PCN Number:	20211109000.1	**PCN Date:**	November 09, 2021
Title:	Conversion to TSMC 0.6/0.5um Hybrid Process		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Feb 9, 2022	**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		

Notification Details

Description of Change:

This change notification is to announce the conversion from the current TSMC 0.6um back end metallization/REB Etch Back process to the TSMC 0.5um Tungsten plug back end process for the selected devices listed in the "Product Affected" section.

Change From	Change To
0.6um TSMC Backend Process IMD layer: PEOX + SOG DEP+ PEOX Metal: Ti / AlSiCu / TiN	0.5um TSMC Backend Process IMD layer: PEOX+SACVD-OX+PEOX+SOG dep. & Etch back+PEOX Metal: Via Plug TiN/WCVD/AlCu /TiN

Reason for Change:

Quality Improvement.

Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):

None.

Changes to product identification resulting from this notification:

None.

Product Affected:

OPA348AIDCKR	OPA348AIDCKRG4	OPA348AIDCKT	OPA348AIDCKTG4

Qualification Report

Approve Date 11-Oct-2021

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

Type	Test Name / Condition	Duration	Qual Device: OPA348AIDCKR	QBS Process Reference: OPA356AQDBVRQ1	QBS Package Reference: SN74LVC1G08QDCKRQ1	QBS Package Reference: TPS3808G33QDBVRQ1	QBS Package Reference: TPS3808G50QDBVRQ1
PC	PreCon Level 1	Level 1-260C	1/160/0	-	1/80/0	1/80/0	3/274/0
PC	PreCon Level 2	Level 1-260C	-	3/832/0	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0	1/30/0	1/30/0	1/30/0	3/90/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	1/77/0	1/77/0	3/231/0
AC	Autoclave 121C	96 Hours	1/77/0	3/230/0	1/77/0	1/77/0	3/231/0
UHAST	Unbiased HAST 130C/85%RH	96 Hours	-	1/77/0	-	-	-
TC	Temperature Cycle - 65/150C Grade 1	500 Cycles	1/77/0	3/230/0	1/77/0	1/77/0	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	-	-	1/45/0	-	-
HTSL	High Temp Storage Bake 175C	500 Hours	-	1/45/0	-	1/45/0	1/45/0
HTOL	Life Test, 125C	1000 Hours	-	3/231/0	1/77/0	1/77/0	1/77/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	3/2400/0	1/800/0	-	-
HBM	ESD - HBM	4000 V	1/3/0	-	-	-	-
HBM	ESD - HBM	3000 V	-	1/3/0	-	-	-
HBM	ESD - HBM	2000 V	-	-	1/3/0	-	1/3/0
CDM	ESD - CDM	1500 V	1/3/0	-	-	-	-
CDM	ESD - CDM	1000 V	-	1/3/0	-	-	1/3/0
CDM	ESD - CDM	750 V	-	-	1/3/0	-	-
LU	Latch-up	Per JESD78	1/6/0	1/6/0	1/6/0	-	1/6/0
MQ	Manufacturability (Assembly)	(per mfg Ste. specifications)	-	Pass	Pass	-	-

- QBS: Qual By Similarity
- Qual Device OPA348AIDCKR is qualified at LEVEL1-260CG
- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
- The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

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