12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20221010002.1
Qualification of new Fab site (FFAB) using qualified Process Technology, Die Revision, Datasheet update and additional Assembly BOM options for select devices
Change Notification / Sample Request

Date: October 11, 2022
To: TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

Texas Instruments requires acknowledgement of receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If samples or additional data are required, requests must be received within **30 days** of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date on Page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the PCN Team (PCN_ww_admin_team@list.ti.com). For sample requests or sample related questions, contact your local Field Sales Representative.

PCN Team
SC Business Services

20221010002.1
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
INA118U	null
INA118UB	null
INA118PB	null
INA118U/2K5	null
INA118P	null

Technical details of this Product Change follow on the next page(s).

PCN Number:	20221010002.1	PCN Date:	October 11, 2022
Title:	Qualification of new Fab site (FFAB) using qualified Process Technology, Die Revision, Datasheet update and additional Assembly BOM options for select devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Jan 11, 2023	Sample requests accepted until:	Nov 11, 2022*

***Sample requests received after November 11, 2022 will not be supported.**

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:

Texas Instruments is pleased to announce the qualification of a new fab & process technology (FFAB, BICOM3XHV) die revision, and Assembly BOM options for selected devices as listed below in the product affected section. Construction differences are noted below:

Current Fab Site			Additional Fab Site		
Current Fab Site	**Process**	**Wafer Diameter**	**New Fab Site**	**Process**	**Wafer Diameter**
Semefab	D1-450	100 mm	FFAB	BICOM3XHV	200 mm

The die was also changed as a result of the process change.

The datasheets will be changing as a result of the above mentioned changes. The datasheet change details can be reviewed in the datasheet revision history. The links to the revised datasheets are available in the table below.

Changes from Revision B (April 2019) to Revision C (September 2022) **Page**

- Changed minimum supply voltage from ±1.35 V to ±2.25 V and from 2.7 V to 4.5 V throughout document.....1
- Changed *Applications* to link to latest end-equipment on ti.com.....1
- Changed resistors in Simplified Schematic from 60 kΩ to 40 kΩ.....1
- Changed minimum and maximum input common-mode voltage from V^- + 1.1 V and V^+ – 1 V to V^- + 2 V and V^+ – 2 V respectively in *Recommended Operating Conditions* 5
- Changed minimum and maximum ambient temperature from –55°C and +150°C to –40°C and +125°C respectively in *Recommended Operating Conditions* 5
- Added V_{CM} = 0 V to test conditions below title in *Electrical Characteristics* 6
- Changed input offset voltage vs temperature test condition from $T_A = T_{MIN}$ to T_{MAX} to T_A = –40°C to +85°C in *Electrical Characteristics* 6
- Changed input offset voltage vs power supply test condition from V_S = ±1.35 V to ±18 V to V_S = ±2.25 V to ±18 V in *Electrical Characteristics* 6
- Changed high-side linear input voltage range from (V^+) – 1 V minimum and (V^+) – 0.65 V typical to (V^+) – 2 V minimum and (V^+) – 1.4 V typical in *Electrical Characteristics* 6
- Changed low-side linear input voltage range from (V^-) + 1.1 V minimum and (V^-) + 0.95 V typical to (V^-) + 2 V minimum and (V^-) + 1.2 V typical in *Electrical Characteristics* 6
- Added test condition of T_A = –40°C to +85°C to bias current vs temperature and offset current vs temperature in *Electrical Characteristics* 6
- Added test condition of T_A = –40°C to +85°C to gain vs temperature and 50-kΩ resistance vs temperature in *Electrical Characteristics* 6
- Changed single supply output voltage test condition from V_S = 2.7 V/0 V to V^+ = 4.5 V, V^- = 0 V in *Electrical Characteristics* 6
- Deleted power supply voltage range specification from *Electrical Characteristics* 6
- Deleted temperature range specifications from *Electrical Characteristics* 6
- Changed Figures 7-3, 7-4, 7-5, 7-6, 7-7, 7-8, 7-11, 7-12, 7-18, 7-19, and 7-20 in *Typical Characteristics* 8
- Changed FET transistor input current limit from approximately 1.5-5 mA to 6 mA in *Overview* 12
- Deleted internal node equations in *Overview* and *Functional Block Diagram* 12
- Changed schematic in *Functional Block Diagram* 12
- Changed linear input voltage range in *Input Common-Mode Range* and *Single-Supply Operation* 13
- Changed FET transistor input current limit from approximately 1.5-5 mA to 6 mA in *Input Protection* 13
- Changed resistors in Figure 9-1 from 60 kΩ to 40 kΩ in *Typical Application* 14
- Changed Figure 10-5 to use a 5-V supply voltage.....19

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet
INA118	SBOS027B	SBOS027C	http://www.ti.com/product/INA118

Additionally, there will be BOM options introduced for these devices as shown below:

	MLA Current	MLA Alternate
Wire type	1.2 mil Au	1.0mil Cu
Mount compound	4205846	4147858
Mold compound	4209640	4226323
Die Coat	4221706	No Die Coat
MSL level	3	2

Qual details are provided in the Qual Data Section.

Reason for Change:

Continuity of supply

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

None

Changes to product identification resulting from this PCN:

Fab Site Information:

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
SEMFAB4	DISOL	USA	GLENROTHES
FFAB	**FRE**	**DEU**	**Freising**

Die Rev:

Current	**New**
Die Rev [2P]	**Die Rev [2P]**
A	**A**

Sample product shipping label (not actual product label)

Product Affected:

INA118U	INA118U/2K5G4	INA118UB/2K5	INA118UG4
INA118U/2K5	INA118UB	INA118UBG4	

Qualification Report
Approve Date 19-SEPTEMBER-2022

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: INA118UB	QBS Process Reference: INA828ID	QBS Package Reference: INA849DR	QBS Product Reference: INA818ID
HAST	A2	Biased HAST	130C	96 Hours	-	3/231/0	-	-
HAST	A2	Temperature Humidity Bias	85C/85%RH	1000 Hours	-	-	3/231/0	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0	-
TC	A4	Temperature Cycle	-65/150C	500 Cycles	-	3/231/0	3/231/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	3/231/0	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	3/231/0	-
HTOL	B1	Life Test	100C[B]	300 Hours	-	-	1/77/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	3/231/0	-	-
ESD	E2	ESD CDM	-	500 Volts	-	1/3/0	1/3/0	1/3/0
ESD	E2	ESD HBM	-	1000 Volts	-	1/3/0	1/3/0	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	1/6/0	3/18/0	1/6/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	3/90/0	1/30/0	1/30/0

- QBS: Qual By Similarity
- Qual Device INA118UB is qualified at MSL2 260C

- 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

TI Qualification ID: R-CHG-2108-031

[B] Tj of device at 150C

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

Location	E-Mail
WW Change Management Team	PCN_ww_admin_team@list.ti.com

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