TEXAS INSTRUMENTS 12500 TI Boulevard, MS 8640, Dallas, Texas 75243

Qualification Report for PCN# 20120319004
4H Bipolar from HFAB to SFAB
Information Only

Dear Customer:

Texas Instruments is pleased to announce the completion of qualification testing for the product change described in PCN# 20120319004. The details of the qualification results are included in the following pages and are being forwarded to you in response to your inquiry about this PCN.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services
Phone: +1(214) 480-6037
Fax: +1(214) 480-6659

Qualification Report For # 20120319004
4H Bipolar from HFAB to SFAB

Qualification Data

This qualification has been specifically developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.

Qual Vehicle 1: DAC811KU (MSL Level 3-260C)

Wafer Fab Site:	SFAB	Metallization:	AlCu.5
Wafer Fab Process:	BiPolar	Wafer Diameter:	150 mm
		Passivation	5kASi02/8kASiON

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size/Fails Lot#1	Lot#2	Lot#3
HTOL High Temp Op Life	125C (1000 Hrs)	79/0	79/0	-
Electrical Characterization	Over temp	Pass	Pass	-
**High Temp. Storage Bake	150C (1000 Hrs)	80/0	80/0	80/0
**Biased HAST	130C/85%RH (96 Hrs)	80/0	80/0	-
**Unbiased HAST	130C/85%RH/33.3 psia (96 Hrs)	80/0	80/0	-
**Temperature Cycle	-65C/+150C (500 Cycles)	76/0	79/0	-
ESD HBM	1000V	3/0	3/0	-
ESD CDM	250V	3/0	3/0	-
Bond Strength	76 wires	76/0	76/0	-
Ball Bond Shear	76 ball bonds	76/0	76/0	-
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	-
Manufacturability (Wafer Fab)	(per mfg. Site specification)	Pass		-

**Preconditioning: Level 3-260C

Qual Vehicle 2: OPA177GS (MSL Level 3-260C)

Wafer Fab Site:	SFAB	Metallization:	AlCu.5
Wafer Fab Process:	BiPolar	Wafer Diameter:	150 mm
		Passivation	LTO/SiON 5kA/8kA

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size/Fails Lot#1	Lot#2	Lot#3
HTOL High Temp Op Life	125C (1000 Hrs)	77/0	-	-
Electrical Characterization	Over temp	Pass	-	-
**High Temp. Storage Bake	150C (1000 Hrs)	77/0	-	-
**Biased HAST	130C/85%RH (96 Hrs)	77/0	-	-
**Unbiased HAST	130C/85%RH/33.3 psia (96 Hrs)	77/0	-	-
** Temperature Cycle	-65C/+150C (500 Cycles)	77/0	-	-
ESD HBM	1000V	3/0	-	-
ESD CDM	250V	3/0	-	-
Bond Strength	76 wires	76/0	-	-

Ball Bond Shear	76 ball bonds	76/0	–	–
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	–	–
Manufacturability (Wafer Fab)	(per mfg. Site specification)	Pass	–	–
**Preconditioning: Level 3-260C				

Qual Vehicle 3: OPA2604AU (MSL Level 3-260C)

Wafer Fab Site:	SFAB	Metallization:	AlCu.5
Wafer Fab Process:	BiPolar	Wafer Diameter:	150 mm
		Passivation	5kASi02/8kASiON

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size/Fails		
		Lot#1	Lot#2	Lot#3
HTOL High Temp Op Life	125C (1000 Hrs)	77/0	77/0	77/0
Electrical Characterization	Over temp	Pass	Pass	Pass
**High Temp. Storage Bake	150C (1000 Hrs)	77/0	77/0	77/0
**Biased HAST	130C/85%RH (96 Hrs)	76/0	77/0	77/0
**Unbiased HAST	130C/85%RH/33.3 psia (96 Hrs)	77/0	77/0	77/0
**Temperature Cycle	-65C/+150C (500 Cycles)	77/0	77/0	77/0
ESD HBM	1000V	3/0	3/0	3/0
ESD CDM	500V	3/0	3/0	3/0
Bond Strength	Post Temp Cycle	10/0	-	-
Bond Strength	76 wires	76/0	76/0	-
Ball Bond Shear	76 ball bonds	76/0	76/0	-
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	-
Manufacturability (Wafer Fab)	(per mfg. Site specification)	Pass		
**Preconditioning: Level 3-260C				

Qual Vehicle 4: OPA2277U (MSL Level 3-260C)

Wafer Fab Site:	SFAB	Metallization:	AlCu.5
Wafer Fab Process:	BiPolar	Wafer Diameter:	150 mm
		Passivation	5kASi02/8kASiON

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size/Fails		
		Lot#1	Lot#2	Lot#3
HTOL High Temp Op Life	125C/1000 Hrs	75/0	–	–
Electrical Characterization	Over temp	Pass	–	–
**High Temp. Storage Bake	150C (1000 Hrs)	77/0	–	–
**Biased HAST	130C/85%RH (96 Hrs)	77/0	–	–
**Unbiased HAST	130C/85%RH/33.3 psia (96 Hrs)	77/0	–	–
** Temperature Cycle	-65C/+150C 500 Cycles)	77/0	–	–
ESD HBM	1000V	3/0	–	–
ESD CDM	500V	3/0	–	–
Bond Strength	76 wires	76/0	–	–
Ball Bond Shear	76 ball bonds	76/0	–	–
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	–	–
Manufacturability (Wafer Fab)	(per mfg. Site specification)	Pass	–	–
**Preconditioning: Level 3-260C				

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

Location	**E-Mail**
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com