



PRODUCT/PROCESS CHANGE NOTIFICATION

PCN APG/07/3031
Notification Date 10/31/2007

BCD3S products diffusion transfer from Carrolton 6" to AMK 6"

APG - APG

Table 1. Change Identification

Product Identification (Product Family/Commercial Product)	see list
Type of change	Waferfab location change
Reason for change	Carrollton fab closure
Description of the change	Following Corporate PIL CRP/07/2900 about Carrollton diffusion plant closure, we are transferring the BCD3s products to AMK where BCD3 shrink process is qualified and running since 2004
Product Line(s) and/or Part Number(s)	See attached
Description of the Qualification Plan	See attached
Change Product Identification	"V6" AS PRODUCTION AREA IDENTIFICATION FOR AMK
Manufacturing Location(s)	

Table 2. Change Implementation Schedule

Forecasted implementation date for change	31-Mar-2008
Forecasted availability date of samples for customer	15-Jan-2008
Forecasted date for STMicroelectronics change Qualification Plan results availability	29-Feb-2008
Estimated date of changed product first shipment	15-Apr-2008

Table 3. List of Attachments

Customer Part numbers list	
Qualification Plan results	



Customer Acknowledgement of Receipt		PCN APG/07/3031
Please sign and return to STMicroelectronics Sales Office		Notification Date 10/31/2007
<input type="checkbox"/> Qualification Plan Denied <input type="checkbox"/> Qualification Plan Approved <input type="checkbox"/> Change Denied <input type="checkbox"/> Change Approved	Name: Title: Company: Date: Signature:	
Remark		

DOCUMENT APPROVAL

Name	Function
Maggioni, Giampietro	Division Marketing Manager
Russo, Alfio	Division Marketing Manager
Aparo, Sebastiano	Division Product Manager
Rivolta, Danilo	Division Product Manager
Amadeo, Matteo	Division Q.A. Manager
Parrino, Emanuele	Division Q.A. Manager



BCD3S PRODUCTS DIFFUSION TRANSFER FROM CARROLLTON 6" to ANG MO KIO 6" PLANT

WHAT:

Following Corporate Information Letter CRP/07/2900 about the closure of Carrollton fab, we are going to transfer to Ang Mo Kio 6" Singapore plant, the few Automotive products still in production there.

Ang Mo Kio plant is the main location for BCD3 where all the process options are fully qualified and in production since 2004.

WHY:

Corporate Technology Roadmap

HOW:

The products qualification plan has been defined taking into account the device characteristics (see next page: DIFFUSION RELIABILITY EVALUATION PLAN) :

- Power package family (same resin and die attach) → UF19, UF28 and UF29
- SO lead free family → UF33
- Application family (LS and HS driver) → UF33, UF19 and UF29

And the process data for BCD3/3S already running in AMK at a runrate of 7K wafers/week.
(see: BCD3_3S RELIABILITY DATA on AUTOMOTIVE PRODUCT DIFFUSED IN AMK 6")

WHEN:

We target to complete the qualification and start the diffusion in AMK from April 08 onward.

UF29, UF28, UF19 & UF33 BCD3S AMK 6" Diffusion RELIABILITY EVALUATION PLAN

AEC-Q100-IC STRESS SPECIFICATION rev. F				UF33	UF19	UF28	UF29	UH01-BCD4		
				4.53 x 2.99	4.92 X 6.57	5,11 X 3,88	6,41 X 5,55	1.7 X 2.01		
				multi channel driver	Door actuator driver	Voltage regulator / relay driver	multi channel driver	Voltage regulator		
				Vhtrb=40V, Volt=16V	Vhtrb=40V, Volt=13.5V	Vhtrb=30V, Volt=16V	Vhtrb=40V, Volt=16V			
				SO28	PSO20	PSO36	Hi-Quad 64	SO20		
				SUMITOMO EME7026	HITACHI HF10	HITACHI HF10	HITACHI HF10	SUMITOMO EME7026		
				HITACHI EN4900	Preform Pb/Ag/Sn	Preform Pb/Ag/Sn	Preform Pb/Ag/Sn	HITACHI EN4900		
TESTS	SAMPLES	CONDITIONS	sample size	sample size	sample size	sample size	rej/sample size	Note		
A1	SMD-PC	All samples before THB, AC, TC	J-STD-020B	45		50	135	0/90	4	
A2	THB	1 lot x 45 pcs X device	Ta=85C RH=85% t=1000hrs	(*)	(**)	(**)	45	0/45		
A3	AC	1 lot x 45 pcs X device	t=96hrs Ta=121C P= 2 atm	(*)	(**)	(**)	45	0/45	5	
A4	TC	1 lot x 45 pcs X device	500 cycles Ta=-50 /+150C	45	(**)	(**)	45		4, 6	
A6	HTSL	1 lot x 45 pcs X device	Ta= 150C t=1000hrs						7	
B1	HTOL	1 lot x 45 pcs X device	Tj=150C t=1000hrs	45	45	50	50		2, 3	
B2	ELFR	800 x 3 lots	Tj=150C t=24hrs						9	
C1	WBS	30 bonds x 5 parts	Q100-001	5	(**)	(**)	5			
C2	WBP	30 bonds x 5 parts	Mil-STD883 M.2011	5	(**)	(**)	5		10	
E2	ESD	3 x 1 lot x device	Q100-002	3	3	3	3			
E2	ESD	3 x 1 lot x device	Q100-003	3	3	3	3			
E3	ESD	3 x 1 lot x device	Q100-011	3	3	3	3		8	
E4	LU	12 x 1 lot x device	Q100-004	12	12	12	12			
E5	ED	Q100-009							11	
	HTRB	1 lot x 45 pcs	Tj=150C t=1000hrs	45			45		3	
Note:	1	Lots/samples per lot for test A2, A3, A4, B1: 1lot X 45 pcs (PAT is implemented and ED will be performed)								
	2	The UF29, UF19 and UF33 parts will be soldered on CB before starting OLT								
	3	Drift analysis between 0 and 1000 hrs will be performed								
	4	sam analysis will be performed before and after the stress test								
	5	Die visual inspection will be carried out after the stress test								
	6	WBP will be performed after the TC test								
	7	HTSL is covered by HTRB								
	8	The ESD CDM will be performed both on AMK and CRN diffusion								

9	the use of generic data is allowed
10	Performed at assy level (full Assy report is requested)
11	Performed by Product Engineer
(*)	this test has been recently performed with positive results on UH01 device (same package family, same resin and die attach)
(**)	this test will be performed on the 1° test vehicle UF29 device (same package family, bigger die size, same resin and die attach)

BCD3_3S RELIABILITY DATA on AUTOMOTIVE PRODUCT diffused in AMK 6"

N. DEV.	APPLICATION	DEVICE	CHIP SIZE	PACKAGE	N. LOTS	RELIABILITY RESULTS														
						PC	THB	AC	TC	HTRB	HTOL	HTLS	ELFR	WBP	WBS	ESD_HBM	ESD_MM	ESD_CDM	LU	
1	POWER TRAIN	UF39	8.25x7.7	Hi-QUAD64	38	0/231	0/77	0/77	0/77	0/77	0/77	0/77	0/1021			0/6	0/6		0/10	
					39	0/231	0/77	0/77	0/77	0/77	0/77	0/77	0/1861							
2	AIRBAG	UF22	2.31x3.45	PQFP44	40						0/63		0/500			0/10			0/10	
3	AIRBAG	UF23	4.17x4.44	PQFP52	41	0/154		0/77	0/77		0/63	0/50	0/500	0/5	0/5	0/5			0/10	
4	AIRBAG	UR21	4.22x5.82	PQFP52	42	0/154	0/77	0/77	0/77		0/64	0/50	0/500	0/5	0/5	0/5			0/10	
5	AIRBAG	UR03	5.55x4.23	PQFP52	43								0/400			0/5			0/10	
6	AIRBAG	UR04	4.43x4.65	PQFP52	44								0/500			0/5			0/10	
7	POWER TRAIN	UF14	4.4x2.93	PSO16	45											0/12			0/12	
8	POWER TRAIN	UF31	4.11x6.29	PSO36	46					0/70	0/40					0/5		0/5	0/12	
9	POWER TRAIN	UF32	3.56x4.25	PSO36	47					0/80	0/40					0/5	0/5	0/3	0/10	
10	POWER TRAIN	UF34	2.35x2.72	SO20	48											0/5			0/12	
11	EPS	UF30	6.55x6.25	Hi-QUAD64	49	0/90	0/50			0/40	0/36		0/882			0/3	0/3		0/12	
12	AIRBAG	UR20	9.23x8.19	PQFP100	50	0/140		0/50	0/50		0/40					0/3	0/3	0/3	0/12	
13	AIRBAG	UR25	9.13x7.97	TQFP80	51								0/2132							
14	AIRBAG	UR26	9.13x7.97	PQFP100	52								0/1609							
15	ABS	UF02	5.17x2.76	PSO36	53	0/170	0/70	0/50	0/50	0/70	0/50					0/6	0/6		0/6	
16	POWER TRAIN	UR35	4.07x3.49	PSO20	54											0/5	0/5	0/3	0/12	
17	ABS/EPS	US69	6.19x4.57	PSO36	55											0/5	0/5	0/5	0/12	
18	ABS	UF03	4.93x7.18	PSO 20	56								0/2111							
19	AIRBAG	UR27	41.8x4.02	LQFP 48	57								0/848							
20	AIRBAG	UR12	9.13x7.97	PQFP100	58								0/544							
21	POWER TRAIN	UR07	7.26x5.37	PSO 36	59								0/2177							
22	ABS	UR05	3.85x4.95	PSO 20	60								0/2222							
23	AIRBAG	UR17	9.13x7.97	PQFP100	61								0/1386							
24	AIRBAG	UR13	9.13x7.97	PQFP100	62								0/1624							
25	ABS	US05	6.35x6.07	Hi-QUAD64	63								0/3444							
					64															
					65															
26	POWER TRAIN	US10	3.35x3.35	SO24	66								0/8124							
					67															
					68															
					69															
				LQFP32	70								0/2322							

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