




PCN Number:	20190917001.2		PCN Date:	Jan. 10, 2020	
Title:	Die Coating material change for Select Devices				
Customer Contact:	PCN Manager	Dept:	Quality Services		
Proposed 1st Ship Date:	July 10, 2020	Estimated Sample Availability:	Date provided at sample request.		
Change Type:					
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Assembly Materials
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material	<input checked="" type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials	<input type="checkbox"/>	Wafer Fab Process
		<input type="checkbox"/>	Part number change		
PCN Details					
Description of Change:					
This notification is to announce the change to the Die Coating material for the selected devices listed in "Product Affected" section.					
Die coating material differences (on top of top thick copper metal layer) are noted below:					
Change From		Change To			
NONE		POLYIMIDE			
Die Revision: A		Die Revision: B*			
*No design change. Addition of Polyimide die coating only.					
Qual details are provided in the Qual Data Section.					
Reason for Change:					
Quality Improvement					
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):					
None					
Changes to product identification resulting from this PCN:					
The Die Rev designator will change as shown in the table and sample label below:					
Current		New			
Die Rev [2P]	Die Rev [2P]				
A	B				
Sample product shipping label (not actual product label)					
 MADE IN: Malaysia 2DC: 20:				(1P) SN74LS07NSR (Q) 2000 (D) 0336 (31T) LOT: 3959047MLA (4W) TKY (1T) 7523483SI2 (P) (2P) REV: (V) 0033317 (20L) OSO: SHE (21L) CCO:USA (22L) ASO: MLA (23L) ACO: MYS	
MSL '2 /260C/1 YEAR SEAL DT MSL 1 /235C/UNLIM 03/29/04 OPT: ITEM: 39 LBL: 5A (L)T0:1750					
Product Affected Group:					
UCC27517AQDBVRQ1					

**Automotive New Product Qualification Summary
(As per AEC-Q100 and JEDEC Guidelines)**

UCC27517AQDBVRQ1 with PI

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: UCC27517AQDBVRQ1	QBS Product Reference: UCC27519AQDBVRQ1	QBS Process Reference: TPS2543QRTE	QBS Package Reference: OPA356AQDBVRQ1	QBS Package Reference: TPS61085ATDGKRQ1
Test Group A – Accelerated Environment Stress Tests											
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST 130C/85%RH	96 Hours	-	1/77/0	3/231/0	3/231/0	-
UHAST			-	-	Unbiased HAST 130C/85%RH	96 Hours	-	-	-	1/77/0	-
AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	-	1/80/0	3/237/0	3/231/0	1/77/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	1/77/0	1/77/0	3/231/0	3/231/0	1/77/0
TC-BP	A4	MIL-STD883 Method 2011	1	60	Post Temp. Cycle Bond Pull	500 Cycles	1/5/0	1/5/0	1/5/0	1/5/0	-
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle, -40/125C	1000 Cycles	N/A	-	1/50/0	-	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 175C	500 Hours	-	1/45/0	3/145/0	1/45/0	-
Test Group B – Accelerated Lifetime Simulation Tests											
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	-	1/80/0	-	3/231/0	-
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 150C	408 Hours	-	-	3/231/0	-	-

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: UCC27517AQDBVRQ1	QBS Product Reference: UCC27519AQDBVRQ1	QBS Process Reference: TPS2543QRTE	QBS Package Reference: OPA356AQDBVRQ1	QBS Package Reference: TPS61085ATDGKRQ1
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	-	-	-	3/2400/0	-
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 150C	24 Hours	-	-	3/2400/0	-	-
EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	-	-	-	-
Test Group C – Package Assembly Integrity Tests											
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear (Cpk>1.67)	-	1/30/0	-	1/30/0	-	-
WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull	76 Wires, 3 units min	1/76/0	-	-	-	-
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull (Cpk>1.67)	-	-	-	-	-	-
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability	Pb Free and SnPb	-	1/30/0	1/30/0	-	1/30/0
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	1/30/0	-	3/90/0	-	-
Test Group D – Die Fabrication Reliability Tests											
EM	D1	JESD61	-	-	Electromigration	-	Completed Per Process Technology Requirements	-	-	-	-
TDDB	D2	JESD35	-	-	Time Dependant Dielectric Breakdown	-	Completed Per Process Technology Requirements	-	-	-	-
HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	-	Completed Per Process Technology Requirements	-	-	-	-
NBTI	D4	-	-	-	Negative Bias Temperature Instability	-	Completed Per Process Technology Requirements	-	-	-	-
SM	D5	-	-	-	Stress Migration	-	Completed Per Process Technology Requirements	-	-	-	-
Test Group E – Electrical Verification Tests											
HBM	E2	AEC Q100-002	1	3	ESD - HBM - Q100	4000 V	1/3/0	-	1/3/0	-	-
CDM	E3	AEC Q100-011	1	3	ESD - CDM - Q100	1500 V	1/3/0	1/3/0	1/3/0	-	-
LU	E4	AEC Q100-	1	6	Auto Latch-up	(Per AEC	-	-	1/6/0	-	-

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: UCC27517AQDBVRQ1	QBS Product Reference: UCC27519AQDBVRQ1	QBS Process Reference: TP52543DRTIE	QBS Package Reference: OPA356AQDBVRQ1	QBS Package Reference: TP56169SATDGRQ1
		004				Q100-004)					
LU	E4	AEC Q100-004	1	6	Auto Latch-up	Ta(max)	1/6/0	-	-	-	-
LU	E4	AEC Q100-004	1	6	Latch-up	(per JESD78)	-	1/6/0	-	1/6/0	-
ED	E5	AEC Q100-009	3	30	Auto Electrical Distributions	Cpk>1.67 Room, hot, and cold test	3/90/0	3/90/0	3/90/0	1/90/0	1/30/0

A1 (PC): Preconditioning:
Performed for THB, Biased HAST, AC, uHAST, TC & PTC samples, as applicable.

Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40°C to +150°C
Grade 1 (or Q): -40°C to +125°C
Grade 2 (or T): -40°C to +105°C
Grade 3 (or I): -40°C to +85°C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):
Room/Hot/Cold: HTOL, ED
Room/Hot: THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
Room: AC/uHAST

Green/Pb-free Status:
Qualified Pb-Free(SMT) and Green

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