01	Changes in process technology or manufacturing methods - Insulation Strip	. P	(Mechanical) removal of insulation.	e.g. change from mechanical removal to baser removal	В	•				•		•								-		-		- imp	schanical damage of wire, pact on solderability in case of ipping process is affecting solder
INDUCTORS	PAS-IND-PR-02		+			В										٠.									and tests	es. Iuence regarding reliability of solo
INDUCTORS		Changes in process technology or manufacturing methods - Lead Prep. / Plating	- P		e.g. change from hot dip finning to electroplating	_			_								•								join	st.
	PAS-IND-PR-03	Changes in process technology or manufacturing methods - Terminal Atlach	. Р	Connection of wire terminal and / or connection of termination to core/bobbin.	e.g. chante from Manual winding to Semi-automic winding (winding of wire on terminal)	с					•		A												- Inc	crease of contact resistance.
NEUCTORS	PAS-IND-PR-04	Changes in process technology or manufacturing methods - Marking			e.g. change from ink marking to laser marking	B							-													
INDUCTORS	PAS-IND-PR-04 PAS-IND-PR-05			Change of molding process		В			•						в •											
- Louis	PAS-IND-PR-06	Changes in process technology or manufacturing methods - Molding	- P	unwige or morang process	e.g. change from one component molding to two component molding (other technology needed) e.g. change from hot to tinning to resistance			•									_		$\vdash$				+			
		Changes in process technology or manufacturing methods - Soldering Internal Connections	- P	unange of soldering internal connection	e.g. change from hot Sp tinning to resistance selding	В											•						1		-	
	PAS-IND-PR-07	Changes in process technology or manufacturing methods - Winding Insulation			e.g. change from manual to automatic process	В									в .							-	1		-	
	PAS-IND-PR-08	Changes in process technology or manufacturing methods - Winding Wine			e.g. change from semi-automatic winding to full automatic winding	С					-		-		в -		100				-			-	•	
	PAS-IND-PR-09	Process inlegsly: tuning within specification	. Р	Variation within renness specification	e a recover control	С			1								· [ • ]								-	
	PAS-IND-PR-10	Changes in process technology or manufacturing methods - Potting		Change of polling process		С					•												-		-	
		PACKING / SHPPING - NEW MATERIAL, CRITICAL DIMENSIONS			Louisian Security Services																					
	PAS-IND-PN-01	Packing / shipping specification change (lossening of tolerances)	РР	Change of packing specification.	e.g. number of pieces on reel.	В																	-	-	-	
	PAS-IND-PN-02	Dry pack requirements change				В																				
INDUCTORS					e.g. change of MSL e.g. change in dry pack assurance (HIC, MBB)				<u> </u>																	
INDUCTORS	PAS-IND-PN-03	Change of carrier (tray, reel)	P P	Change of carrier	e.g. change by material e.g. change by geometry.	В																	-		-	
		PACKING / SHIPPING - VISUAL INSPECTION																								
NO CTORS	PAS-IND-PV-01	Change of labeling	I P	Change of labelling, also on reel.	(f) e.g. additional information (RoHS stamp) (P) e.g. change of customer specific information	В										-			-				-		-	
	PAS-IND-PV-02	Change of product marking		Marking on device.	e.g. change of content of marking e.g. change of method of marking e.g. change of appearance of marking	В																				
INDUCTORS	PAS-IND-PV-02	Change or product maneing		sering on device.	e.g. change of reprod of marking e.g. change of appearance of marking	В	•												-						-	
	PAS-IND-PV-03	Change of packing/shipping specification	P P	Change in pseking specification which does not described a change of dimensions or material of the packing.	e.g. change of documentation in packing specification			100								-			-				-		-	
INDUCTORS INDUCTORS		LOGISTICS / CAPACITY / TESTING - EQUIPMENENT		dimensions or material of the packing.	7																					
neocioro .				Change in process technique which is not																					Tes	at effort depends on final risk
	PAS-IND-EQ-01	Production from a new equipment/loof which uses a different technology or which due to its unique form or function can be expected to influence the integrity of the final product	P P	Change in process technique which is not already covered above.  Note: Changes affecting the product not covered by the table require also a PCN.	e.g. introduction of potting process	С										-			-				-		• ass Per	at effort depends on final risk sessment, rformance test according to affect scess change.
INDUCTORS				covered by the table require also a PCN.																					pro	scess change.
	PAS-IND-EQ-02	Production from a new equipment/bod which uses the same basic technology (replacement equipment or extension of existing equipment pool)	. Р	PCN required for dedicated equipment for sensitive component production.	e.g. duplication of existing winding machine	с																			• 30	at effort depends on final risk sessment, rformance test according to affect occess change.
INDUCTORS		equipment or extension of existing equipment pool)		for sensitive component production.																					Per	rformance test according to affect ocess change.
	PAS-IND-EQ-03	Change in final test equipment type that uses a different technology	P P	Change of final test equipment which use different technology. PCN required for dedicated equipment for sensitive parameters.	e.g. change of tester platform	с									В										• Ga	ge R&R / delta correlation
INDUCTORS			<sup>-</sup>   <sup>p</sup>	PCN required for dedicated equipment for sensitive parameters.		c									, i										Ga	Any verse corresson
INDUCTORS		LOGISTICS / CAPACITY / TESTING - PROCESS FLOW			,																					
	PAS-IND-PF-01	Manufacturing site transfer or movement of a part of production process to a different location/site	РР	Change of manufacturing site.  Note: Reorganization inside one plantisite is not affected	Movement or transfer of manufacturing site or process step(s) to a different location/site.	В																				
					processor mapping as a survey of a DCSBOR/SSB.					-   •   •   •					в .										•	
INDUCTORS									-		•		•		в -		•							•	٠	
INDUCTORS	PAS-IND-PF-02	Elimination or addition of a manufacturing process step	. Р	Change of manufacturing process sequence.	e.g. weahing / deaning process e.g. change of order of processes	с							•	• • •	В -	-							-		• Ch	saracterisation depends on impact
INDUCTORS		Elimination or addition of a manufacturing process step	. Р	Change of manufacturing process sequence.	e.g. washing / deaning process e.g. change of order of processes		•						•		в .										pro	seracterization depends on impact aduction flow.
INDUCTORS	PAS-IND-PF-03	Ellerination or addition of a manufacturing process step  Ellerination of final electrical measurement / lest flow block	. Р	Change of manufacturing process sequence.		С			-		-		•	• · · ·	B .	-	· · · · · · · · · · · · · · · · · · ·	 				· ·	-	· · · · · · · · · · · · · · · · · · ·	Oh Oh Oh	teracterisation depends on impact aduction flow. teracterisation depends on impact al test flow.
INDUCTORS	PAS-IND-PF-03	Elmination or addition of a manufacturing process also  Elmination of finel electrical measurement / test flow block  LOGETICS / CAPACITY / TESTING - O-GATE	. Р	Change of manufacturing process sequence.  Reduction of final testing. PCN required for dedicated final test reductions for sensitive parameters.	e.g. seating / dearing process e.g. change of order of processes e.g. elimination of High-voltage measurement		• 2					· · · · ·			B -		• · · · · · · · · · · · · · · · · · · ·	 				 		· .	• Ch	seracterisation depends on impact of test flow.
INDUCTORS INDUCTORS	PAS-IND-PF-03	Elmination or addition of a manufacturing process also  Elmination of finel electrical measurement / test flow block  LOGETICS / CAPACITY / TESTING - O-GATE	. P	Change of manufacturing process sequence.  Reduction of final testing. PCN required for dedicated final test reductions for sensitive parameters.	e.g. seating / dearing process e.g. change of order of processes e.g. elimination of High-voltage measurement	с					-				B -		• • • • • • • • • • • • • • • • • • •							· · · · · · · · · · · · · · · · · · ·	• Ch	seracterisation depends on impact of test flow.
INDUCTORS INDUCTORS	PAS-IND-PF-03	Section or addition of a remarkativing process step  Section of first discission freezement / but five block  COSINCE COMPANY TEXTING - OCATE  Owang of the conseque used by the appeter in remark allow all completions (e.g., or contributing processor in respective forms and an ability contribution content of the contribution contribution contributions and an additional contribution contribution contributions and an additional contribution contribution contributions and an additional contributions and an additional contributions and an additional contributions and additional contributions an	. P	Change of manufacturing process sequence.  Reduction of final testing. PCN required for dedicated final test reductions for sensitive parameters.	e.g. washing / deaning process e.g. change of order of processes			- ·	-		•	• • • •		• · · · · · · · · · · · · · · · · · · ·	B -	· · ·	•						· · · · · · · · · · · · · · · · · · ·	·	• Ch	seracterisation depends on impact aduction flow. seracterisation depends on impact of ser flow [slich: funct.]: test coverage. [slich: funct.]: only for change in business.
INDUCTORS  INDUCTORS  INDUCTORS  INDUCTORS  INDUCTORS  INDUCTORS  CEPANCY TANDALIM	PAS-IND-PF-03	Elmination or addition of a manufacturing process also  Elmination of finel electrical measurement / test flow block  LOGETICS / CAPACITY / TESTING - O-GATE	. P	Change of manufacturing process sequence.  Reduction of final testing. PCN required for dedicated final test reductions for sensitive parameters.	e.g. seating / dearing process e.g. change of order of processes e.g. elimination of High-voltage measurement	с					•	• • • •		• · · · · · · · · · · · · · · · · · · ·	B .		• · · · · · · · · · · · · · · · · · · ·							·	• Ch	seracterisation depends on impact of test flow.
INDUCTORS	PAS-IND-PF-03  PAS-IND-QG-01  PAS-CER-AN-01	Detection or addition of a manufacturing process sep  Stream and of the discrete measurement i har their labol.  JOSSINS (AMMOSTY WILLIAM), GASTE  Orange of the courses sensity has expelle a measure often shart complexes in a guident contraction about or discrete measurement and the discrete measurement a	. P	Change of resoulacturing process  Plackaction of final leading.  Plackaction of final leading.  PLN register for deducted final least reductions for sereithe parameters.  Change of lest coverage.	e.g. swalling? desiring process e.g. charged or date of processe e.g. diverged or date of processes e.g. diversation of high-vallage measurement e.g. diversation of high-vallage measurement e.g. diversation in high vallage measurement high vallage in high vallage in high vallage in high vallage	c c					•				B .		• · · · · · · · · · · · · · · · · · · ·	· · ·				· · ·		· · · · · · · · · · · · · · · · · · ·	• Ch	seracterisation depends on impact of test flow.
NEULTORS  NEULTORS  NEULTORS  NEULTORS  CERMAN TWATALIAM  CERMAN TWATALIAM  CERMAN TWATALIAM  CERMAN TWATALIAM  CERMAN TWATALIAM	PAS-IND-PF-03 PAS-IND-QG-01	Consider or addition of a restrictating process step  Detected of Fired dictation researchers? I had the label.  DOSSITED, CONSIDER, THERMOR, O GORDER  DOSSITED, CONSIDER, THERMOR, THE THERMOR, THE THERMOR, THE	. P	Change of resoulacturing process  Plackaction of final leading.  Plackaction of final leading.  PLN register for deducted final least reductions for sereithe parameters.  Change of lest coverage.	e.g. seating / dearing process e.g. change of order of processes e.g. elimination of High-voltage measurement	c c					•	• • • •			B		• · · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·						·	• Ch	seracterisation depends on impact of test flow.
NEULTORS  NEULTO	PAS-IND-PF-03  PAS-IND-QG-01  PAS-CER-AN-01	Observation or addition of a resource of year feet back.  **CONSECT_CO	. P	Company of menufacturing process sequences.  Reduction of final leading. PCN regime for disclosed final lead extractions for servicing parameters.  Change of lead coverage.	e.g. swalling? desiring process e.g. charged or date of processe e.g. diverged or date of processes e.g. diversation of high-vallage measurement e.g. diversation of high-vallage measurement e.g. diversation in high vallage measurement high vallage in high vallage in high vallage in high vallage	c c					•				B									·	• Ch	seracterisation depends on impact of test flow.
NEULTORS NEULTORS NEULTORS NEULTORS NEULTORS CERMAC / SANTALIM	PAS-IND-PF-03  PAS-IND-QG-01  PAS-CER-AN-01	Detection or addition of a manufacturing process sep  Stream and of the discrete measurement i har their labol.  JOSSINS (AMMOSTY WILLIAM), GASTE  Orange of the courses sensity has expelle a measure often shart complexes in a guident contraction about or discrete measurement and the discrete measurement a	. P	Company of menufacturing process sequences.  Reduction of final leading. PCN regime for disclosed final lead extractions for servicing parameters.  Change of lead coverage.	a.g. sealing of dwaring process     a.g. distriction of High violage measurement     a.g. distriction of High violage measurement     a.g. charge from 500% is ample inspection     a.g. charge from 500%	c c	In a second depoting or through				•				B			· · · · · · · · · · · · · · · · · · ·							• Ch	seracterisation depends on impact of test flow.
NEULTORS  NEULTORS  NEULTORS  NEULTORS  CERMAN TWATALIAM  CERMAN TWATALIAM  CERMAN TWATALIAM  CERMAN TWATALIAM  CERMAN TWATALIAM	PAS-IND-DF-03  PAS-IND-GG-08  PAS-CER-INI-01  PAS-CER-INI-02	Observation or addition of a resource of year feet back.  **CONSECT_CO	. P I P P P P	Owang of medical-ring process impacts.  Mackan of the fail winds,  Mackan of the fail winds,  Mackan of the declared for all  reductions for wearths parameters.  Change of lest coverage.  Owange of lest coverage.	e.g. swalling? desiring process e.g. charged or date of processe e.g. diverged or date of processes e.g. diversation of high-vallage measurement e.g. diversation of high-vallage measurement e.g. diversation in high vallage measurement high vallage in high vallage in high vallage in high vallage	c c	Real assessment diponding on charge				•				B .			· · · · · · · · · · · · · · · · · · ·							• Ch	seracterisation depends on impact of test flow.
NEULTORS NEULTORS NEULTORS NEULTORS NEULTORS CERMAC / SANTALIM	PAS-IND-OF-03  PAS-IND-OS-06  PAS-CER-AN-07  PAS-CER-AN-02  PAS-CER-CES-01	Streament or selfator of a result-extral process dep  Streament of the delicted measurement in the fields  GOSSTRES (SAMPLES) TERMING. GASHE  OWING HIS ARROWS THE TRANSPORT OF	. P I P P P P	Owang of medical-ring process impacts.  Mackan of the fail winds,  Mackan of the fail winds,  Mackan of the declared for all  reductions for wearths parameters.  Change of lest coverage.  Owange of lest coverage.	Le anning from the common and the co	C C B	The construction depending or charge in section appending or c	- · · · · · · · · · · · · · · · · · · ·			·				8			· · · · · · · · · · · · · · · · · · ·						·	• Ch	seracterisation depends on impact of test flow.
NOLICIDE  NOLICIDE  NOLICIDE  NOLICIDE  CERRACY THROLLIN	PAS-IND-DF-03  PAS-IND-GG-08  PAS-CER-INI-01  PAS-CER-INI-02	Observation or addition of a resource of year feet back.  **CONSECT_CO	. P I P P P P	Owang of medical-ring process impacts.  Mackan of the fail winds,  Mackan of the fail winds,  Mackan of the declared for all  reductions for wearths parameters.  Change of lest coverage.  Owange of lest coverage.	a.g. sealing of dwaring process     a.g. distriction of High violage measurement     a.g. distriction of High violage measurement     a.g. charge from 500% is ample inspection     a.g. charge from 500%	c c	Reasonment aponding or charge.				·			• · · · · · · · · · · · · · · · · · · ·	8		·	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·					• Ch	seracterisation depends on impact of test flow.
NEULTORS NEULTORS NEULTORS NEULTORS NEULTORS CERMAC / SANTALIM	PAS-IND-OF-03  PAS-IND-OS-06  PAS-CER-AN-07  PAS-CER-AN-02  PAS-CER-CES-01	Streament or selfator of a result-extral process dep  Streament of the delicted measurement in the fields  GOSSTRES (SAMPLES) TERMING. GASHE  OWING HIS ARROWS THE TRANSPORT OF	- P I P - P P P P P I P	Owang of models from process organized.  Relaction of first leving.  Relaction of first leving.  Relaction of first leving.  Relaction of first leving.  Change of levin control as promises.  Change of levin coverage.  Change of levin coverage.  Change of levin coverage.  Relaction of levinge.	Le anning from the common and the co	C C B	And commerced depending on charge or color application.				•	• • • • • • • • • • • • • • • • • • •		•	B		• :	· · · · · · · · · · · · · · · · · · ·		·				·	• Ch	seracterisation depends on impact of test flow.
NOLICIDE  NOLICIDE  NOLICIDE  NOLICIDE  CERRACY THROLLIN	PAS-IND-OF-03  PAS-IND-OS-06  PAS-CER-AN-07  PAS-CER-AN-02  PAS-CER-CES-01	Streament or selfator of a result-extral process dep  Streament of the delicted measurement in the fields  GOSSTRES (SAMPLES) TERMING. GASHE  OWING HIS ARROWS THE TRANSPORT OF	- P I P - P P P P P I P	Owang of models from process organized.  Relaction of first leving.  Relaction of first leving.  Relaction of first leving.  Relaction of first leving.  Change of levin control as promises.  Change of levin coverage.  Change of levin coverage.  Change of levin coverage.  Relaction of levinge.	Le anning from the common and the co	C C B	Para assessment depending on charge				•	• • • • • •			B		·	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·	• Ch	seracterisation depends on impact of test flow.
NOLICIDE  NOLICIDE  NOLICIDE  NOLICIDE  CERRACY THROLLIN	PAS-080-097-03  PAS-080-0G-01  PAS-080-0G-01  PAS-CER-NN-02  PAS-CER-NS-01  PAS-CER-DS-01	Streament or selforer of a result-entrol process exp.  Streament of the delicted measurement (and the leads  OSSERIES (CAMPACTY) WINNELS, Oudders	- P I P - P P P P P I P	Owang of models from process organized.  Relaction of first leving.  Relaction of first leving.  Relaction of first leving.  Relaction of first leving.  Change of levin control as promises.  Change of levin coverage.  Change of levin coverage.  Change of levin coverage.  Relaction of levinge.	- I service of the department	С С В А А А	Not extracted appendig on charge for sech application.	- · ·			·			• · · · · · · · · · · · · · · · · · · ·	8		·	· · · · · · · · · · · · · · · · · · ·						· · · · · · · · · · · · · · · · · · ·	• Ch	seracterisation depends on impact of test flow.
NOLICIDE  NOLICIDE  NOLICIDE  NOLICIDE  CERRACY THROLLIN	PAS-IND-OF-03  PAS-IND-OS-06  PAS-CER-AN-07  PAS-CER-AN-02  PAS-CER-CES-01	Streament or selfator of a result-extral process dep  Streament of the delicted measurement in the fields  GOSSTRES (SAMPLES) TERMING. GASHE  OWING HIS ARROWS THE TRANSPORT OF	- P I P - P P P P P I P	Owang of models from process organized.  Relaction of first leving.  Relaction of first leving.  Relaction of first leving.  Relaction of first leving.  Change of levin control as promises.  Change of levin coverage.  Change of levin coverage.  Change of levin coverage.  Relaction of levinge.	Le anning from the common and the co	C C B	Para assessment depending or charge				·	• • • • • • • • • • • • • • • • • • •		· · · · · · · · · · · · · · · · · · ·	B		·	· · · · · · · · · · · · · · · · · · ·						· · · · · · · · · · · · · · · · · · ·	• Ch	seracterisation depends on impact of test flow.
NALCOUS NA	PAS-IND-PF-03  PAS-IND-GS-06  PAS-IND-GS-06  PAS-CER-NN-01  PAS-CER-NS-01  PAS-CER-DS-01  PAS-CER-DS-02	Detection or addition of a resultancing process dep  Detection of find decision resources? I had fine libbs.  DISSERTED CONNECT WINDSON OR SHAPE  DISTERT WINDSON OR SHAPE	- P I P - P P P P P I P	Owang of models from process organized.  Relaction of first leving.  Relaction of first leving.  Relaction of first leving.  Relaction of first leving.  Change of levin control as promises.  Change of levin coverage.  Change of levin coverage.  Change of levin coverage.  Relaction of levinge.	- I service of the department	С С В А А А	The assessment depending on charge to see the application.	1   1   1   1   1   1   1   1   1   1			•	• • • • • • • • • • • • • • • • • • •		• · · · · · · · · · · · · · · · · · · ·	B		·								• Ch	seracterisation depends on impact of test flow.
INDUCTORS	PAS (NO PF-0)  PAS (NO PF-0)  PAS (CER-AN-1)  PAS CER-AN-10  PAS CER-CS 01  PAS CER-CS 02	Streets or selfer of a resultanting process day  Streets of find declared measurement 1 has file to little.  DISCHESS_COUNTERY_WINDS.CO_COUNTERS.  DISCHESS_COUNTERS_	- P I P P P P P P I P	Owego of months and promose sequence.  Reduction of this state of the	The state of the s	C C B A A A		1   1   1   1   1   1   1   1   1   1	-   -   -     -		·	• • • • •		• · · · · · · · · · · · · · · · · · · ·			•   .   .   .   .   .   .   .   .   .							•   •   •   •   •   •   •   •   •   •	Post Control of the C	seracterisation depends on impact of test flow.
INDUCTORS	PAS-RE-PE-GI PAS-RE-GIS-GIS PAS-CISI-AND PAS-CISI-AND PAS-CISI-SE-GIS PAS-CISI-SE-GIS PAS-CISI-SE-GIS PAS-CISI-SE-GIS PAS-CISI-SE-GIS PAS-CISI-SE-GIS	Streets or selfer of a resultanting process day  Streets of find declared measurement 1 has file to little.  DISCHESS_COUNTERY_WINDS.CO_COUNTERS.  DISCHESS_COUNTERS_	- P I P P P P P P I P	Owego of months and promose sequence.  Reduction of this state of the	The state of the s	C C B A A A			-   -   -     -		•	• • • • • • • • • • • • • • • • • • •		•										· · · · · · · · · · · · · · · · · · ·	Post Control of the C	seracterisation depends on impact of test flow.
INSCITORS	PMS-RD-FF-G3  PMS-RD-FF-G3  PMS-RD-FF-G3  PMS-CERI-MHS1  PMS-CERI-MHS2  PMS-CERI-MHS2  PMS-CERI-MHS3  PMS-CERI-MHS3  PMS-CERI-MHS4  PMS-CERI-MHS4  PMS-CERI-MHS4  PMS-CERI-MHS4  PMS-CERI-MHS4	Streetistics or selficion of a resource for law files black  SCHOOL STATE OF THE STATE OF STATE OF STATE  SCHOOL STATE OF STATE OF STATE OF STATE  STATE OF	- P I P P P P P P P P P P P	Owego of motivation process against the second of the seco	As all the process of	C C C C C C C					•	• • • • • • • • • • • • • • • • • • •		*			·								Post Control of the C	seracterisation depends on impact of test flow.
MALICIDES	MASIB FF GI  MASIB	Streetistics or selficion of a resource for law files black  SCHOOL STATE OF THE STATE OF STATE OF STATE  SCHOOL STATE OF STATE OF STATE OF STATE  STATE OF	- P I P P P P P P P P P P P	Owego of motivation process against the second of the seco	As all the process of	C C C C C C C					-		C	•		C	•		-						PO   PO   PO   PO   PO   PO   PO   PO	seracterisation depends on impact of test flow.
MILLIONI  MILLIONI  MILLIONI  MILLIONI  MILLIONI  MILLIONI  MILLIONI  CERNACI TRANSLAM  CERNACI TRANSL	PMS-RID FF G0  PMS-RID FF G0  PMS-CER AND 1  PMS-CER GS G0  PMS-CE	Securities or selfere of a result-entries process exp.  Securities of the decided measurement (and the label)  SOURCES (SAMPLES) (SAMPLES), C. GARRIES  SOURCES (SAMPLES) (SAMPLES), C. GARRIES  SOURCES (SAMPLES) (SAMPLES), C. GARRIES  SOURCES (SAMPLES)  SOURCES	P P P P P P P P P P P P P P P P P P P	Owage of make the property of	I was story and common	C C C C C C C							c	•		C	•		-						PO   PO   PO   PO   PO   PO   PO   PO	one straight algorithm to hispander of the straight and t
MALICIPAL MALICI	MS-RD FF GD  MS-RD GS-SS  MS-COR MSD	Statement or addition of a manufacturing process dept.  Statement of the decided measurement in the facts and confidence of the decided measurement of the d	P P P P P P P P P P P P P P P P P P P	Orage of man company.  Section of the state	A section of the design process  a distinction of Fig. value processes  and distinct of Fig. value processes  a distinction of Fig. value  a distinction of Fig. value	C C C C C C C					•		· .			C	•		-						PO   PO   PO   PO   PO   PO   PO   PO	seracterisation depends on impact of test flow.
MALICIPAL MALICI	MS-RD FF GD  MS-RD GS-SS  MS-COR MSD	Statement of the decided measurement of the black of the decided of the decided measurement of the black of the decided measurement of the black of the decided measurement of the deci	P P P P P P P P P P P P P P P P P P P	Owage of make the property of	A section of the design process  a distinction of Fig. value processes  and distinct of Fig. value processes  a distinction of Fig. value  a distinction of Fig. value	C C C C C C C					•		c			C	•		-						PO   PO   PO   PO   PO   PO   PO   PO	one straight algorithm to hispander of the straight and t

	PAS-CER-MA-08	Change of supplier of material - P	Change to a new or additional material supplier at component manufacturer.		С													• B			С	 							Assumption material specification
CERAMIC / TANTALUM CERAMIC / TANTALUM		DESIGN		e.g. for 2nd source purpose																									change of material.
CERAMIC / TANTALUM		Changes of termination, surface finish, shape, color, appearance or dimension structure - Lead Diameter P		e.g. change from 0.8mm into 0.6mm	В				•					•			-		-			 						-	
CERAMIC / TANTALUM	PAS-CER-DE-02	Changes of termination, surface finish, shape, color, appearance or dimension structure -     P   Termination Assa Changes of termination, surface finish, shape, color, appearance or dimension structure -     P   Termination Interface		e.g. change in width of termination from 0.1 -0.3mm into 0.2 - 0.4 mm	В																	 						-	
CERAMIC / TANTALIM CERAMIC / TANTALIM	PAS-CER-DE-03 PAS-CER-DE-04	Changes of termination, surface finish, shape, color, appearance or dimension structure - 1 P Changes of Inner construction - Electrode Thickness - P	Terminal interface Electrode thickness (ceramic only)	e.g. additional layer in termination e.g. N layer change from 2.5µm into 3.5µm	B C		•		:		• •	•		•				- B		• •	-	 + +		-		-		- :	
CERAMIC / TANTALUM		Changes of Inner construction - Layer Trickness - P	Layer thickness (delectric thickness)	e.g. Ceramic layer thickness changes from 3µm into 5µm.	С					•				•	•			- В	-		С	 						-	
CERNANC / TANTAL I IM			Number of layers (ceramic only). Allways in combination with PAS-CER-DE-05.	see also layer thickness	с			100	С	с -	- с	С	- с		с -	. c	С	- B,C	-		С	 						-	
CERAMIC / TANTALLIM CERAMIC / TANTALLIM CERAMIC / TANTALLIM		PROCESS Changes in process technology or manufacturing methods - Dicing . P	Change of dicing	e.g. change from cutting to sawing	С			T		1.1.		-			•   •		1 - 1	- В	1 - 1		С	 		1.		- 1		1 -	Ī
CERAMIC / TANTALUM	PAS-CER-PR-02	Changes in process technology or manufacturing methods - Electrode apply - P	Electrode apply (dielectric layer process	e.g. change from well to dry process e.g. separation of decarbonization and firing profile.	с		•										С	- B,C		с -		 						-	
CERAMIC / TANTALLIM CERAMIC / TANTALLIM	PAS-CER-PR-03 PAS-CER-PR-04	Changes in process technology or manufacturing methods - Firing - P	Change of firing profile	e.g. seperation of decarbonization and firing profile.	c							٠					•	- B	-		c	 						-	
CERAMIC / TANTALUM	PAS-CER-PR-05	Changes in process technology or manufacturing methods - Lamination - P  Changes in process technology or manufacturing methods - Particle Size - P	Change of powder particle size. Alleays	e.g. standard pressing to lao static pressing. e.g. change DS0 from 0.5µm into 0.4µm	c												•	. в											
CERAMC / TANTALUM				e.g. change from screen printing into offset printing	С					+		С			с -		С	- B,C			С	 							
CERAMIC / TANTALUM	PAS-CER-PR-07	Changes in process technology or manufacturing methods - Termination . P	Change for termination preparation like	e.g. change in plating technology (final termination) e.g. change from dip in paste to plating (apply)	В												-	• B				 							
CERAMIC / TANTALLM CERAMIC / TANTALLM CERAMIC / TANTALLM	PAS-CER-PR-08	Process integrity: tuning within specification - P	plating or apply of termination base layer.  Variation within process specification.	e.g. change from dp in paste to plating (apply) e.g. process control	c																								
			Change of packing specification.		В			T . T .		т. г.						г. г.	т. г		Т - Т		- 1	 	Γ.Τ.	Т.	T . T	.		т.	I
CERAMC / TANTALIM		Dry pack requirements change PPP		e.g. change of MSL e.g. change in dry pack assurance (HIC, MBB)	В																	 		٠.					
CERAMC / TANTALUM			Change of carrier	e.g. change in dry pack assurance (HC, MBB) e.g. change by material e.g. change by geometry.	В			<del></del>														 		+ -		_			
CERAMIC / TANTALLM CERAMIC / TANTALLM		PACKING / SHIPPING - VISUAL INSPECTION										_														_			
CERAMIC / TANTALUM	PAS-CER-PV-01	Change of labeling I P	Change of labelling, also on reel.	(i) e.g. additional information (RolfS stamp) (iP) e.g. change of customer specific information e.g. change of content of marking e.g. change of marked of marking e.g. change of appearance of marking e.g. change of appearance of marking	В																	 							
CERAMIC / TANTALLIM	PAS-CER-PV-02	Change of product marking	Marking on device.	e.g. change of content of marking e.g. change of method of marking e.g. change of appearance of marking	В							-										 							
	PAS-CER-PV-03	Change of packing tahipping specification P P	Change in packing specification which does not described a change of	e.g. change of documentation in packing specification																		 							
CERAMIC / TANTALLM CERAMIC / TANTALLM		LOGISTICS / CAPACITY / TESTING - EQUIPMENENT							+			_					-	_	+		_	+				_			
	PAS-CER-EQ-01	Production from a new equipmentition which uses a different technology or which due to its unique form or function can be expected to influence the integrity of the final product	Change in process technique which is no already covered above. Note: Changes affecting the product not covered by the table require also a PCN.	e.g. change from wet to dry technology.	с									Α -				• в			С	 							Test effort depends on final risk assessment. Derformance test according to affect
CERAMIC / TANTALUM																													assessment. Performance test according to affect process change.  The offest descents as fine out.
	PAS-CER-EQ-02	Production from a new equipment/loof which uses the same basic technology (replacement equipment or extension of existing equipment pool)	PCN required for dedicated equipment for sensitive component production.	e.g. elimination of manual handling processes	с		•					•		Α -				• B			С			-				•	Test effort depends on final risk assessment. Performance test according to affect process change.
CERAMIC / TANTALLIM																													
CERAMIC / TANTALUM	PAS-CER-EQ-03	Change in final test equipment type that uses a different technology P P	Change of final test equipment which use different technology. PCN required for dedicated equipment for sensitive parameters.	e.g. change of tester platform	С													- в										•	Gage R&R / delta correlation
CERAMC / TANTALIM		LOGISTICS / CAPACITY / TESTING - PROCESS FLOW	Change of manufacturing sits																					Ť					
CERAMIC / TANTALIM	PAS-CER-PF-01	Manufacturing site transfer or movement of a part of production process to a different location/site P P	Change of manufacturing site.  Note: Reorganization inside one plantisite is not affected	Movement or transfer of manufacturing site or process step(s) to a different location/site.	В		•	•	•		•	٠	• •		• •		•	• B		• •	С						•	•	
CERAMIC / TANTALLIM	PAS-CER-PF-02	Elimination or addition of a manufacturing process step - P	Change of manufacturing process sequence.	e.g. weating / cleaning process e.g. change of order of processes	с																								Characterisation depends on impact production flow.
CERAMIC / TANTALUM CERAMIC / TANTALUM		LOGISTICS / CAPACITY / TESTING - O-GATE	1	a describer that a second								_									_	+				_		+	
	PAS-CER-QG-01	Change of leaf coverage used by the supplier to ensure data sheet compliance (e.g., elimination/siddition of electrical measurement/leaf flow block, releasion/tenhancement of monitoring procedure or sampling	Change of test coverage.	e.g. change from 100% to sample inspection e.g. test flow block, reduction from three to two temperature measurements e.g. change in burn in/tun in process.	с																	 							R (electr. funct.): test coverage. R (reliability) only for change in burn process.
CERAMC / TANTALIM Film capacitors		Film capacitors		Name of the state																									
		te-																											
Film capacitors Film capacitors	PAS-FLM-ANOI	Any  Any chance with insection special customer characteristics/contractual agreements  P P	1	Not relevant for technical evaluation.													1.1				-	 				- 1			
Film capacitors Film capacitors Film capacitors Film capacitors		Jay		Not relevant for technical evaluation.  Technical interface means component tentrinals.	в									: :	: :		1:1							1:	÷		: :	1:	
Film capacitors Film capacitors Film capacitors Film capacitors	PAS-FLM-ANOI	Any Any change with inteact on special customer characteristiculosrinactual agreements. P P P. Any change with impact on processability/manufacturability at customer, which is not covered in				Risk assessment depending on change for each application.								· · ·				: :			-				-		 	1	
Film capacitors Film capacitors Film capacitors Film capacitors	PAS-FLM-AN-02 PAS-FLM-AN-02 PAS-FLM-OS-01	Apy Are channe with insect on social customer characteristics/ordinateal agreements P P P Any change with impact on processability/manufackrability at customer, which is not covered in an and it below.  DATACHEET	Change of application relevant information Not included: Editorial changes.	Technical interface means component terminals.  e.g. Sighten of electrical parameter distribution		Risk assessment depending on change for each application.	* · ·										-					 		-	-			-	
Film capacitus Film capacitus Film capacitus Film capacitus Film capacitus	PAS-FLM-AN-01 PAS-FLM-AN-02	Apy Are channe with insect on social customer characteristics/ordinateal agreements P P P Any change with impact on processability/manufackrability at customer, which is not covered in an and it below.  DATACHEET	Change of application relevant information Not included: Editorial changes.	Technical interface means component terminals.  e.g. Sighten of electrical parameter distribution		Rak assessment depending on change for each application.						: : :					-		-		-	 		-				-	
Film capaciturs Film capaciturs Film capaciturs Film capaciturs Film capaciturs	PAS-FLM-AN-02 PAS-FLM-AN-02 PAS-FLM-OS-01	Max designed and instance consistent control of the	Change of application relevant information Nat included: Editorial changes. Not scholacid change of the product, only correction in description (working, drawing,) (§: In case of editorial changes. (F): In case of impact on product.	Technical interface means component terminals.  e.g. Sighten of electrical parameter distribution	A	Roll assessment depending on change for each application.						-							-		-	 		-		-			
Film capacitors Film capacitors Film capacitors Film capacitors	PAS-FLM-AN-01 PAS-FLM-OS-01 PAS-FLM-OS-01 PAS-FLM-OS-02	Max designed and instance consistent control of the	Change of application relevant information Nat included: Editorial changes. Not scholacid change of the product, only correction in description (working, drawing,) (§: In case of editorial changes. (F): In case of impact on product.	Technical interface means component ferminals.  a.p. Sphen of electrical parameter distribution.  a.p. data sheet correction because of new information should component behindar.	A	Roll assessment depending on change for each application.	• • • • • • • • • • • • • • • • • • •										-	 	-			 		-				-	
Film oppischen Film oppischen Film oppischen Film oppischen Film oppischen Film oppischen	PAS-FLM-AN-02 PAS-FLM-AN-02 PAS-FLM-OS-01	Max designed and instance consistent control of the	Change of application relevant information Nat included: Editorial changes. Not scholacid change of the product, only correction in description (working, drawing,) (§: In case of editorial changes. (F): In case of impact on product.	Technical interface means component terminals.  e.g. Sighten of electrical parameter distribution	A	Red seasonment depending on change for each application.						-		· · · · · · · · · · · · · · · · · · ·			-		-					-			 		
Film capacitors	PAS FIJA-NOO!  PAS FIJA-NOO!  PAS FIJA-GS-0!  PAS FIJA-GS-02  PAS FIJA-GS-02	See	Change of application relevant information Not included: Editorial changes. No inchical change of the product, only connection in description (wording, or in distribution) (if in case of editorial changes. If it in case of intend on product	Technical interface means component ferminals.  a.p. Sphen of electrical parameter distribution.  a.p. data sheet correction because of new information should component behindar.	A							-		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·									-	-				
Film capacitors	PAS FIJA-NOO!  PAS FIJA-NOO!  PAS FIJA-GS-0!  PAS FIJA-GS-02  PAS FIJA-GS-02	Max declared and institute control control control control control and institute of the control contro	Coupy of agalication relevant from the formation of the f	Technical infention means compared terminals,  a.g. lighters of electrical parameter distribution.  a.g. data after correction because of mean inferration data component behavior  a.g. data after correction because of me	A										· · · · · · · · · · · · · · · · · · ·						-					-			
Film capacitors	PAS FIJA-NOO!  PAS FIJA-NOO!  PAS FIJA-GS-0!  PAS FIJA-GS-02  PAS FIJA-GS-02	Max declared and institute control control control control control and institute of the control contro	Coupy of agalication relevant from the formation of the f	Technical infention means compared terminals,  a.g. lighters of electrical parameter distribution.  a.g. data after correction because of mean inferration data component behavior  a.g. data after correction because of me	A	Nation in account of depending on change for seet the application.  As its continuous with PASTAMOSA's about to reschanging our PASTAMOSA's about to reschanging our properties.	• • • • • • • • • • • • • • • • • • •								· · · · · · · · · · · · · · · · · · ·											-			Consider distration in application
Film capacitors	PAS FIJAMINO	Management of the production o	Owen or agalostor release  Owen or agalostor release  International control designation of the control designation of a man and produced of the control designation of a man and produced on the control designation of a man and produced on the control designation of a man and produced on the control designation of a man and produced on the product of the control designation of a man and produced on the product of the control designation of a man and produced on the product of the control designation of t	The block dominate means component terrorib.  18 Syllen of destroy granular destroids.  18 Syllen of destroy granular destroids.  18 Syllen of destroy granular destroids.  18 Syllen of destroid granular destroids.  18 Syllen of destroid granular.	A A C																								
Film capacitors	PAS FIJA-05-03  PAS FIJA-05-03  PAS FIJA-05-03  PAS FIJA-05-03	Max declared and institute control control control control control and institute of the control contro	Owange of application releases of a commission	Tachtical sind field a mean compared terrorial,  a fighter of destined plan reside destination  a fighter of destined plan reside destination  a field and and connection because of man- advantage and connection because of man- advantage of man plantage of man  a fielding man plantage of man  a fielding man plantage of man  a fielding man plantage of man  connection of man	A	A in combination with PAS-T-M-05-91 or of change of salings compound with which is manifestated properties.									· · · · · · · · · · · · · · · · · · ·					· · · · · · · · · · · · · · · · · · ·							· · · · · · · · · · · · · · · · · · ·		Consider observior in application Consider ACS and processibility
Film capacitors	PAS FIJA-69-01  PAS FIJA-69-02  PAS FIJA-05-01  PAS FIJA-05-03  PAS FIJA-05-03  PAS FIJA-06-03	Man American and Standard Control Cont	Owange of application releases of a commission	Tachtical sind field a mean compared terrorial,  a fighter of destined plan reside destination  a fighter of destined plan reside destination  a field and and connection because of man- advantage and connection because of man- advantage of man plantage of man  a fielding man plantage of man  a fielding man plantage of man  a fielding man plantage of man  connection of man	A A C C													_						-					Consider ACI and processability
Film capacitors	PAS FIJAMINO	Management of the process of the pro	Owang of application related to the property of the control of the	The above on the company of the comp	A A C	A in combination with PAS-T-M-05-91 or of change of salings compound with which is manifestated properties.														· · · · · · · · · · · · · · · · · · ·							· · · · · · · · · · · · · · · · · · ·		Consider ADI and processability  Change of base material: Consider ESR, high frequency parameter
Film capacitors	PAS FIJA-69-01  PAS FIJA-69-02  PAS FIJA-05-01  PAS FIJA-05-03  PAS FIJA-05-03  PAS FIJA-06-03	Management of the process of the pro	Owang of application related to the property of the control of the	The above on the company of the comp	A A C C	A in combination with PAS-T-M-05-91 or of change of salings compound with which is manifestated properties.												_		· · · · · · · · · · · · · · · · · · ·									Consider ACI and processability
Fin capation	MESTAMONO MESTAMON MESTAMONO MESTAMONO MESTAMONO MESTAMONO MESTAMONO MESTAMONO MESTAMON MESTAMONO MESTAMONO MESTAMONO MESTAMONO MESTAMONO MESTAMON	Management and institute control control control control and an account of the control	Owange of application related to the property of the company of application related to the company of the product of the company of the product of the company of the product of the company of the company of the product of the company of the company of the company of the company of the product of the company of the compa	The above on the company of the comp	A A C C B B C C	A in combination with PAS-T-M-05-91 or of change of salings compound with which is manifestated properties.			•						• •			• в	•										Consider ADI and processability  Change of base material: Consider ESR, high frequency parameter
Fin capabits	INSPIRATION OF TAXABLE	Management of the company of the com	Orange of application releases to the control of th	Technical confider means corporate broads.  19. Signer of destrict of parameter destricts.  19. Signer of destrict of parameter destricts.  19. Signer of destrict of parameter destricts.  19. Signer of destricts of parameter destricts.  19. Signer of destricts of parameter destricts.  19. Signer of destricts of parameter.  19. Signer of destricts of destricts.  19. Signer of destricts of destricts.  19. Signer of destricts.  19. S	A A C C B B C	A 12 controlled with PAS-FANSS-01 and PAS-FANSS-01 and PAS-FANSS-03 and PA			•						• •			• B											Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin capacitos	INSPIRATION OF TAXABLE	Management of the company of the com	Orange of application releases to the control of th	Technical confider means corporate broads.  19. Signer of destrict of parameter destricts.  19. Signer of destrict of parameter destricts.  19. Signer of destrict of parameter destricts.  19. Signer of destricts of parameter destricts.  19. Signer of destricts of parameter destricts.  19. Signer of destricts of parameter.  19. Signer of destricts of destricts.  19. Signer of destricts of destricts.  19. Signer of destricts.  19. S	A A A C C B B C C C	A 12 controlled with PAS-FANSS-01 and PAS-FANSS-01 and PAS-FANSS-03 and PA									• •			• B											Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin capation  The capation	THE FILM OF CO.  MICHAEL CO.  M	Management of the property of	Owang of application related to the control of application related to related a final related at the control of application of the section of application of the section of application of	The billion is seed for more component terrorish.  18 offers of destroying more for destroying more for more format more for more format more format more format for more format more format more format more format for more format format for more format for more format format for more format format for more format format for more format for more format format for more format format for more format for more format format for more format format for more format format for more format format format for more format format for more format format for more format fo	A A A B B C C C C C	A 12 controlled with PAS-FANSS-01 and PAS-FANSS-01 and PAS-FANSS-03 and PA						•		• • • • • • • • • • • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·	•		• B											Consider ADI and processability  Change of base material: Consider ESR, high frequency parameter
Fin capacitos	THE FAMILIES OF THE FAMILIES O	Management and manage	Omego of application related to the company of application related to the company of application related to the company of application of application of application of a company of application of appli	The control of the co	A A A A B B C C C C C B	A 12 controlled with PAS-FANSS-01 and PAS-FANSS-01 and PAS-FANSS-03 and PA						•		• • • • • • • • • • • • • • • • • • •	• •	•		• B											Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin capacitos	THE FILM OF CO.  MICHAEL CO.  M	Management and antique control control control control and antique and antique control	Owang of application related to the control of the	The above on the amount compared to more than a special of the other department of definition.  1-3. All of the compared to the other department of th	A A A B B C C C C C	A 12 controlled with PAS-FANSS-01 and PAS-FANSS-01 and PAS-FANSS-03 and PA						•		• • • • • • • • • • • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·	•		• B											Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin capacitos  Fin ca	THE PRINCE OF TH	Management of the process of the pro	Owang of application release.  Owang of application release the release of the re	The best of the first of personnel or desirable  as gifter of destroy personnel or desirable  as gifter of destroy personnel or desirable  as desirable or desirable desirable	A A A A B B C C C C C B	A consistence with FSEA BASE of the Confidence o						•		• • • • • • • • • • • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·	• •		• B											Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin capacitos  Fin ca	THE FAMILIES OF THE PARTY OF TH	Management of the process of the pro	Owang of application release.  Owang of application release the release of the re	The best of the first of personnel or desirable  as gifter of destroy personnel or desirable  as gifter of destroy personnel or desirable  as desirable or desirable desirable	A A A A B B B C C C C C C C C C C C C C	A 12 controlled with PAS-FANSS-01 and PAS-FANSS-01 and PAS-FANSS-03 and PA						•		• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	• •		• B											Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin capacitos  Fin ca	THE PRINCE OF TH	Management of the process of the pro	Owang of application release.  Owang of application release the release of the re	The best of the first of personnel or desirable  as gifter of destroy personnel or desirable  as gifter of destroy personnel or desirable  as desirable or desirable desirable	A A A A B B C C C C C C B B B B B B B B	A consistence with FSEA BASE of the Confidence o						•		• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	• •		• B											Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin capacitos	THE FIRM OF THE STATE OF T	Management of the companion of the compa	Owang of application releases  A translated and stronger of the product of the stronger of the product of the stronger of the product of the stronger of the product of the stronger of the stronge	Technical confident enteres component introduction  1.8 different of destricted parameter distriction  1.8 district and control confident interest of the second of the se	A A A C C B B B C C C C B B B B C C C C	A constitution with PSEA ASSESSED AND CONTROL OF THE PSEA ASSESSED.	in i							• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	• •		• B	•										Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin causinos	THE FAMILIES OF THE PART OF TH	Management and antique control control control control and antique and antique control	Owang of application related to the property of the property o	The action of the company of the com	A A A A A B B C C C C C C C C C C C C C	A constitution with PSEA ASSESSED AND CONTROL OF THE PSEA ASSESSED.	in i							• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	• •		• B	•										Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin capables	THE FRANCE OF THE PROPERTY OF	Management and material and an approximate of an approximate and an approximate and approximate approximate and approximate approximate and approximate approximate approximate and approximate approximat	Owang of application related to the control of the	The bottom of the companies of the compa	A A A B B B C C C C C C C C C C C C C C	A constitution with PSEA ASSESSED AND CONTROL OF THE PSEA ASSESSED.	in i							• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	• •		• B	•										Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin capacitos	TASCHAMING OF TAMES OF TAMES.	Management and antique control control control control and antique and antique control	Owang of application related to Change of application related to the school of Cartain diverges. No school of Cartain diverges in the school of Cartain diverges in processing the school of the school of Cartain diverges in the school of Cartain diverges	The control of the company of the co	A A A A A B B C C C C C C C C C C C C C	A constitution with PSEA ASSESSED AND CONTROL OF THE PSEA ASSESSED.								• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	• •		• B	•										Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin capability	THE FRANCE OF THE PROPERTY OF	Management and material and an approximate of an approximate and an approximate and approximate approximate and approximate approximate and approximate approximate approximate and approximate approximat	Owang of application related to Change of application related to the school of Cartain diverges. No school of Cartain diverges in the school of Cartain diverges in processing the school of the school of Cartain diverges in the school of Cartain diverges	The control of the company of the co	A A A B B B C C C C C C C C C C C C C C	A constitution with PSEA ASSESSED AND CONTROL OF THE PSEA ASSESSED.								• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	• •		• B	•										Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.
Fin capation	THE PRINCE OF TH	Management and an appeal of the company of the comp	Owang of application related to the minute of the product of the product of the product of the product of the product of the third of the product of the product of	The control of the companion of the comp		A constitution with PSEA ASSESSED AND CONTROL OF THE PSEA ASSESSED.	in i							• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	• •		• B		· · · · · · · · · · · · · · · · · · ·									Consider ACI and processability  Consider ACI and processability  Consider ECI and processability
Fin capability	THE PRINCE OF TH	Management and an appeal of the company of the comp	Owang of application related to Change of application related to the school of Cartain diverges. No school of Cartain diverges in the school of Cartain diverges in processing the school of the school of Cartain diverges in the school of Cartain diverges	The control of the companion of the comp	A A A B B B C C C C C C C B B B C C C C	A constitution with PSEA ASSESSED AND CONTROL OF THE PSEA ASSESSED.	in i							• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	• •		• B											Consider ACII and processability  Change of base material: Consider  Eggs, high hexpancy parameter  Consider ESE.  Colonially Test for maked SMD components.

Film capacitors	PAS-FLM-PR-04	Process integrity: tuning within specification	-	P Variation within process specification. e.g. process control	С		100												-								
Film capacitors		PACKING / SHPPING - NEW MATERIAL, CRITICAL DIMENSIONS	_	P Change of garding specification.						_		_															
Film capacitors	PAS-FLM-PN-01	Packing / shipping specification change (lossening of tolerances)	Р		В	•	100			-									•								
	PAS-FLM-PN-02	Dry pack requirements change	Р	P Change of drypack requirements. e.g. change of MSL e.g. change in dry pack assurance (HC, MSB)	В		100		-																		
Film capacitors	PAS-FLM-PN-03	Change of carrier (tray, reel)	_		В																					_	
Film capacitors	PAGPEGERACO	PACKING / SHIPPING - VISUAL INSPECTION	Р	p Change of carrier e.g. change by material e.g. change by geometry.	В	•																				ضانا	
Film capacitors		PACKING / SHIPPING - VISUAL INSPECTION	$\overline{}$	T					т	-				T 1			Т	$\overline{}$			$\neg$	Т	$\neg$	Т		-	_
	PAS-FLM-PV-01	Change of labeling	1	P Change of labeling, also on reel. (f) e.g. additional information (Rol/S stamp) (P) e.g. change of customer specific information	В				-																		
Film capacitors																											
	PAS-FLM-PV-02	Change of product marking		e.g. change of content of marking e.g. change of marking e.g. change of separation of marking e.g. change of appearance of marking	В					-																	
Film capacitors			-	e.g. change of appearance of marking					+	-	-	_				_					-	+	_	-			
	PAS-FLM-PV-03	Change of packing/shipping specification	Р	Change in packing specification which does not described a change of described a change of demensions or material of the packing specification					-																		
Film capacitors		LOGISTICS / CAPACITY / TESTING - EQUIPEMENT		dimensions or material of the packing.							_							_									
				Change in process technique which is not																							Test effort depends on final risk
	PAS-FLM-EIQ-01	Production from a new equipment/lool which uses a different technology or which due to its unique form or function can be expected to influence the integrity of the final product	Р	Change in process technique which is not always covered above.  Note: Changes affecting the product not covered by the table require also a PCN.	С	•	• 5	•	- 1	•					100		-	в -		•   -   -   -				-	-   -		Test effort depends on final risk assessment. Performance test according to affected process change.
Film capacitors				covered by the table require also a PCN.					-																		process change.
	PAS-FLM-ED-02	Production from a new equipment/tool which uses the same basic technology (replacement equipment or extension of existing equipment pool)		p PCN required for dedicated equipment for sensitive component production.	С													в -									Test effort depends on final risk assessment. Performance test according to affected process change.
Film capacitors		equipment or extension of existing equipment pool)								1								-									Performance test according to affected process change.
	PAS-FLM-EQ-03			Change of final test equipment which use different schoology. PCN required for dedicated equipment for sensitive parameters.																							Gage R&R / delta correlation
	PAS-FLM-EQ-03	Change in final test equipment type that uses a different technology	Р	p different technology. PCN required for dedicated equipment for seconds a non-majors.	С	•	1 1			-				1 - 1 -			- 1	В .									Gage R&R / delta correlation
Film capacitors		LOGISTICS / CAPACITY / TESTING - PROCESS FLOW				•									<u>' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' </u>			- 1	-		'						-
	PAS-FLM-PF-01	Manufacturing site transfer or movement of a part of production process to a different location/site		Change of manufacturing site.  P Note: Reorganization inside one plantiste is not affected process step(s) to a different location/site.	В																						
	PAGE GENT OF	Menuracturing and statement or incurrent or a part or production process to a distinct location was	Р	plantale is not affected process step(s) to a different location/site.	В				1 1	•	.   .		1 - 1 -	'   '				•	•	•   •   •   •		1 1		1 1			
rum capacitors	PAS-FLM-PF-02	Elimination or addition of a manufacturing process step	$\neg$	D Change of manufacturing process e.g. washing / dearing process e.g. change of order of processes	С																						Characterisation depends on impact of production flow.
Film capacitors			-	P Change of manufacturing process e.g. veahing / cleaning process e.g. change of order of processes	e							1.														- ا	production flow.
Film capacitors		LOGISTICS / CAPACITY / TESTING - Q-GATE	T	a a change from 100% to promite immediate					1 1								1 1	_				1 1		1 1			
	PAS-FLM-QG-01	Overge of test coverage used by the supplier to ensure data sheet compliance (e.g., elimination)sdidtion of electrical measurement/lest flow block, released-on-lenhancement of monitoring procedure or sampling)	- [	e.g. change from 190% to sample inspection e.g. test flow block, reduction from three to two temperature measurements e.g. change in burn in huma in process.	с				-								-										R (electr. funct.): test coverage. R (reliability) only for change in burn in
Film capacitors				e.g. change in burn inhun in process.																							process.
QUARTZ CRYSTAL / SAW QUARTZ CRYSTAL / SAW		QUARTZ CRYSTAL / SAW																									
QUARTZ CRYSTAL / SAW		Any change with impact on special customer characteristics/contractual agreements	Р	P Not relevant for technical evaluation.		-				-		-															
		Any change with impact on special customer characteristics/contractual agreements  Any change with impact on processability/manufacturability at customer, which is not covered in the metric below.	Р	P Technical interface means component terminals.	В		100		-																		
QUARTZ CRYSTAL / SAW		the matrix balow. DATASHEET								- '					<u>' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' </u>			- 1	-		'						
	PAS-QUA-DS-01	Change of datasheet parameters/electrical specification (min./max./lyp. values) and / or ACIDC specification		Change of application relevant e.g. Sighten of electrical parameter distribution	A	Risk assessment depending on change for each application.																					
QUARTZ CRYSTAL / SAW	PAS-QUA-US-01	specification	Р	Not included: Editorial changes.	•	for each application.													•								
				No technical change of the product, only connection in description (working, p. drawing,)  (R: in case of deficition ichanges. (P): in case of lengted on product.																							
	PAS-QUA-05-02	Correction of data sheet	1	drawing)  e.g. data sheet correction because of new information about component behavior	A				-																		
QUARTZ CRYSTAL / SAW				(P)c in case of impact on product integrity.																							
COMPLEXION FOR				Description of a new not previously																							
				Description of a new not previously consect parameter. No learning of the product, (g. to offence) or product, (g.																							
	PAS-QUA-DS-03	Specification of additional parameters	1	P (R: no influence (P): Risk assessment depending on e.g. adding new (tested) parameter.	A		100		-								-	-								/   -   - /	
				change for each application to provide evidence of additional parameter (stat.																							
QUARTZ CRYSTAL / SAW				evaluation)											<u> </u>												4
	PAS-QUA-MA-01	MATERIAL  Change of material composition - Quartz Blank	- 1	A change of Quartz Blank is a	A				т			_						в -	•							$\overline{}$	
QUARTZ CRYSTAL / SAW			Р	P A change of Quartz Blank is a sery rare case. Mainly for SAW-Filter				-	-	-								_	-			+				خالت	C0 may be influenced
QUARTZ CRYSTAL / SAW	PAS-QUA-MA-02	Change of material composition - Base	Р	P Changing of the material of the base. e.g. change from ceramic to epoxy	A	-			- 1	•	•	•	• •			•	-		٠	•   -   -   -			•	-	-   -	f   -   - /	Temperature expansion coefficient may change
QUARTZ CRYSTAL / SAW	PAS-QUA-MA-Q3	Change of material composition - Lead / Termination	Р	P Change of Lead/Termination e.g. change of plating linish. (eg.Au, AgPd,Sn)	В									•			•	В -	•	•							
QUARTZ CRYSTAL / SAW	PAS-QUA-MA-04	Change of material composition - Sealing	Р	P Change of Glass Seal e.g. change to lead free glass	В	-										•		в .	•								X-Ray inspection may be influenced when sealing is containing Pb
QUARTZ CRYSTAL / SAW	PAS-QUA-MA-04 PAS-QUA-MA-05			P Changing of the material of the can/cap e.g. change from metal to ceramic material	A														•								Wall staning is consuming to
		Change of material composition - Blank Support		P Change of Blank Support s.g. change of glue (Silicone to Epony) s.g. change metal holders (old types)	c						Υ .								•		. Y			-			
QUARTZ CRYSTAL / SAW	PAG GONIANG	Crange of manual component - seast support	_	e.c. chance metal holders (old types)	_		, ,		+ +	-+		+-		1 1			<del>     </del>	-			÷	+ +	_	+ +			Electrical function affected in case of
	PAS-QUA-MA-07	Change of material composition - Oxermoid	Р	P Change of Overmoid e.g. change to green moid compound e.g. change of filer particles	В									.   .				в •									mechanical stress distribution change. ACI, wave soldering and board coating has to be assessed. MSL might be
QUARTZ CRYSTAL / SAW																											has to be assessed. MSL might be changed.
				Change of Case Sealing, Change of partierisf for seam welding Believest for components with ceramic base and need cop.	0																						
	PAS-QUA-MA-08	Change of material composition - Case Sealing	Р	p material for seam welding Released for components with ceramic a.g. change from solder paste to achieve glue	·	•			- 1	Υ	•	•				•	-	в •	٠							/   1   1 /	Impedance my be influenced.
QUARTZ CRYSTAL / SAW	PAS-QUA-MA-09	Change of material composition - Dischods	-	P Change of Electrode material on crystal blank s.g. change from Au to Ag	С				+ +	Υ	Υ .			v			<del>     </del>	в -			_	+ +	_	+ +			
QUARTZ CRYSTAL / SAW	PAS-QUARACO	Change or material composition - suscinose	Р	blank a.g. change from Au to Ag	C	-	• •		-	-				1 1			_					+					
	PAS-QUA-MA-10	Change of material composition - Insulator	Р	Change of Insulator.  P Crity for leaded types Not relevant for typical SMD.  A.g. Glass sealing for leads	В									•		•	-	в •	•			-		-			
QUARTZ CRYSTAL / SAW	PAS-QUA-MA-11			not researce for typical SMD.	В				-	+		٠.											+				AGI check recessary!
QUARTZ CRYSTAL / SAW				P Change of marking material e.g. change of ink. e.g. change of ink. e.g. change of ink.		•	•												-					1		خانه	
QUARTZ CRYSTAL / SAW	PAS-QUA-MA-12	Change of supplier of material	- [	P Change to a new or additional material supplier at component manufacturer. e.g. for 2nd source purpose	С				-								-					-		- 1			Assumption material specification nemains unchanged. Otherwise see change of material.
QUARTZ CRYSTAL / SAW		DESGN		+																							
QUARTZ CRYSTAL / SAW	PAS-QUA-DE-01	Changes of termination, surface finish, shape, color, appearance or dimension structure - Base	1	P Change of Base design e.g. due to miniaturization purpose.	В		• •		-	•		•				•	-		•			-		-			
	PAS-QUA-06-02	Changes of termination, surface finish, shape, color, appearance or dimension structure - Lead /		Change of Lead/Termination design.  Change geometry or terminal pad or lead  e.g. change lead design to improve reliability.	В													в -	•								C0 may be influenced Reliability of solder joints may be
QUARTZ CRYSTAL / SAW		Termination		form																						ضلحب	affected
QUARTZ CRYSTAL / SAW	PAS-QUA-DE-03	Changes of termination, surface finish, shape, color, appearance or dimension structure - Can / Cap	1	P Change of Can/Cap design e.g. due to ministurization purpose.	A	-	• 1		•	•	•	•	• •			•	-	в -	•					-		f   -   -	
		Change of termination surface limits where only		Change of Package (Mobiled). Change															I								Electrical function affected in case of mechanical stress distribution change. ACI, wave soldering and board coating has to be assessed. MSL might be
	PAS-QUA-DE-04	Changes of termination, surface finish, shape, color, appearance or dimension shuckure - Package	1	Change of Package (Mobiled), Change e.g., change from welded device to glued device the design of the package.  Not relevant for hysical SMD.  (Case sealing)	В		•		•	•		•		•   •		•		в •	٠	•   -   -   -	•						ACI, wave soldering and board coating has to be assessed. MSL might be
QUARTZ CRYSTAL / SAW			+						+																		changed.
QUARTZ CRYSTAL / SAW	PAS-QUA-DE-OS	Changes of termination, surface finish, shape, color, appearance or dimension structure - Insulator	1	Change of Insulator design. P Crity for leaded types (old technology) Not relevant for typical SMD.	В	•	•		•	•		•	• •	•		•	-	в -	٠					-			
	PAS-QUA-DE-06	Changes of Inner construction - Quartz Blank	-	P Change of Quartz Stank design a.g. change dimension of blank, add phase, slect-rode design,	С				-								- 1	в .									
QUARTZ CRYSTAL / SAW	PAS-QUA-DE-07	Changes of inner construction - Blank Support		P Change of Blank Support design   6.g. change design of glue shape  6.g. change design of metall supporter	С						Υ .								•		. v						
QUARTZ CRYSTAL / SAW		Changes of inner construction - Blank Support PRICESS		e.g. change design of metal supporter	ď				النا							- 1 -		-   -			1 1			النا		ضلفت	
QUARTZ CRYSTAL / SAW QUARTZ CRYSTAL / SAW			- T	P Change of Quartz Stank process e.g. change of cutting or lapping technology	С				1 - 1		- 1 -		T - T -	T - T -	T • T ·	•   -	1 - 1	в -	. 1			1 - 1		1 - 1			
	PAS-QUA-PR-02	Changes in process technology or manufacturing methods - Blank Eliching / Cleaning	. [	p Change of Blank Etch/Clean process Liking different / new technology  e.g. change from liquid etching to plasma etching	С											•		в .									
QUARTZ CRYSTAL / SAW			-+	Using different / new technology ————————————————————————————————————					-	$\rightarrow$		H									- 1	+	- 1				_
QUARTZ CRYSTAL / SAW	PAS-QUA-PR-03	Changes in process technology or manufacturing methods - Electrode Formation	- [	P Change of Electrode Formation process. e.g. change from evaporation to sputtering	С	•	•		-						•	•		в .	٠					-			
	PAS-QUA-PR-04	Changes in process technology or manufacturing methods - Trimming	- T	Change of Auto Trim process (Method of less; change from evaporation to ion beam final frequency tuning)	С				-								-	в .	•								
QUARTZ CRYSTAL / SAW			-	Change of Black hondon / sequality											+ + -	_	_		_								
	PAS-QUA-PR-05	Changes in process technology or manufacturing methods - Bonding / Annealing	- [	Change of Blank bonding / annealing process. Change of method how apply conductive material to base or blank	С	•	•			Υ	Υ •				•	•	-	в .	٠		- Y			- 1			
GUARTZ CRYSTAL / SAW	PAS-QUA-PR-06	Changes in process technology or manufacturing methods - Can / Cap Attaching			С					v								в .									
QUARTZ CRYSTAL / SAW			-+	P Change of Cap/Can attaching process e.g. change of the sealing method e.g. change from batch oven to retiou own															_		-	+		+		خسنه	
QUARTZ CRYSTAL / SAW	PAS-QUA-PR-07	Changes in process technology or manufacturing methods - Molding	-	Change of Overmidding process. Not e.g. change of overmidd process parameter relevant for hypical SAID.	С		•			•		_			•	•		в •	•	• • • •							4
	PAS-QUA-PR-08	Changes in process technology or manufacturing methods - Marking	-	P Change of Marking process e.g. marking of pin 1	В				-								-					-		-			ACI check recessary!
QUARTZ CRYSTAL / SAW	PAS-QUA-PR-09		$\rightarrow$	e.g. change of appearance (additional marking)  Change of Aging process. Typically no  If aging is done: e.g. change of times or	С					_								0						+			
QUARTZ CRYSTAL / SAW QUARTZ CRYSTAL / SAW	PAS-CUR-PR-09	Changes in process technology or manufacturing methods - Aging  Decrease intends: Indian within specification		P Disrage of Aging process. Typically no signify done on quarte crystals.  P Variation within process specification.  4.9 process control	c							+			• •	• •		В .	•								
QUARTZ CRYSTAL / SAW	PAS-QUA-PR-10	Process integrity: tuning within specification PACKING / SHPPING - NEW MATERIAL, CRITICAL DIMENSIONS																									
	PAS-QUA-PN-01		Р	P Change of packing specification. e.g. number of pieces on reel.	В																						
CUMPTZ CRYSTAL / SAW					,																						4

_		<del>-</del>																										
**************	PAS-QUA-PN-02	Dry pack requirements change	P P	Change of drypack requirements.	e.g. change of MSL e.g. change in dry pack assurance (HC, MSS)	В							-   -	-							-					-	/-   /	l l
TT CRYSTAL / SAW	PAS-QUA-PN-03	Change of carrier (tray, reel)	РР	Change of carrier	e.g. change by material e.g. change by geometry.	В			-												-					-	- 7	
		PACKING / SHPPING - VISUAL INSPECTION			ing charge by geometry.																							
	PAS-QUA-PV-01	Change of labeling	I P	Change of labelling, also on reel.	(f) e.g. additional information (RoHS stamp) (P) e.g. change of customer specific information	В																				-	- 7	
RTZ CRYSTAL / SAW	PAS-QUA-PV-02			Marking on device.		В																						
RTZ CRYSTAL / SAW	PAS-QUA-PV-02	Change of product marking			e.g. change of content of marking e.g. change of method of marking e.g. change of appearance of marking	В			- 1																	-		
	PAS-QUA-PV-03	Change of packing/shipping specification	P P	Change in packing specification which does not described a change of dimensions or material of the packing.	e.g. change of documentation in packing specification																					-	/-   /	
RTZ CRYSTAL / SAW		LOGISTICS / CAPACITY / TESTING - EQUIPMENENT		dimensions or material of the packing.																					_		_	
				Change in process technique which is no	4																						Test i	effort depends on final risk
	PAS-QUA-EQ-01	Production from a new equipment/bod which uses a different technology or which due to its unique form or function can be expected to influence the integrity of the final product	PP	Change in process technique which is no already covered above. Note: Changes affecting the product not covered by the table require also a PCN.	e. g. new equipment supplier with different process concept	С			- 1				-   -											- 1		-	Perfor	sament. ormance test according to affected ses change.
RTZ CRYSTAL / SAW																												
RTZ CRYSTAL / SAW	PAS-QUA-EQ-02	Production from a new equipment/bod which uses the same basic technology (replacement equipment or extension of existing equipment pool)	- P	PCN required for dedicated equipment for sensitive component production.	e.g. additional equipment to increase production capacity e.g. replacement of same equipment	С		• •	100															-   -		-	Perfor	effort depends on final risk ssament. ormance test according to affected sess change.
CIZ CICTSTAL / SAW				Change of final test equipment which use																								
	PAS-QUA-EQ-03	Change in final test equipment type that uses a different technology	P P	Change of final test equipment which use different technology. PCN required for dedicated equipment for sensitive parameters.	e.g. change of tester platform	С		• • •	- 1			1 1	-   -			1 1 1	- B									-	• Gage I	e R&R / delta correlation
RTZ CRYSTAL / SAW		LOGISTICS / CAPACITY / TESTING - PROCESS FLOW		*											_					_					_	-		
	PAS-QUA-PF-01	Manufacturing site transfer or movement of a part of production process to a different location/site	P P	Change of manufacturing site. Note: Reorganization inside one	Movement or transfer of manufacturing site or process step(s) to a different location/site.	В								•			• B											
RTZ CRYSTAL / SAW	PAS-QUA-PF-02	Elimination or addition of a manufacturing process step			e.g. washing / cleaning process e.g. change of order of processes	с										T . T .					+ - 1						Chara     conta	racterisation depends on impact of fuction flow.
		LOGISTICS / CAPACITY / TESTING - O-GATE	1 - 1 -	sequence.	e.g. change of order of processes	·				-   -   -																	produ	ction flow.
					e.g. change from 100% to sample inspection	с																					R (sir	lectr. funct.): test coverage.
	QUA-QG-01	Change of last coverage used by the supplier to ensure data sheet compliance (e.g., elimination) addition of electrical measurement has flow block, releastion/enhancement of monitoring procedure or sampling)	- P	Change of test coverage.	e.g. change from 100% to sample inspection e.g. test flow block, reduction from three to two temperature measurements e.g. change in burn inhun in process.	С		1 1														1					R (nelli proce	lactr. funct.): test coverage. sliability) only for change in burn in ses.
p p		Aluminium Electrolytic Casacttor Acu																										
P	PAS-ALU-AN-01		Р Р		Not relevant for technical evaluation.				l I										- 1		1						-	
P	PAS-ALU-AN-02	Any change with impact on processability/manufacturability at customer, which is not covered in the matrix below. DATASHEET	PP	1	Technical interface means component terminals. See processability on board level.	В						نا نا			.   .							- 1 - 1		نانا		•		
	PAS-ALU-DS-01	DATASHEET  Change of datasheet parameters/electrical specification (min./max./kp. values) and / or ACIDC specification		Change of application relevant information Not included: Editorial changes.	e.g. Sighten of electrical parameter distribution	A Rok	k assessment depending on change																					
p	PASALD US-01	specification	PP	Not included: Editorial changes.		n for e	k assessment depending on change each application.																					
				No technical change of the product, only correction in description (wording, drawing,) (R: In case of editorial changes, (Pp: In case of impact on product	a n data sheet coverfor how and an																							
	PAS-ALU-DS-02	Correction of data sheet	I P	(it: In case of editorial changes. (P)c In case of impact on product	e.g. data sheet correction because of new information about component behavior	A .																				-	-	
P	-	-	$\vdash$	Matter (s																							4	
				covered parameter. No technical change of the product.																								
	PAS-ALU-DS-03	Specification of additional parameters	I P	(I): no influence (P): Risk assessment depending on	e.g. adding new (tested) parameter.	A			100															-   -		-	- 7	
				change for each application to provide evidence of additional parametes (stat. evaluation)																								
*		MATERIAL					and if a conclusion holds the																					
	PAS-ALU-MA-01	Change of material composition - Housing	P P	Change of housing	e.g. change Al alloy for housing		only if a cap holder holds the pacitor body by pressing.					•	-   -	•	•			•   •	- 1							-		
	PAS-ALU-MA-02	Change of material composition - Sealing	P P	Change of sealing	e.g. change of rubber compound e.g. change of sealing disc material (setal, Snap in)	C Bt in	in case of external surface of sealing changed.								• s													
P	PAS-ALU-MA-03					C B: C	changed. skation only, if capacitor is glued Only for glued capacitors.								. s				+		-						_ Dissec	and Interesting test can be done
P		Change of material composition - Edernal Insulation	PP	Change of external insulation / sleening	e.g. change of colour	В											• B		-								withou	ed. Humidity test can be done out applying voltage.
P .	PAS-ALU-MA-04	Change of material composition - Lead / Termination	PP	Change of lead or outer termination.	e.g. change of leadframe from into into copper e.g. change of leadframe finish from tin/lead into tin				-				•								-					•	4	
	PAS-ALU-MA-OS	Change of material composition - Internal Insulation / Paper	P P	Change of paper type / internal insulation	e.g. change of paper thickness 50 µm to 40µm	C char	Only if impedance increase (delta sracterization). Check if datasheet is scled (PAS-ALU-DS-01).			•				-			- в				•					-	•	
Φ	PAS-ALU-MA-OS	Change of material composition - Electrolyte		Change of electrolyte	e.g. change in formulation	C char	Only if impedance increase (delta ancientzation). Check if datasheet is acted (PAS-ALU-DS-01).										- в											
p						affec	inscendance). Check if distance is incled (PAS-ALU-DS-01).																			-		
P	PAS-ALU-MA-08 PAS-ALU-MA-08	Change of malerial composition - Tape Material  Change of malerial composition - Base Plate	P P	Change of closing tape material  Change of base plate material	e.g. change of glue or basis material e.g. change of used plastic material	C B				: :	•															-	-	
																											Test of assert	affort depends on final risk sament.
	PAS-ALU-MA-09	Change of supplier of material	. Р	Change to a new or additional material supplier at component manufacturer.	e.g. for 2nd source purpose	С			•		•			•			• B				-					-	Pertor materi  Amuri	mance test according to affected rist.
D																											chary	effort depends on final risk sament. ormance test according to affected risk. amption material specification sins unchanged. Otherwise see age of material.
	PAS-ALU-DE-01	DESIGN  Changes of termination, surface finish, shape, color, appearance or dimension structure - Wire Charmier	1.1.	I	1	В								_						-					_		_	
P	PAS-ALU-DE-01	Discreter Changes of termination, surface finish, shape, color, appearance or dimension structure— Termination	1 0	Change of termination appearance	e.g. change from 0.8 into 0.6 mm wire diameter. e.g. change from matt fin into bright tin.	В		•		1 1 1					-						+ : +							
P		Termination  Changes of termination, surface finish, shape, color, appearance or dimension structure - Appearance	ti ti	For welded Al capacitors only.  Change of appearance	a o change of columbators	В																						
p	PAS-ALU-DE-03	Appearance	I P	Change of appearance Note: Marking on device is defined as separate change (PAS-ALU-PV-02).	e.g. change of safety vent shape			• •																		-		
	PAS-ALU-DE-04	Changes of termination, surface finish, shape, color, appearance or dimension shucture - Rubber Sealing	I P	Change of rubber sealing stand-off shape (for radial)	e.g. change of profile / design	A			-			•			•						-					-	-	
P P	PAS-ALU-DE-OS PAS-ALU-DE-OS	Changes of inner construction - Aluminum Foil Changes of inner construction - Separator	. P	Change of Al foil width Change of seperator width	e.g. change of width e.g. change of width	C C				: :					•		- B									-	-	
p	PAS-ALU-DE-07	Changes of inner construction - Seperator Density	- P	Change of seperator density	e.g. change of seperator density/nesistivity	С		-		•							- B				•					-	•	
	PAS-ALU-DE-08	Changes of inner construction - Inner Connection	. P	Change of inner connection	e.g. change of shape/dimension	c				• • •			•	•			- В	•			•					-	- Comp	ninal Strength (11) not for axial ponents without paddle tabs.
P	PAS-ALU-DE-09 PAS-ALU-DE-10	Changes of inner construction - Closing Tape Changes of inner construction - Foll	. P	Change of closing tape Change of foil type	e.g. change of dimension e.g. change of etching level e.g. change of hickness	c									•		- B				•							
p p		PROCESS																										
	PAS-ALU-PR-01	Changes in process technology or manufacturing methods - Terminal Attach	. Р	Change of terminal attach process	e.g. change of stitching / welding layout	С			. ]				•	•			- в									-	- (14) n	ninal Strength (11) and Vibration not for axial components without die tabs.
	PAS-ALU-PR-02	Changes in process technology or manufacturing methods - Winding	. Р	Change of winding process	a a change of material disposition	B A: o	only for HV application		-								- В										•	
	PAS-ALU-PR-03	Changes in process technology or manufacturing methods - Impregnation	- P	Change of impregantion	e.g. change of bulk process into incluidual impregnation	С		•	•								- в		-		•							ge voltage test for high voltage ponents only.
	PAS-ALLI-PR-04	Changes in process technology or manufacturing methods - Assembly		Change of assembly process	e.g. change of sealing method e.g. change of assembly process sequence	С		• •		•		•			•				-									lepends on process change
	PAS-ALU-PR-05	Changes in process technology or manufacturing methods - Aging / Testing		Change of aging/lesting process	e.g. change of firring, voltage or temperature of process	С		•					-				- в					· T						lepends on process change
	PAS-ALU-PR-06	Changes in process technology or manufacturing methods - Trim & Form Leaded			e.g. change of boiling shape or bending procedure	В			-										-							-	- Solder	lerability may be influenced
	PAS-ALU-PR-07				e.g. change of boiling shape or bending procedure	В															-					-	- Solde	lerability may be influenced
	PAS-ALU-PR-08	Process integrity: tuning within specification	. Р	Variation within process specification.	e.g. process control	С								-					-		-					-	-	
P		PACKING / SHIPPING - NEW MATERIAL, CRITICAL DIMENSIONS			1														$\overline{}$	Ŧ		-						
p	PAS-ALU-PN-01			Change of packing specification.	e.g. number of pieces on reel.	В							-										1			-		
	PAS-ALU-PN-02	Dry pack requirements change	P P		e.g. change of MSL e.g. change in dry pack assurance (HIC, MEE)	В		-																		-	-	
		Change of carrier (tray, reel)		Change of carrier	e.g. change by material e.g. change by geometry.	В													-							-	-	
		PACKING / SHPPING - VISUAL INSPECTION	<del>- i</del>																			1 1					_	
p	PAS-ALU-PV-01	Change of labeling		Change of labelling, also on reel.	(I) e.g. additional information (RoHS stamp) (P) e.g. change of customer specific information	В		100																		-		
	PAS-ALU-PV-02	Change of product marking	I P	Marking on device.	e.g. change of content of marking e.g. change of method of marking e.g. change of appearance of marking	В													-							-	-	
	PAS-ALU-PV-03	Change of packing/shipping specification		Change in packing specification which	e.c. change of documentation in packing																							
p	-va-vro-N-03	Charle of Impossibility absorption	P P	dimensions or material of the packing.	e.g. change of documentation in packing specification																		1					
P		LOGISTICS / CAPACITY / TESTING - EQUIPEMENENT	T	L																	1							
	PAS-ALU-EQ-01	Production from a new equipment/lool which uses a different technology or which due to its unique form or function can be expected to influence the integrity of the final product	P P	unange in process technique which is no sheady covered above.  Note: Changes affection the result of	d e. g. new equipment supplier with different process concept	с											- в									-	Test el assess     Perfor	effort depends on final risk susment. ormance test according to affected ass change.
•		and the second s																									proce	omance set according to attected sets change. effort depends on final risk seament. omance test according to affected
	PAS-ALU-EQ-02	Production from a new equipment/lool which uses the same basic technology (replacement equipment or extension of existing equipment pool)	. Р	PCN required for dedicated equipment for sensitive component modernia-	e.g. additional equipment to increase production capacity e.g. replacement of same equipment	с											- в									-	Test el assess Perfor	uron depends on final risk sament. ormance test accommon to effected
p					e.g. repracement of same equipment																						proce	us change.

PAS-ALLI-EQ-03	Change is final test equipment type that uses a different isobnology	P P	Change of final test equipment which use different technology. PCN required for dedicated equipment for sensitive parameters.	e e.g. change of tester platform	С												. в													Gage R&R / de
	LOGISTICS / CAPACITY / TESTING - PROCESS FLOW		Change of manufacturing site.	<u> </u>																				一	ŧ	$\pm$	Ħ	Ħ	T	
PAS-ALU-PF-01	Manufacturing site transfer or movement of a part of production process to a different location/site		Change of manufacturing site. Note: Reorganization inside one plantisite is not affected!	Movement or transfer of manufacturing site or process step(s) to a different location/site.	В		•	•	•		•	٠.		• •	·	•	• B	•	٠.	-	•	•			1	Ŀ			Ŀ	
PAS-ALU-PF-02	Elimination or addition of a manufacturing process step		Change of manufacturing process sequence.	e.g. veshing / desning process e.g. change of order of processes	С		•											•		-	•		•		4	÷				Characterisation production flow
PAS-ALU-PF-03	Elimination of final electrical measurement / test flow block  LOGISTICS / CAPACITY / TISTING - O-GATE	I P	Reduction of final testing. PCN required for dedicated final test reductions for sensitive parameters.	e.g. elemination of additional impedance control	С		-			.   .   .										-	•				1	نك		٠ -	٠.	Characterisation final test flow.
	Change of last coverage used by the supplier to ensure data wheel compliance (e.g., elimination/addition of electrical measurement/set flow block, relaxation/enhancement of monitoring procedure or sampling)	. Р	Change of test coverage.	e.g. change from 100% to sample inspection e.g. test flow block, reduction from three to two temperature measurements e.g. change in burn initus in process.	с																			.					-	R (electr. func R (reliability) o process.
	moreovering procedure or samplings  NTC  Any			e.g. change in burn inhun in process.		1											<u> </u>					<u> </u>		_	_	_	_	_	_	process.
PAS-NTC-AN-01 PAS-NTC-AN-02	Any change with impact on special customer characteristics/contractual agreements Any change with impact on processability/manufacturability at customer, which is not covered in the martic bubbs.  DATACHEET	P P		Not relevant for technical evaluation.  Technical interface means component terminals.	В.																-				==	Ŧ	=	-	=	
PAS-NTC-DS-01	DATASHEET Change of datasheet parameters/electrical specification (min/max./lyp. values) and / or ACDC specification.		Change of application relevant	e.g. sighten of electrical parameter distribution		Risk assessment depending on change for each application.						Ť												一	Ť	Ť	Ħ	_	_	
Production 1	specification		Not included: Editorial changes.  No technical change of the product, only			for each application.																-		-	-	+	+	÷	÷	
PAS-NTC-DS-02	Correction of data sheet	I P	drawing) (it: In case of editorial changes. (P): In case of impact on product integrity.	e.g. data sheet correction because of new information about component behavior	A				-												-		-		1 1					
PAS-NTC-0S-03	Specification of additional parameters	I P	Integrition of a new not previously covered parameter. No technical change of the product (§: no influence (§: no influence (§): Risk assessment depending on change for each application to provide evidence of additional parameters (stat. evaluation).	e.g. adding new (tested) parameter.																										
	MATERIAL		evidence of additional parametes (stat. evaluation)								$\perp$															ш	щ			
		P P	Change of Binder Material to bind ceramics.		С						-	-			•	•									4		$\blacksquare$			Darmoto
PAS-NTC-MA-02	Change of material composition - Ceramic	РР	Change of ceramic composition	e.g. changes in additives amount	с			•	-		-			•		•	• B	•	s -										•	Parameter and an anticipated performance. S = SMD device.
PAS-NTC-MA-03	Change of material composition - Inner Electrode	РР	Change of inner electrode material (ink material). Valid in case of multibyer structures only.	e.g. change from AgPt material to AgPd material	с		•		•		•						- в				-			-						
PAS-NTC-MA-04	Change of material composition - Encapsulation			e.g. change of costing e.g. change of additives in an insulation.	В	A: Risk assessment on application level, if interaction with other material expected.			•		-				•	•	- в	•			•								•	Parameter and an anticipated performance.
PAS-NTC-MA-05	Change of material composition - Lead material / Termination	РР	Change of lead or outer termination. Change of lead (finish) material, termination material or attachment material.	e.g. change from SnPb to pure Sn	В	Risk assessment needed to evaluate compatibility of soldering process.								•			• B													
PAS-NTC-MA-06	Change of supplier of material		material.  Change to a new or additional material supplier at component manufacturer.	e.g. for 2nd source purpose	С												• B												+	Assumption management of mail
PAS-NTC-DE-01	CESION  Changes of termination, surface finish, shape, color, appearance or dimension shucture - Lead Changes of termination, surface finish, shape, color, appearance or dimension shucture - Lead				В	1											- В					_		_	_	_	=	_	<del>.</del>	
PASATC-05-02	Changes of termination, surface finish, shape, color, appearance or dimension structure -		Change of termination area	e.g. change of termination layer thickness e.g. change in termination dimensions	В												• B				-				<del></del>	Ħ÷.		++		SMD compone
PAS-NTC-DE-03	Changes of termination, surface finish, shape, color, appearance or dimension structure - Internal Connection	I P	Change of inner connection	e.g. change from soldered connection to welded connection	С							-					• B						-	- 1						
PAS-NTC-DE-04	Changes of termination, surface finish, shape, color, appearance or dimension structure - Appearance	I P	Change of appearance. Note: Marking on device is defined as	e.g. change or adding of colour on component Mainly in combination with other changes!	В										-															
PAS-NTC-DE-05	Changes of Inner construction - Electrode	. Р	separate change (PAS-FLM-PV-02).  Change of electrode layer trickness or geometry. For multi-layer technology role.	e.g. change of electrode design	с													-		-				-						
PAS-NTC-DE-06	Changes of inner construction - Layer Thickness	. Р	Change of ceramic layer thickness. For multi-layer technology only.	e.g. change from 1.5µm into 1.0µm	с										•	•					-		-	- 1						
PAS-NTC-DE-07	Changes of Inner construction - Number of Layers	. Р	Change of number of ceramic or electrode layers. For multi-layer technology only. Allways in combination with PAS-NTC-DE-06.	see also layer thickness	с											•							-	- 1	-   -				-	
	PROCESS  Changes in process technology or manufacturing methods - Lamination		Change of lamination / press technique technology		С	†							1.1.				- В									_		-		
	Changes in process suchoology or instruscuring memors - currentsion  Changes in process technology or manufacturing methods - Firing		technology  Change of firing / sintering profile	e.g. semp press to iscense press e.g. temperature and / or time and / or atmosphere. e.g. from tunnel to batch kiln.	c												- в								#	#		Ħ	+ :	
	Changes in process technology or manufacturing methods - Dicing	. P	Change of dicing / slicing	e.g. from tunnel to batch kiln. e.g. change from cutting to sawing	c												- в									_	+ - +			
PAS-NTC-PR-04	Changes in process technology or manufacturing methods - Termination			e.g. change in plating technology (final termination) e. e.g. change from dp in paste to plating (apply)	В												• B													
PAS-NTC-PR-05			Change of electrode apply. For multi	e.g. change from up in passe to passing (apply) e.g. change of inner electrode by down method.	С										-		- в						+ .	_	-	_	+	+	٠.	
	Chances in process technology or manufacturing methods - Assembly		layer technology only.  Change in assembly process for leaded	e.g. soldering method for lead attach to element or costing / encapsulation process	В													-						_	_	_	1.1	+	+	
PAS-NTC-PR-07	Process intentiv: tuning within specification	. P	or encapsulated devices.  Variation within process specification.	costing / encapsulation process e.g. process control	C						1.1				Ŀ										ᆂ	1	赶	1	<del>ا</del>	
			Change of packing specification.		В	1							1.1.		1.1					1.1	- 1				.   .					
	Dry pack requirements change	РР	Change of drypack requirements.	e.g. change of MSL e.g. change in dry pack assurance (HC, MBB)	В						-							-		-	-		-							
PAS-NTC-PN-03				e.g. change by material e.g. change by geometry.	В						-									-			-							
	PACKING / SHPPING - VISUAL INSPECTION				В	1																			Ŧ	+		=		
	Change of labeling Change of product marking		Change of labelling, also on reel.  Marking on device.	(f) e.g. additional information (RoHS stamp) (P) e.g. change of customer specific information e.g. change of content of marking	В																				#	+	+	#	+	
			Marking on device.  Change in packing specification which	e.g. change of content of marking e.g. change of method of marking e.g. change of appearance of marking	-																				4	4	+	4	4	
PAS-NTC-PV-03	Change of packing lahipping specification	P P	does not described a change of dimensions or material of the packing.	e.g. change of documentation in packing specification	٠						-	1 1						1 .	1						نيلا	نىك			نىلا	
	LOGSTICS / CAPACITY / TESTING - EQUIPTAMENT  Production from a new equipment look which uses a different lackhology or which due to its unique form or function can be expected to influence the integrity of the first product	P P	Change in process technique which is re sheady covered above. Note: Changes affecting the product not covered by the table require also a PON.	of a. g. change from wet to dry technology.	с		•																							process char
PAS-NTC-EQ-02	Production from a new equipment/tool which uses the same basic technology (replacement equipment or extension of existing equipment pool)			e.g. elimination of manual handling processes.	с		•																							Test effort de assessment. Performance process chan
PAS-NTC-EIQ-03	Crange in final test equipment type that uses a different technology  LOGSTICS / CARACITY / TESTING - PROCESS FLOW		Change of final test equipment which use different technology. PCN required for dedicated equipment for sensitive parameters.		с											-   -	- в	Ŀ			-				1				•	
PAS-NTC-PF-01	Manufacturing site transfer or movement of a part of production process to a different location/site	РР	Change of manufacturing site.  Note: Reorganization inside one plantistie is not after text	Movement or transfer of manufacturing sits or process step(s) to a different location/site.	В				•								• B	•		-				- 1						
	Elimination or addition of a manufacturing process step			s.g. vashing / cleaning process s.g. change of order of processes	С				-						-											1.			•	Characterisati production for
			1																										١.	Characterisal test coverage R (electr. func R (reliability)
PAS-NTC-QG-01	LOGSTICS / CAPACITY / TISTING - G-GATE  Curpo of last coverage used by the againe is ensure date shared compliance (e.g., derivation/dation of decision remainment feet flow block, relaxation/ethoroceners of monitoring procedure or assipting)	. Р	Change of test coverage.	e.g. change from 100% to sample inspection e.g. test flow block, reduction from three to two temperature measurements e.g. change in burn initrun in process.	С																									R (reliability) o process.
PASNIC-QG-01	Dange of lest coverage used by the applier to ensure date sheet compliance (e.g., elemation-distinct of elected resourcement for their, releasible/herhorisment of ensurinting procedure or analyting)  PEG  PEG  PEG  PEG  PEG  PEG  PEG  PE			temperature measurements e.g. change in burn initun in process.	С																				╧	▐			Ľ	R (reliability) o process.
PAS-NTC-OG-01	Owings of test coverage used by the applier to ensure data sheet completion (e.g., elementarisablistic of electrical measurement but the block, released only her handlers of emotiviting procedure or exemple)  FIC  Any owings with impact on appoint customer characteristics/contracted agreements	P P		temperature measurements e.g. change in burn initrun in process.  Not relevant for technical evaluation.																										R (nilability) o process.
PAS-NTC-QG-01  PAS-PTC-AN-01  PAS-PTC-AN-02	Owage of test coverage used by the supplier to ensure data sheet compliance (e.g., shrinkerholdston of electrical resourcementhes than block, relaxed shrinkerhancement of enrolleting procedure or sampling.  PPC  May  Along with impact on special customer characteristics/contracted agreements.	P P		temperature measurements e.g. change in burn initun in process.	c B										-															R (valability) o process.

PAS-PTC-05-02	Correction of data sheet		No technical change of the product, only connection in description (wording, drawing,) (It in cause of editorial changes. (IPs in case of impact on product integrity.	e.g. data sheet correction because of new information about component behavior	A																							
PAS-PIC-US-02	Correction of data sheet	'	(i): In case of editorial changes. (P): In case of impact on product integrity.	information about component behavior	^																							
PAS-PTC-OS-03	Specification of additional parameters		Description of a new not previously covered parameter. No inchical change of the product. (8: no influence (97: Dat assessment depending on change for each application to provide evidence of additional parameters (stat.	e.g. adding new (keeled) parameter.	A																							
	MATERIAL									Ш						$\perp$		$\perp$										
PAS-PTC-MA-01	Change of material composition - Ceramic Binder	Р	p Change of Binder Material to bind ceramics.		С								-		•	•												
PAS-PTC-MA-02	Change of malerial composition - Ceramic	Р	p Change of ceramic composition	e.g. changes in additives amount	с								-	.   .		•	• B	• s								-		Parameter analyse only necessary if an anticipated impact on electrical performance.
PAS-PTC-MA-03	Change of malerial composition - Polymer	Р	P Change of polymer composition		С																							S = SMD device only
PAS-PTC-MA-04	Change of material composition - Encapsulation	Р	p Change of encapsulation material.	e.g. change of coating e.g. change of additives in an insulation.	В	A: Risk assessment on application level, if interaction with other material expected.				•			-			•	- в	• .								-		Parameter analyse only necessary if an anticipated impact on electrical performance.
PAS-PTC-MA-05	Change of material composition - Lead material / Termination	Р	P Change of lead (finish) material, termination material or attachment material.	e.g. change from SnPb to pure Sn	В	Risk assessment needed to evaluate compatibility of soldering process.											• B											
PAS-PTC-MA-06	Change of supplier of material		P Change to a new or additional material supplier at component manufacturer.	e.g. for 2nd source purpose	С												• B											Assumption material specification nemains unchanged. Otherwise see change of material.
	DESCN		<del>'</del>	·						$\perp \perp$	_									+		$\perp$		_	_			
PAS-PTC-CE-01 PAS-PTC-CE-02	Changes of termination, surface finish, shape, color, appearance or dimension structure - Lead Diameter	1	p Change of lead diameter		В					•							- в											
PAS-PTC-DE-03	Diamete Changes of termination, surface finish, shape, color, appearance or dimension shuckure - Termination Area Changes of termination, surface finish, shape, color, appearance or dimension shuckure - Internal Connection	-	P Change of termination area	e.g. change from soldered connection to welded	В				-	· ·							• B							1				
PAS-PTC-DE-04	Connection  Changes of termination, surface finish, shape, color, appearance or dimension shucture -	÷	Change of appearance.	e.g. change or adding of colour on component	В																							
PAS-PTC-0E-05	Appearance Changes of Inner construction - Electrode	÷	separate change IPAS-PTC-PV-021.  Change of electrode layer thickness or	connection  e.g. change or adding of colour on component Makely in combination with other changeal  e.g. change of electrode design  e.g. change from 1.5µm into 1.0µm	c							Н.				-												
PAS-PTC-DE-06	Changes of Inner construction - Layer Trickness		p Change of ceramic layer thickness. For	e.g. change from 1.5µm into 1.0µm	c				_			٠.																
			Change of number of ceramic or																									
PAS-PTC-DE-07	Changes of Inner construction - Number of Layers PROCESS	-	P Change of number of ceramic or electrode layers. For multi-layer technology only. Alleays in combination with PAS-PTC-DE-06.	see also layer thickness	с				•	·	1 1	·   •		Ι.		•			•								1 .	
PAS-PTC-PR-01	PROCESS  Changes in process technology or manufacturing methods - Lamination		P Change of terrination / press technique technology	e.g. stamp press to isostatic press	С				٠		•					•	- В			1								
PAS-PTC-PR-02	Changes in process technology or manufacturing methods - Firing	$\neg$	p Change of firing / sintering profile		С				•								- в									-		
PAS-PTC-PR-03	Changes in process technology or manufacturing methods - Dicing	-	p Change of dicing / slicing	e.g. change from cutting to sawing	С					•	•						- в									-		
PAS-PTC-PR-04	Changes in process technology or manufacturing methods - Termination	- T	p Change for termination preparation like plating or apply of termination base layer.	e.g. change in plating technology (final termination) e.g. change from dip in paste to plating (apply)	В					•			•				• B									-		
PAS-PTC-PR-05	Changes in process technology or manufacturing methods - Electrode apply		P Change of electrode apply. For multi layer technology only.	e.g. change of inner electrode by down method.	С		•	•									- в									-		
PAS-PTC-PR-06	Changes in process technology or manufacturing methods - Assembly	-	p Change in assembly process for leaded or encapsulated devices.	e.g. soldering method for lead attach to element or costing / encapsulation process e.g. process control	В		• •			-							•	•			-					-		
PAS-PTC-PR-07	Process integrity: tuning within specification		P Variation within process specification.	e.g. process control	С								-													-		
PAS-PTC-PN-01	PACKING / SHIPPING - NEW MATERIAL, CRITICAL DIMENSIONS  Packing / shipping specification change (bosening of tolerances)	Р	P Change of packing specification.	e.g. number of pieces on reel.	В					1.1			1 - 1							T . T								
PAS-PTC-PN-02	Dry pack requirements change	Р	P Change of drypack requirements.		В								-															
PAS-PTC-PN-03	Change of carrier (tray, reel)	Р	P Change of carrier	e.g. change by material e.g. change by geometry.	В								-										•					
PAS-PTC-PV-01	PACKING / SHIPPING - VISUAL INSPECTION  Change of labelling			(i) e.g. additional information (RoPG stamp) (P) e.g. change of customer specific information	В				Τ.	Ι.Τ		T . I .	Т.Т		T . T . T			T . T .	T . I .	Τ.Τ				Τ.		Г. Г		
PAS-PTC-PV-02	Chance of creduct marking	_		(P) e.g. change of customer specific information e.g. change of content of marking	В																			1				
			P Marking on device.  Change in parking specification which	e.g. change of content of marking e.g. change of method of marking e.g. change of appearance of marking					<u> </u>	-				-						+ +	_			<u> </u>				
PAS-PTC-PV-03	Change of packing/lahipping specification	Р	Change in packing specification which does not described a change of dimensions or material of the packing.	e.g. change of documentation in packing specification	٠														<u> </u>									
PAS-PTC-EQ-01	LOGSTICS   CARACITY / TESTING - EQUIPMENDIT  Production from a new equipmentstool which uses a different technology or which due to its unique form or function can be especied to influence the integrity of the final product	Р	Change in process technique which is not pleady covered above. Note: Changes affecting the product not covered by the table require also a PCN.	e. g. change from wet to dry technology.	С								-							-	- 1			-				Test effort depends on final risk assessment. Performance test according to affected process change.
PAS-PTC-EQ-02	Production from a new equipment/loof which uses the same basic technology (replacement equipment or extension of existing equipment pool)		PCN required for dedicated equipment for sensitive component production.	e.g. elimination of manual handling processes	С																					-		Test effort depends on final risk assessment. Performance test according to affected
PAS-PTC-EQ-03	Change in final test equipment type that uses a different technology	Р	P Change of final test equipment which use p different technology. PCN required for dedicated equipment for sensitive parameters.	e.g. change of tester platform	с												- в			-								process change.  Gage R&R / delta correlation
PAS-PTC-PF-01	LOGISTICS / CAPACITY / TESTING - PROCESS FLOW  Manufacturing sile transfer or movement of a part of production process to a different location hile.		Change of manufacturing site.	Mounteet or installer of manufacturing site or						T . T		$\overline{}$	T	.   .			Τ.	Τ.Τ.		TT	T			T		П		
		Р			В					٠.	•		+ +	•			• B	H . I .	•	-	-					-		
PAS-PTC-PT-02	Elimination or addition of a manufacturing process slep  LOGISTICS / CAPACITY / TESTING - Q-GATE	•	P Change of manufacturing process sequence.	e.g. washing / cleaning process e.g. change of order of processes	С										لنانا				1:1:								•	Characterisation depends on impact of production flow.
PAS-PTC-QG-01	DUSING FORMULTY INSTITUTE - GENTLE  Change of fised coverage used by the supplier to ensure data sheet compliance (e.g., elimination/siddition of electrical measurementhers flow block, relaxation/serhanoment of entiretring procedure or sampling)	-	p Change of test coverage.	e.g. change from 100% to sample inspection e.g. test flow block, reduction from three to two temperature measurements e.g. change in burn in hun in process.	с									-   -							-							Characterisation depends on impact of test coverage. R (elactr. funct.): test coverage. R (elability) only for change in burn in process.
PAS-VDR-AN-01	Any Any change with impact on special customer characteristics/contractual agreements	Р	P	Not relevant for technical evaluation.						1.1		T - T -	1.1		T . T . I					1.1								
PAS-VDR-AN-02		P			В					-			-							-								
	DATASHEET			1																								
PAS-VDR-DS-01	Change of datasheet parameters/electrical specification (min./max./lyp. values) and / or ACIDC specification	Р	P Change of application relevant information Not included: Editorial changes.	e.g. Sighten of electrical parameter distribution	A	Risk assessment depending on change for each application.	1 1													1				i.		-		
PAS-VDR-OS-02	Correction of data sheet	1	(P): In case of impact on product integrity	e.g. data sheet correction because of new information about component behaulor	A								-														-	
PAS-VDR-DS-03	Specification of additional parameters	ı	Description of a new not previously covered parameter. No scholard change of the product. (B: no influence (PF. Risk assessment depending on change for each application to provide evidence of additional parameter (stat.	e.g. adding new (belied) parameter.	A				-																			
PAS-VDR-MA-01	MRTERAL  Change of material composition - Ceramic Binder				С					T - T		1 - 1 -	T i	.   .	T - i - ī	•   •	- 1 -	1 - 1 -	1.1.	T . T	- 1				- 1 -			
PAS-VDR-MA-02		Р		e.g. changes in additives amount	С											•												
PAS-VDR-MA-03	Change of material composition - Electrode	Р	P Change of inner electrode material. Valid in case of multilayer structures only.	e.g. change from AgPt material to AgPd material	С					-							- в									-		
PAS-VDR-MA-04	Change of material composition - Encapsulation			e.g. change of coating e.g. change of additives in an insulation.	В	A: Plak assessment on application level, if interaction with other material expected.				•						•	- в	• •		-						-		
PAS-VDR-MA-QS	Change of material composition - Lead material / Termination	Р	P Change of lead (finish) material, termination material or attachment material.	e.g. change from SnPb to pure Sn	В	Risk assessment needed to evaluate compatibility of soldering process.											• B			-						-		
PAS-VDR-MA-06	Change of supplier of material	-1		e.g. for 2nd source purpose	С												• B	١.										Assumption material specification nemains unchanged. Otherwise see change of material.
	DESIGN Changes of termination, surface finish, shape, color, appearance or dimension structure - Lead									$\vdash$				+			+			+	_							
PAS-VDR-06-01 PAS-VDR-06-02	DESIGN  Charges of termination, surface finish, shape, color, appearance or dimension structure - Lead  Charges of termination, surface finish, shape, color, appearance or dimension structure -  Termination Area.	1	P Change of lead diameter  p Change of termination area	e.g. change lead diameter from 0.8 to 0.6 mm e.g. change of termination layer thickness	В					•							· в											SMD components only!
PAS-VDR-DE-03	Termination Assa Changes of termination, surface finish, shape, color, appearance or dimension structure - Internal Connection	1	p Change of inner connection	e.g. change in entension dimensions e.g. change from soldered connection to welded connection	c											-   -	• B			-						-		
	-																											

PAS-VDR-DE-04	Changes of termination, surface finish, shape, color, appearance or dimension structure - Appearance	P Note: Marking on device is defined as separate change (PAS-VDR-PV-G2).	e.g. change or adding of colour on component Mainly in combination with other changes!	В		•		-			-	•		-		-			-							1	-				-		
PAS-VDR-DE-05	Changes of inner construction - Electrode .	p Change of electrode layer thickness or geometry.	e.g. change of electrode design	с					•			-			-				В								- 1						
PAS-VDR-DE-06	Changes of inner construction - Layer Trickness -	p Change of ceramic layer thickness. For multi-layer technology only.	e.g. change from 1.5µm into 1.0µm	С											-				В														
PAS-VDR-DE-07	Changes of Inner construction - Number of Layers.	P  Change of number of ceramic or electrode byers. For multi-bayer sechnology only. Always in combination with PAG-VDR-DE-06.		С							٠.					•																	
PAS-VDR-DE-08	Changes of Inner construction - Grain size	Change of grain size. Grain size is a result of process and / or material change.	e. g. change of grain size.	с				-			•			-		-			В							1	- 1		-			•	
PAS-VDR-DE-09	Changes of inner construction - Grain boundary size .	Change of grain boundary size. Grain P boundary size is a result of process and	f / e.g. change of grain boundary size.	С															В														
	pporess	or material change.			_																					_	_	_				_	-
PAS-VDR-PR-01	Changes in process technology or manufacturing methods - Lamination -	P Change of terrination / press technique method	e.g. pressures or temperature	С					•										В														
PAS-VDR-PR-02	Changes in process technology or manufacturing methods - Firing -	p Change of firing / sintering profile	e.g. temperature and / or time and / or atmosphere.	c				٠.	-		٠.								В		_						+ - +				H . H		
PAS-VDR-PR-03	Changes in process schnology or resultanting restout - hing	P Change of dicing	e.g. from tunnel to batch kiln. e.g. change from cutting to sawing	c	_			-	-	· .				٠.			+		В							-	+ - +	-			H . H		
			e.g. change in plating technology (final termination)								+		-	+		_	+-	_	Ť	1	-			-	_	#	+	_	+	_	+ +		
PAS-VDR-PR-04	Changes in process technology or manufacturing methods - Termination -	plating or apply of termination base layer.	e.g. change from dip in paste to plating (apply)	В	•	•	•	•			•		• •		•	•	• •		В		•	٠ .		•		<u>.</u>			•			•	
PAS-VDR-PR-05	Changes in process technology or manufacturing methods - Electrode apply	P Change of electrode apply. For multi layer technology only.	e.g. change of inner electrode by down method.	С	•	• .	٠											•	В		٠		-	•		Ţ.					-	•	
PAS-VDR-PR-06	Changes in process technology or manufacturing methods - Assembly -	or encapsulated devices.	e.g. soldering method for lead attach to element or coating / encapsulation process	В	•	•	٠	•				•	•	•	•	•	•			•				•		نب	1	-					
PAS-VDR-PR-07		P Variation within process specification.	e.g. process control	С									- 1 -					-   -						- 1	- 1 -	نب	لنط	-	•	- 1 -			
	PACKING / SHIPPING - NEW MATERIAL, CRITICAL DIMENSIONS		T																							_					1	$\overline{}$	
PAS-VDR-PN-01	Packing / shipping specification change (bossering of tolerances) P	p Change of packing specification.	e.g. number of pieces on reel. e.g. change of MSL	В				+ -	•		-	1							-		-		- 1	-		4	+	-	-				
PAS-VDR-PN-02	Dry pack requirements change P	P Change of drypack requirements.	e.g. change in dry pack assurance (HC, MED) e.g. change by material	В	•							1			-						-			•		÷	+	•	•				
PAS-VDR-PN-03		P Change of carrier	e.g. change by material e.g. change by geometry.	В	100	100			-														-	-					-				
	PACKING / SHIPPING - VISUAL INSPECTION				 																					_	_						
PAS-VDR-PV-01	Change of labeling	P Change of labelling, also on reel.	(f) e.g. additional information (RoHS stamp) (P) e.g. change of customer specific information	В										-	-				-	-			-			4 -7	/ - /	-					
PAS-VDR-PV-02	Change of product marking	P Marking on device.	e.g. change of content of marking e.g. change of method of marking e.g. change of appearance of marking	В				-						-												1							
PAS-VDR-PV-03	Change of packing/shipping specification P	P Change in packing specification which does not described a change of dimensions or material of the packing.	e.g. change of documentation in packing specification									-		-	-						-					1	-		-				
	LOGISTICS / CAPACITY / TESTING - EQUIPEMENENT			_			_												_								_						
PAS-VDR-EQ-01	Production from a new equipment/loof which uses a different fachnology or which due to its unique form or function can be expected to influence the integrity of the final product	P Ohange in process technique which is no sheady covered above. Note: Changes affecting the product not covered by the table require also a PON.	e. g. change from wet to dry technology.	с	٠	•		٠		•	•	-			-	•		•	В		-				•		-		-		-	Perto	t effort depends on final risk essment, formance test according to affecte cess change.
PAS-VDR-EQ-02	Production from a new equipment/loof which uses the same basic technology (replacement equipment or extension of existing equipment pool)	PCN required for dedicated equipment for sensitive component production.	e.g. elimination of manual handling processes	С	٠			•	-	•			٠.	.   -	-	•		•	В		-	.   -		-	•	•	-	-	-		-	Perio	t effort depends on final risk essment. formance test according to affects cess change.
PAS-VDR-EQ-03	Change in final test equipment type that uses a different technology P	P Change of final test equipment which use different technology. PCN required for dedicated equipment for sensitive parameters.	e.g. change of tester platform	С	٠														В													• Gage	ge R&R / delts correlation
	LOGISTICS / CAPACITY / TESTING - PROCESS FLOW	•	•																	_													
PAS-VDR-PF-01	Manufacturing site transfer or movement of a part of production process to a different location/site P	Change of manufacturing site.  P Note: Reorganization inside one plantistic is not affected.	Movement or transfer of manufacturing site or process step(s) to a different location/site.	В				•				•			•	•			В		•		- 1	. ]			· T				•	•	
PAS-VDR-PF-02	Elimination or addition of a manufacturing process step	Change of manufacturing process	e.g. washing / cleaning process	с																												. Cher	eracterisation depends on impact of
	LOGISTICS / CAPACITY / TESTING - O-GATE	sequence.	e.g. change of order of processes					ш	_											_			ш	_					_			prod	duction flow.
PAS-VDR-QG-01	Charge of test coverage used by the suppler to ensure data sheet complexes (e.g., elementacidate) of electrical resourcement less flow block, releasion/softwarend of execution ensurement less flow block, releasion/softwarend of execution ensurementacidates.	p Change of test coverage.	e.g. change from 100% to sample inspection e.g. test flow block, reduction from three to two temperature measurements e.g. change in burn inhun in process.	С				-	٠						-	-				-			-			-		-				* R (na	electr. funct.): test coverage. reliability) only for change in burn i cess.
Tests, which sho	suld be considered for the appropriate process change.				-		-	-	-		-	-		-	-				-	-	-		-	-		-	-	-	-		-	- 17	
																											$\equiv$						
Tests, which sho	uld be considered for the appropriate process change after selection of condition table				-		-	-		-   -	-	-		-	-		-		-	-	-	-	-	-		-	-	-	-		-	-	
Suppliers perform	ned tests (mark with an "X" for done or "G" for generic)																																
Reason for excep	ption of tests and/or usage of generic data:																																

-	Not required
	Information Note required
P	PCN required



Name, Function)	Max Mustermann		Basis: IEC 60810																									
PCN number:		-	Basis: IEC 60810			ı										Device eval	luation								_			
Signature:		ł												MATER		ORMANCE TEST			e basis of IE	C 60810)					_			
Orginature.		J		ı	Jan.		Г	-		_	1												т —					
					flustion level A7 B7 C																							í
					3	+	C) W (C)		ĐĘ.			do Model	3														(1) 20 0 00 100 0	ı
					- 1		100		8 0 4	1 Guguard	- 1	A see 15	faction 1		8												CC ZON	
_	Assessment of Impact on Supply Chain regarding following aspects - conflactual agreements - suchrical interface of processability/manufacturability of customer - tom, 16, function, quality performance, reliability	Remaining risks on Supply Chain?	Understanding of semiconductors experts	Examples to explain		Further applicable conditions	90 Land		and of the color	o rest	0	danker i	Outco 1	1000	the France	8 8			*				8	40			42, and the contract of the contract of the contract	Remarks
2"	- form, fit, function, quality performance, reliability	Chain?			a ked d retked ant kegs		S S S S S S S S S S S S S S S S S S S	(dep)		feb key	i i	90180	Oaro	ical Dima	8	arios D	Aggus	8	1	and the	3	Milesed O	Pa Pa	Dend St.	1	Section 1	reter And safetical or to toolic	ı
ID.		1			Application level Boardbewel Compressible Notrelevant força		50810		de la	i i	ğ	8	083	Ê	NA.	Please March	998	À	ž	ž	Dea	ě	À	*40	ä	2 0	Pan Pan	ł
_	Type of change ARCY	No Yes			₹80"		EG		a 4	1	日	1	3	а	3	я а		Ħ	21	а	a	1	п	<b>1</b> 1	-			
LEDANES	Any change with impact on agreed upon contractual agreements.	p p	Not relevant for technical evaluation. See processability on board level technical interface means component terminate			Charles of the Control of the Contro				-	-	-		-	-	- s,T	-	-	-	-		-	-		+-		++	
anae	Any change with impact on technical interface or processability/manufacturability of curranter, which is not covered in the matrix below DATA SPRET					Processibility should be assessed.			- 1				-			- 0,1		-	- 1					- 1 -			4	
LED-09-01	Change of datasheet parameters/electrical specification (nin. Insuchys, values) and/or PalseDC specification	p p	Change of application relevant information (e.g. maximum pulse current) Not included: Editorial changes.		A				E E	Е		Е	E		-	- s	-	-		Е			Е		1 - 1		. Е	
LED-09-02	Connection of dutte sheets	1.1.	tous sheet (editorial changes) has to check if application addressed.  It is case of editorial changes Pits case of editorial changes	e.g., change of ESD level	A																							
	Conection of data ethesis		It case of editional changes     Par case of impact or product integrity     Definition of an additional parameter which was not specified.	eg. charge of 65D level																					41	تلك	Щì	
LED-09-03	Specification of additional parameters	I P	partition of an additional parameter which was not specified before it if integrity of the device is not affected.  P. If there is a nick on supply chain than at least one additional when change category will apply - LED- 09-02 correction of data sheet.	E e.a.: adding new tested parameter	c								_						_						4.1			Formalism since this is not a product change, ony
			P. F. There is a risk on supply chain than at least one additional other change category will apply - LEID- DS-62 correction of data sheet																									Casestratori C
	DESIGN		Any device relevant changes in design / layout of epiticals layer. Met lackward: Changes within design rules and design specification without affecting specified fundation, parameters and included.															T	Ī		T							
LEDOSet	Design changes in epitary.	p p	Not included: Changes within dwigs rules and design specification without affecting specified functions, parameters and reliability.	e.g. change from Double-heero to Quantum wells e.g. change of barrier thickness	c	A change from Double hences to Quantum webs — espectrum is affected		1	•	•	٠.		•							•	н						• •	
LED-DE-02	Design dhanges in routing/tayour.	р р	specification without affecting specified functions, parameters and reliability.  Any change in city beeping improx.  May change in Change within length raises and design specification without affecting specified functions, parameters, and specification without affecting specified functions, parameters, and parameters are specification area.	e.g. change in tayout of current spreader; thickness of current spreader e.g. reduction of bond pad size	с	A change in layout of current spreader radiation pattern changes				٠.				-	-		- В.	D,M	м		м	м		в в	D,M			TR might be considered for complex die band tec
LED DE 41	Cite shrink		specimizan athour athoung specified functions, parameters and reliability.  Strink of active area.	e.g. reduction of band pad size Typical shrink of die.	A					٠.														в в				
LEDOS ON	Die strick LED-package (except leadframe)		Not included: saving street/orthoribe ine	Typical shrink of die. e.g. change of dimensions e.g. change of x y, or 2 dimension of the package		Check if LED-05-03 is affected which leads to a change of the elcocoptic parameters or distributions									v	v •			D		D	- D	L	вв				
			any change in housing trickness any change in turn or dimensions.	e.g. change of x, y, or 2 dimension of the package e.g. change in feedframe / carrier dimensions in x,y, or 2				_	_	_		-		_	_		_	_	3				1	_	+	_	_	
LEDOS es	Design of leadframe	p p	any change of leadhame / carrier dimensions, any change of outer dimensions.	direction e.g. change inner design of the leadfeame not affecting the elo performance & reliability of the device		Check if LED-05-02 is affected which leads to a change of the elchooptic parameters or distributions.		•		•	•	•	•	•	v	v •	T	•		•	-		•	в в	D	. 2	2 •	
LED-PW-01	PROCESS - WAFER PRODUCTION  Term! Change of water substance or carrier material.		New water substrate reportal.	A COMMENT AND COMMENT CONTROL MARKET CONTROL		Check if LED-05-02 is affected which leads				Р	т.	Р	Р				- 1		Р		Р	Р	Τ.		Т.Т		.   .	
				e.g. different water materialitis currently released material (shange from Sapphine to Silicon)		Check if LED-05-03 is affected which leads to a change of the elchooptic parameters or distributions.		_	_	_	_	-		-	-	•	-	Р	_	_	Р	۲	1		÷		_	<b>.</b>
LED-PW-02	Mater diameter	P P	change of eater diameter resulting in equipment and process changes	40.4, 204,	c	It case other type of changes are affected as equipment/process technology - they need to be identified in addition	•	•	•	•	-	Р	Р	-	-	•		-		•	-		٠			-	•	
LED-PW-03	New final water thickness	p p	Change in final water thickness	e.g. change in final chipide thickness	с	Check if LED-05-02 is affected which leads to a change of the elchooptic parameters.				Р		Р	Р											в в				
LED-PW-04	Change of electrically active-doping/implantation element	p p	Change in electrically active doping / implantation element Heciting in a new technology.	e.g. change from the to C as dopart	c	o unimotori.		С		С	С											-						
LED-PW-05	Change of stacking		change in layer sequence or thickness	e.g. change of inclution layer thickness between r- and p-		customer application needs to be checked due to potential system voltage differences			• F		_				.						F		H .		+	_		
LED-PW-06	New! change of metallization (specifically chip tromaids)		Change in metalization of bondpads, material, layer thickness	e.g. change in bond-pad metalization thickness		due to posential system voltage differences		м					M.B	_	.		_	B			м	м	١.		+	_		
LED-PW-07				e.g. change from Au to Audie	c	A customer application needs to be thecked due to potential system voltage differences		м		_			D,M		-		-			_	D,M	D,M	D,M		1.	-		
abviito	New/ change of metalization (specifically chip backside)	PP	Change of bottom layer of die (between die and sudmannicarier). Change in process, material, or dimensions secessary.			B		-		<u> </u>	<u> </u>	D,M	D,M	-	-	-   •		2,8M	D,M	•	D,M	D,M	D,M		÷	-1	÷	<b>.</b>
LED-PW-08	Change in process technique (e.g. significant process changes like lithography, etch, ceide deposition, de back surface preparation/backgrind,)	- Р	Change from set to day extiling, change from horizontains vertical own for oxidation, change from contact time into shapper time,	e.g. change from vert with to-dry etch e.g. change from laser cutting (sowing) to planna cutting (puwing) e.g. change from contact liths to stepper liths	c	backside/turcide metalization. In case of new equipment please check? LED-PA-14 is also affected.				-	-	-	-	-	-		-	-	-	-	-	-	-		/ - /		/ [ - ]	Qualification effort depends on type of change.
LED-PW-09	Process Integrity: Tuning within specification		Uninter with concess specification		c		-			-	-		-	-	-		-	-		-					1			
LED-PW-10	Change of natural supplier with so impact on agreed specifications.	Р	Change of water supplier. Change of supplier for chemicals seeded for water production.  Any change which is not covered by another type of change.  Risk is to be assessed.	e.g. Change of veder supplier.	с							-	-	-			-		-		-	-						Qualification effort depends on type of change.
LED-PW-11	Change of specified water process sequence (deletion and/or additional process step)	Р	Any change which is not covered by another type of change. Risk is to be assessed.	e.g. additional dearing process in water production	c					-	-		-	-	-		-	-					-		44			Qualification effort depends on type of change. PPAP has to be updated.
LED-PW-12	Change in de coating or passivation		Change in material, thickness, and process for coating and passivation	e.g. change from SICO to SINO	с			Р		•	Р	Р	Р	-	-		-	-	Р	-	Р	Р	-	P P	4			
LED-PW-13	Newwater production location or transfer of water production to a different not previously released location/site/subcontractor	P P	New water prophection location or transfer of water production with possible additional changes.		c	Aur & Impact on other type of changes described under PROCESS - WAFER PRODUCTION and EQUIPMENT caregories	•				-		•	-	-		-	-	-	•	-	-	J					ĺ
	BANG DE CELTARRES		Change in bondpads, nutricial, pad pitch, surface changes, layer trickness	a c channe from As 10 As after	В	a sa Decom		м		Τ.		M,B	M,B				- 1		.						一	==	#	
LEDWOOL	New Change of front side mesilization New Change of backside mesilization		Change of button layer of die (between die and leadflamentaries). Change of button layer of die (between die and leadflamencarrier). Change is propose, ingenial or dimensions.	e.g. change in over pad metalization		Check if LED-05-02 is affected which leads to a change of the elchooptic parameters		м	_				D.M	-						_	•	÷	÷		+ +	Ħ		customer application needs to be checked due to solitate differences.
LED-RO-ES			existrane/content). Change in process, meaning, or dimensions.  Needed information for pick & place machine.  It only additional number of drips.  It only additional number of drips.			or distributions.			-	Ŧ.	÷	D,M	E,M						•	-	-					4		sollage differences
	Change of water setup or number of dies on water.			e.g. information change for pick & place machine.		Check if LED-05-01 is also affected.				-	-	-			-		-			-	-	-			+	الك		
LED-RD-64	New Stall water thickness		material)	e.g. change on convener thickness				P					P	•						•				в в		-	. •	
LED-RO-65	Change in die coating or passivation PROCESS - ASSEMBLY		Change in material, thickness, and process for stading and passination	e.g. change from SICD to SIND		Check if LED-09-01 is also affected.		P		<u>.</u>	Р	Р	Р						Р		Р	Р		P P			.   •	
LEDPAGE	Change of lead/transitionier base naterial	р р	New leadframe/carrier material (new in composition)	e.g. change from copper alloy to bare copper		Check if LED-05-02 is attended which leads to a change of the elchooptic parameters or distributions.		•	Р •		-	-	-	-	-		•	-	А	-	A	A	P,1		/ · /	. F		Explanation should be provided in case HISS test
LED-PA-02	Change of leadSane/carrier finishing material (internal)	p p	Change of surface material of die attach gaid and second bond area (x.g. influence in adhesion to mold compound, wedge bond reliability)	e.g. change from Ag flash to NIPd protection layer e.g. change from Ag spot to Au spot	A			•	Р .				-	-	-		•	-	А	-	A	A	P,1					HI'S test should be considered for automotive ear explanation should be provided in case HI'S test i
LED-PA-03								м	Р .	к				,					A		A	A	P,1				к -	
	Change of lead and heat slug plating reasonial/plating thickness (esternal)	r P	Change in material and process technique for final pin- termination (e.g., pure to), Herein-package, processability and reliability on toxed level can be verified by generic data. Classification depends on impact of change	e.g. change of layer thickness.																								expressed on should be provided in case HISS test
LEDPAGE			Change of die attach material (e.g. soft solder, eposy, etc).	e.g. change to Pt-tree material	A B			•					-		N		-		W Q		W N	W Q			-		اقتها	
LEDPAGE	Die attach resterial Change of bond wire insterial		Change of die attach insteriol (e.g. soft solder, eposy, etc). Thermal management must be respected. Mitterial, wire diameter, change in process technique	e.g. change from 20y to 25y	A			:		P,0						N •			Q P,D	-		P,D					45	Site audit for material change with ingact on bond to Cuj recommended.
LEDPAGE	Change in bolic wire insense.  Change in insensel for sub-components (excluding LEO chip & LEO package related terms) with impact on agreed specifications.	p 0		e.g. change from 30y to 28y e.g. using a different ESD-dode in technology and naterial than previously	A .	Check if LED-09-01 is also affected.				P,1									P,U			-,0			+			to Cut recommended.  Qualification effort decends on type of chance.
LEDPAGE	on agreed specifications  Die Oversoar / Underfill	- 1	Note: Jump start test at CEMs might be necessary Supporting layers for complex packages like flip chip.	that previously  Pr. e.g. change of underfit with change of thermal resistance		Check if LED-09-01 is also affected.				Р.						Р .		_		_		Р	U		U	-		and depend on the Charge.
LEDPARE	the Overcoat / Undertill	P	Supporting Bayers for complex packages like flip chip.  - No change in product integrity.  P: change can influence the integrity of final product.	P. e.g. change of underfit with change of thermal resistance				P	_		+								Р	_	-				- 0	4	انبه	
LEDPAGE	Change of mild compound/encapsulation/sealing material	p p	Change of maid compound, encapsulation, or sealing manerial right is although optical function in case of package related when (i.e., a towning). Component seasonity and board coating has to be assessed. MSL might be changed.	e.g. PPA mold compound	A	Check if LED-09-01 is also affected.		•					-	D	D	D •	т	Р	Р	Р	Р	Р	Р		/ · /	٠ .		
LED-PA-10	Change of convention material	p p		e.g. change from granuts to nitrides	c	Check if LED-09-01 is affected for optical/photometric parameters			• Y	٠.				-	Υ	Υ .	-	Y	Р	Р	Р	Р	Y					
	Change of direct supplier for convenier material	р	New supplier with same material specification		c			•	• P					-	Р	Р •		Р	Р	Р	Р	Р	Р					
LEDPANZ	Change of converter process technology	1 P	new technology for conventer production it no influence on era performance of product Pt in case of impact on product integrity	e.g. change from volume convention to layer convention; e.g. change from stamping to printing of layer	c	Check if any change in electro-optical characteristics results in change of data sheet LED-05-01			• Y	٠			-	-	Υ	Υ .	-	Y	z	Z	z	z	Y					
LEDPANS	Change of product reariting	I P	Manking on device.  It change in appearance; readability not affected.  Fig. change of consent or change of appearance of data matrix.	e.g. marking of carthode;					. 0		-			-	-	. т	т	-		-	-							
		-	code			As it Please check if EQUIPMENT and																			+	+		
LEDPANS	Change in process technique (e.g., die attach, bonding, noulding, plating, trim and form, ]  Process trengtly: Tuning within specification		Any change in assembly process suchnique Variation within process specification	e.g. change die attached from gluing to soldering; e.g. process control	B C	Aur B: Please check f: EQUIPMENT and other type of changes of nuterial (LED-PA- 04/05/06/07/08/08/10) are affected							-	-	-		-						-					Qualification effort depends on type of change.

LED-PA-17	Change of specifie-bassentilly process sequence (additional and/or deletion of process cosp)		Addison or deletion of a process step in assembly process sequence with potentially significant impact on the product participance. In a tribution on product integrity. Printherous on product integrity expected.	e.g. additional or deletion plasma deaning process	c	Single case assessment necessary to identify possible interactions or risk.	-			-					-		-	-		•		-	-	-		-		Qualification effort depends on type of change.
LEDPANE	location/lube/subcontractor	Р	P New assembly location, assembly transfer or relocation. Transfer of known technology and equipment.	e.g. Dual source storagy	С	A or 8: Impact on other type of changes described under PROCESS ASSEMBLY and EQUIPMENT	•			-			-		-		-		-			-			-	-		- Qualification effort depends on type of change.
	PACKENGISHPPING																											
LED-P9-01	Inner Packing httipping specification change	р	P dimension change of direct product packing	e.g. SMIT pocket in tape changes.	0			- P -		- 1	,	Ρ .				. T		-			-			-				•
LED-P9-02	Cuter Packingshipping specification change	1	dimension changes indirect product packing  E small changes in dimension or appearance  Finumber of mels in the packing are changing	нд развых	•								-				-	-	-	-		-			-	-	-	
LED-P9-03	Change of liabeling	1	Change of labelling also on seel.     E additional information no change of previous information     F: change in content of previous information.	(f) e.g. additional information (RoHG stamp) (F) e.g. change of customer specific information	8	Check if LED-09-01 is also affected.				-			-		-		-		-			-	-		-	-	-	
LED-PS-01	Dry pack requirement change	P	P Change of drypack requirements (change in MSL)	e.g. change from MSL3 to MSL1		Check if LED-09-62 is also affected.					.		-				-	-	-	-		-		-		-	-	•
•	EQUIPMENT	_																							_			
LED-60-01	Production from a new equipment/boot which uses a different basic technology	Р	P  Change in process sechnique which is not already covered storue.  Storue. Major changes affecting the product not covered by the state require also a PCN.	e.g. change from single water to batch process e.g. over pad metalisation e.g. dambar cutting (mechanical to later cutting)	в	Check if LED-09-01 is also affected. Contractor stability should be assessed.	-			-			-				-	-	-	-	-	-		-		-	-	- Qualification effort depends on type of change.
LED-60-03	Production from a new equipment/loci which uses the same basic technology (replacement equipment or extension of existing equipment pool) without change of process.	-	PCN required for dedicated equipment for sensitive component production.	e.g. change from single site to multi site handler.	С												-		-	-	-	-	-			-	-	Qualification effort depends on type of change.
LED-610-03	Change in final test equipment type that ware a different technology		Change of tester pladorming, major test program changes, new tester introduce,). It product specification is not attended Pr product specification is attented.	e.g. change in text method from of to lumen						-	.		-			. т			-			-		-	-	-	-	Clage RBR / delta correlation
	TEST FLOW			•		•																			•			
LED-19-01		Р	P Texas transfer or relocation.	e.g. Dual source strategy	С		•	в		В		•			-	• т	В		В	-	-	-	В	В	В	-	-	Gage RBR / deta correlation; additional specification check it should be considered for Water testing
	Q-QATE																											
LED-Q0-01	Change of the test survivage testing process flowused by the supplier to ensure data sheet compliance is a elementaryladdisc of electrical resourcementhes flow block; retisation/enhancement of increasing procedure or s	-	P Reduction or additional control steps, test coverage within the process flow	e.g. test flowblock like Final test / final clearance	с				-   -				-				-		-		-	-	-	-	-	-	-	
	•																											
Tests, which	should be considered for the appropriate process change.																					-				-	-	-
Tests, which	should be considered for the appropriate process change after selection of condition to	stile.															-	÷			•		-			-		
Suppliers pe	rformed tests (mark with an "X" for done or "G" for generic)																											
Reason for e	exception of tests and/or usage of generic data:																											
														_											_			

Not required.
 Note required.
 PP PCN required.

	CONDITIONS	
Á	CONDITIONS  Not for Ag plated devices applicable (Ag intended to fall for this test)	No
â	Only if Bondarea/Wirebond is changed/affected	
ä	Only if documentation material is chanced	
ň	Only if Dimensions are changing	
ĕ	Only if minimax Values are changing	
	Sequence change only	
ii .	Non Epony Casted Devices only	
3	Only for chip technology using water bonding	
ě	Not for Au plated devices	
	Only if Leadhame/Substrate Dimensions are changed	
ŭ.	Only if metal composition is changed including sequence	
	Only for gland chips	
ä	Only if process is changing	
ĕ	Only if material properties are changed	
ä	Only if olue components are changing	
Ř	Only if marking technology changes	
š	Only if Floor Life is affected	
	Only if Board Reliability is affected	
ů.	Only if underfill is affected	
ū	Only for non-hermetic devices	
ŵ	Only if risk of compsion is increasing	
Ÿ	Only for layer technology	
ż	Only if conversion technology changes	
	Only if data sheet parameters are affected	
	Only if outer dimensions are critical	