PCN Number:	20200514000.1	**PCN Date:**	May 14, 2020
Title:	Standardization of Metallization for select CS065 devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Aug 14, 2020	**Estimated Sample Availability:**	Date provided at sample request.

Change Type:

☐	Assembly Site	☐	Assembly Process	☐	Assembly Materials
☐	Design	☐	Electrical Specification	☐	Mechanical Specification
☐	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☐	Wafer Fab Site	☐	Wafer Fab Materials	☒	Wafer Fab Process
		☐	Part number change		

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing a metal layer thickness change to standardize the thickness for the CS065 technology. Affected devices are listed in the "Product Affected" of this document.

Current

Chip Site	Fab Process	Wafer Diameter	Metal 3 Layer Thickness
MAINEFAB	CS065	200mm	2µm

New

Chip Site	Fab Process	Wafer Diameter	Metal 3 Layer Thickness
MAINEFAB	CS065	200mm	1µm

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:

None

Product Affected:

LM2852XMXA-1.0/NOPB	LM2852XMXAX-1.2/NOPB	LM2852YMXA-1.3/NOPB	LM2852YMXAX-1.2/NOPB
LM2852XMXA-1.2/NOPB	LM2852XMXAX-1.5/NOPB	LM2852YMXA-1.5/NOPB	LM2852YMXAX-1.5/NOPB
LM2852XMXA-1.5/NOPB	LM2852XMXAX-1.8/NOPB	LM2852YMXA-1.8/NOPB	LM2852YMXAX-1.8/NOPB
LM2852XMXA-1.8/NOPB	LM2852XMXAX-2.5/NOPB	LM2852YMXA-2.5/NOPB	LM2852YMXAX-2.5/NOPB
LM2852XMXA-2.5/NOPB	LM2852XMXAX-3.3/NOPB	LM2852YMXA-3.3	LM2852YMXAX-3.3/NOPB
LM2852XMXA-3.0/NOPB	LM2852YMXA-1.0/NOPB	LM2852YMXA-3.3/NOPB	
LM2852XMXA-3.3/NOPB	LM2852YMXA-1.2/NOPB	LM2852YMXAX-1.0/NOPB	

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

Approved 14-Apr-2015

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: LM4128AQ1MF-4.1
Test Group A – Accelerated Environment Stress Tests							
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Auto Preconditioning	L1-260C	3/893/0
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	196 Hours	3/231/0
AC	A3	JEDEC JESD22-A102	3	77	Autoclave, 121C, 2 atm	96 Hours	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	3/231/0
TC-WBP	A4	MIL-STD883 Method 2011	1	60	Post TC Bond Pull	Wires	1/Pass
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A
Test Group B – Accelerated Lifetime Simulation Tests							
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	3/231/0
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	-	3/231/0
Test Group C – Package Assembly Integrity Tests							
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear (Cpk>1.67)	Wires	1/30/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull (Cpk>1.67)	Wires	1/30/0
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	PB-Free	1/Pass
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	-	3/30/0

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: LM4128AQ1MF-4.1
LI	C6	JEDEC JESD22-B105	1	50	Lead Integrity	-	-
Test Group D – Die Fabrication Reliability Tests							
EM	D1	JESD61	-	-	Electromigration	-	Completed Per Process Technology Requirements
TDDB	D2	JESD35	-	-	Time Dependent 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	2000V	1/3/0
CDM	E3	AEC Q100-011	1	3	ESD-CDM-Q100	750V,	1/3/0
LU	E4	AEC Q100-004	1	6	Latch-up	(Per AEC Q100-004)	1/6/0
ED	E5	AEC Q100-009	3	30	Auto Electrical Distributions	Cpk>1.67 Room, hot, and cold test	3/Pass

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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