PRODUCT/PROCESS CHANGE NOTIFICATION
PCN 10548 – Additional information

ASE Kaohsiung (Taiwan) additional source for LQFP 7x7 & 10x10 extended listed products

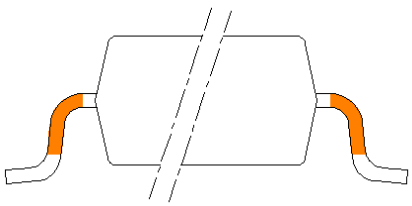
MDG - Microcontrollers Division (MCD)

What are the changes?

Changes described in table below:

	Existing back-end sites			Added back-end site
Assembly site	Stats ChipPAC JSCC Jiangyin China	ST Muar Malaysia	Amkor ATP Philippines	ASE Kaohsiung Taiwan
Leadframe	Copper Frame Spot Ag	Pre Plated Frame	Copper Frame Spot Ag	Copper Frame Spot Ag
Leadfinishing (1)	Pure Tin (e3)	Ni Pd Au (e4)	Pure Tin (e3)	Pure Tin (e3)
Resin (2)	Sumitomo G631SHQ	Sumitomo G700LS	Sumitomo G631HQ	Sumitomo G631SH
Glue	Ablestik 3230	Hitachi EN4900	Evertech AP4200	Sumitomo CRM 1076WA
Wire	Silver 96.5% 0.8mil	Gold 0.8mil	Gold 0.8mil	Gold 0.8mil
Enhanced Traceability in marking	2 digits	2 digits	No digit	2 digits

(1) Lead color and surface finish change depending on leadfinishing.

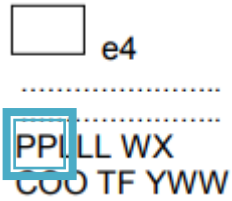


(2) Package darkness changes depending on molding compound.

Pin1 identifier can change in terms of form and positioning.
Marking position and size could be different upon assembly site, without any loss of information.

How can the change be seen?

The standard marking is:



PP code indicates assembly traceability plant code.

Please refer to DataSheet for marking details.

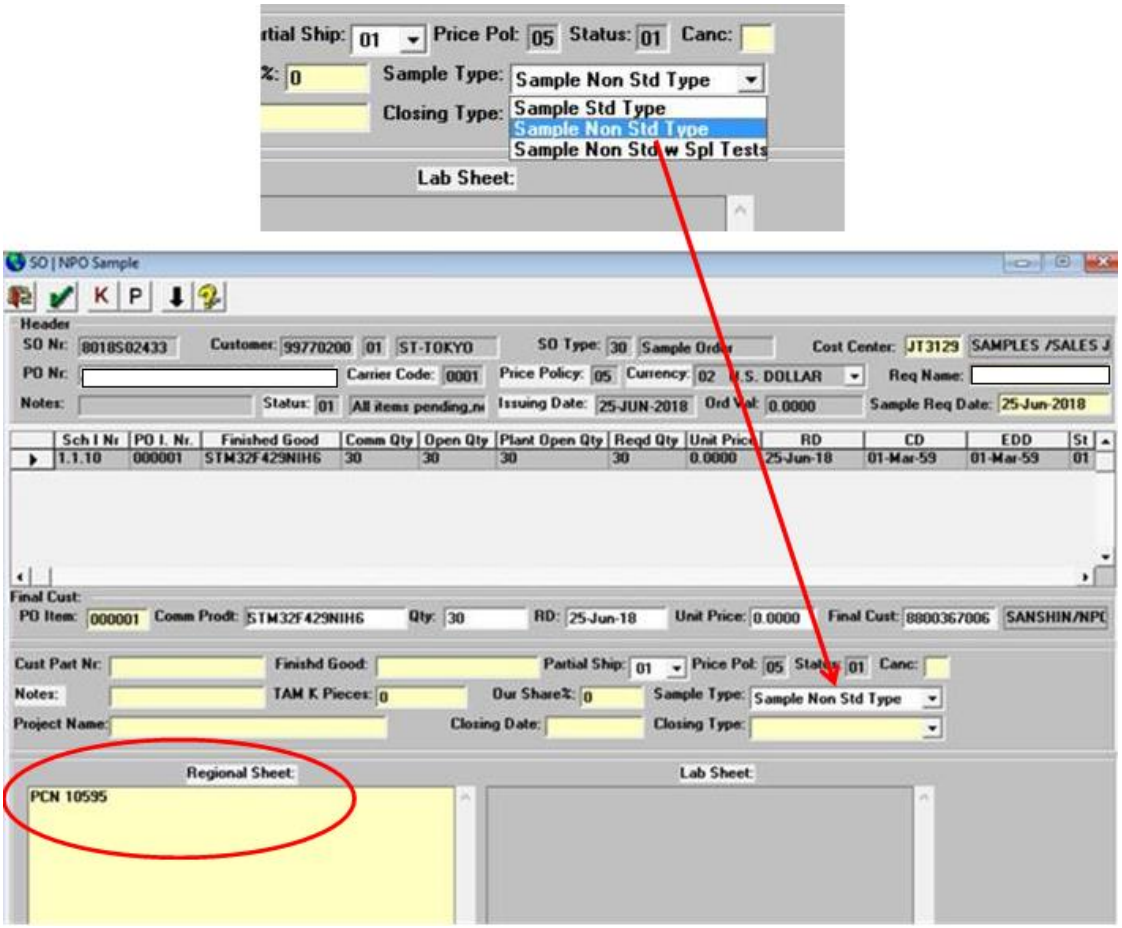
The marking is changing as follows:

Existing		Additional	
PP code	Fab	PP code	Fab
GH/GQ	Stats ChipPAC China	AA	ASE Kaohsiung Taiwan
9H	ST Muar Malaysia		
7B	Amkor ATP Philippines		

How to order samples?

For all samples request linked to this PCN, please:

- place a **Non-standard** sample order (choose Sample Non Std Type from pull down menu)
- insert the PCN number "**PCN10548**" into the NPO Electronic Sheet/**Regional Sheet**
- request sample(s) through Notice tool, indicating a single Commercial Product for each request


rtial Ship: 01
Price Pol: 05
Status: 01
Canc:
%: 0
Sample Type: Sample Non Std Type
Sample Std Type
Sample Non Std Type
Sample Non Std w Spl Tests
Closing Type:
Lab Sheet:
SO | NPO Sample
K P
Header
SO Nr: 8018S02433
Customer: 99770200 01 ST-TOKYO
SO Type: 30 Sample Order
Cost Center: JT3129 SAMPLES /SALES J
PO Nr:
Carrier Code: 0001
Price Policy: 05
Currency: 02 U.S. DOLLAR
Req Name:
Notes:
Status: 01 All items pending_ne
Issuing Date: 25-JUN-2018
Ord Val: 0.0000
Sample Req Date: 25-Jun-2018
Sch I Nr | PO I. Nr. | Finished Good | Comm Qty | Open Qty | Plant Open Qty | Reqd Qty | Unit Price | RD | CD | EDD | St
1.1.10 | 000001 | STM32F429NIH6 | 30 | 30 | 30 | 30 | 0.0000 | 25-Jun-18 | 01-Mar-59 | 01-Mar-59 | 01
Final Cust:
PO Item: 000001
Comm Prodt: STM32F429NIH6
Qty: 30
RD: 25-Jun-18
Unit Price: 0.0000
Final Cust: 8800367006 SANSHIN/NPC
Cust Part Nr:
Finishd Good:
Partial Ship: 01
Price Pol: 05
Status: 01
Canc:
Notes:
TAM K Pieces: 0
Our Share%: 0
Sample Type: Sample Non Std Type
Project Name:
Closing Date:
Closing Type:
Regional Sheet:
PCN 10595
Lab Sheet:

RER1810 for PCN 10548
ASE Kaohsiung (Taiwan) additional source for LQFP 7x7/10x10/14x14/20x20

Reliability Evaluation Plan

November 30th, 2018

MDG MCD Quality & Reliability Department

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RER1810 ASE Kaohsiung (Taiwan) additional source for LQFP 7x7/10x10/14x14/20x20 - Package Test Vehicles & Strategy

Test vehicles are selected by Change Review Board based on key parameters such as die size and volumes allowing to qualify the entire product family in LQFP.

Similarity strategy will be applied to cover all combinations of Diffusion Plant, Diffusion Process and LQFP packages listed below:

- TSMC 0.18µm / TSMC M10 / TSMC 90 / Crolles CR300 M10 / Crolles CR300 M40 / Rousset R8 F9GO2 / Rousset R8 F9GO2s diffusion process
- LQFP7x7 / 10x10 / 14x14 / 20x20 on the same assembly line and using same materials for bonding wires, die attach glue and mold compound

Package line	Assembly Line	Package	Device (Partial RawLine Code)	Diffusion Plants & Process	Number of Reliability Lots
LQFP	LQFP 7*7	48L	STM32(5B*422)	TSMC 0.18µm	1
			STM8(5B*764)	Rousset R8 F9GO2	1
	LQFP 10*10	64L	STM32(5W*411)	TSMC M10	1
			STM32(5W*417)	Rousset R8 F9GO2s	1
	LQFP 14*14	100L	STM32(1L*436)	Rousset R8 F9GO2	1
			STM32(1L*448)	TSMC 0.18µm	1
			STM32(1L*411)	TSMC M10	1
			STM32(1L*435)	TSMC 90nm	1
	LQFP 20*20	144L	STM32(1A *450)	Crolles CR300 M40	1
			STM32(1A *413)	Crolles CR300 M10	1
			STM32(1A *414)	TSMC 0.18µm	1

RER1810 ASE Kaohsiung (Taiwan) additional source for LQFP 7x7/10x10/14x14/20x20 - Package Reliability Trials

Reliability Trial & Standard		Test Conditions	Pass Criteria	Unit per Lot	Lot qty
PC	Pre Conditioning: Moisture Sensitivity Jedec Level 3 J-STD-020/ JESD22-A113	Bake (125°C / 24 hrs) Soak (30°C / 60% RH / 192 hrs) for level 3 Convection reflow: 3 passes	3 passes MSL3	308	1 per device
Uhast(*)	UnBiased Highly Accelerated Temperature and Humidity Stress JESD22 A118	130°C, 85%RH, 2 atm	96h	77	1 per device(**)
TC(*)	Thermal Cycling JESD22 A104	-50°C, +150°C Or equivalent -65°C +150°C	1000Cy 500Cy	77	1 per device(**)
THB (*) Or HAST (*)	Temperature Humidity Bias JESD22-A101 Or Biased Highly Accelerated temperature & humidity stress JESD22 A110	85°C, 85% RH, bias Or 110°C, 1.2 atm , 85% RH bias	1000h Or 264h	77	1 per device(**)
HTSL (*)	High Temperature Storage Life JESD22 A103	150°C- no bias	1000h	77	1 per device(**)
Construction analysis	JESD 22B102 JESDB100/B108	including Solderability, Physical dimensions for LQFP10*10, LQFP14*14, LQFP20*20	15 10		1 per device FE techno and package
ESD	ESD Charge Device Model ANSI/ESD STM5.3.1 Or JESD22-C101 Or JEDEC JS-002	Aligned with device datasheet	250V to 500V	3	1 per device

(*) tests performed after preconditioning
(**) except die 422

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