

PCN# 20161025002
Qualification of FFAB for select BICMOS13 devices
Change Notification / Sample Request

Date: October 28, 2016
To: MOUSER PCN

Dear Customer:

This is an announcement of 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. The proposed first ship date is indicated on page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

If samples or additional data are required, requests must be received within 30 days of acknowledgement as samples are not built ahead of the change. You may contact the PCN Manager or your local Field Sales Representative to acknowledge this PCN and request samples or additional data.

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, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services

20161025002
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
DS90UB924TRHSTQ1	null
DS90UB925QSQ/NOPB	null
DS90UB925QSQE/NOPB	null
DS90UB926QSQE/NOPB	null
DS90UB927QSQ/NOPB	null
DS90UB928QSQE/NOPB	null

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

PCN Number:	20161025002	PCN Date:	Oct 28, 2016
Title:	Qualification of FFAB as an additional Fab site option for select devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Apr 28, 2017	Estimated Sample Availability:	Date provided at sample request.
Change Type:			
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material
<input checked="" type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials
		<input type="checkbox"/>	Part number change

PCN Details

Description of Change:

This change notification is to announce the qualification of FFAB as an additional Fab site option for select BICMOS13 devices.

Current Fab Site			Additional Fab Site		
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter
MAINEFAB	BICMOS13	200mm	FFAB	BICMOS13	200mm

Products included within this change notification have been standardized to a single process flow.

Change From	Change To
TEOS Oxide + Nitride planarized passivation	HDP Oxide + Nitride passivation

Reason for Change:

Continuity of Supply

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

None

Changes to product identification resulting from this PCN:

Fab Site:

Current Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
MAINEFAB	CUA	USA	South Portland
New Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
FR-BIP-1	TID	DEU	Freising

Sample product shipping label (not actual product label)



MADE IN: Malaysia
2DC: 20:

MSL 2 / 260C / 1 YEAR	SEAL DT
MSL 1 / 235C / UNLIM	03/29/04

OPT:
ITEM: 39
LBL: 5A (L)T0:1750



(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483S12
(P)
(2P) REV: (V) 003317
(20L) CSO: SHE (21L) CCO:USA
(22L) ASO: MLA (23L) ACO: MYS

Product Affected:			
DS90UB301QSQ/NOPB	DS90UB925QSQX/E7002826	DS90UB928QSQX/NOPB	DS90UH926QSQE/J7003048
DS90UB301QSQE/NOPB	DS90UB925QSQX/NOPB	DS90UH301QSQ/NOPB	DS90UH926QSQE/NOPB
DS90UB301QSQX/NOPB	DS90UB926QSQ/E7002827	DS90UH301QSQE/NOPB	DS90UH926QSQX/E7002384
DS90UB302QSQ/NOPB	DS90UB926QSQ/NOPB	DS90UH301QSQX/NOPB	DS90UH926QSQX/J7003049
DS90UB302QSQE/NOPB	DS90UB926QSQE/E7002827	DS90UH302QSQ/NOPB	DS90UH926QSQX/NOPB
DS90UB302QSQX/NOPB	DS90UB926QSQE/NOPB	DS90UH302QSQE/NOPB	DS90UH927QSQ/E7002392
DS90UB303TRTARQ1	DS90UB926QSQX/E7002827	DS90UH302QSQX/NOPB	DS90UH927QSQ/NOPB
DS90UB303TRTATQ1	DS90UB926QSQX/E7002956	DS90UH925QSQ/E7002397	DS90UH927QSQE/E7002392
DS90UB304TRHSRQ1	DS90UB926QSQX/NOPB	DS90UH925QSQ/NOPB	DS90UH927QSQE/NOPB
DS90UB304TRHSTQ1	DS90UB927QSQ/E7003111	DS90UH925QSQE/E7002397	DS90UH927QSQX/E7002392
DS90UB923TRTARQ1	DS90UB927QSQ/NOPB	DS90UH925QSQE/NOPB	DS90UH927QSQX/NOPB
DS90UB923TRTATQ1	DS90UB927QSQE/E7003111	DS90UH925QSQX/E7002397	DS90UH928QSQ/E7002398
DS90UB924TRHSRQ1	DS90UB927QSQE/NOPB	DS90UH925QSQX/NOPB	DS90UH928QSQ/NOPB
DS90UB924TRHSTQ1	DS90UB927QSQX/E7003111	DS90UH926QSQ/E7002384	DS90UH928QSQE/NOPB
DS90UB925QSQ/E7002826	DS90UB927QSQX/NOPB	DS90UH926QSQ/NOPB	DS90UH928QSQX/NOPB
DS90UB925QSQ/NOPB	DS90UB928QSQ/NOPB	DS90UH926QSQ/S7002920	PDS90UB923TRTATQ1
DS90UB925QSQE/E7002826	DS90UB928QSQE/NOPB	DS90UH926QSQE/E7002384	PDS90UB924TRHSRQ1
DS90UB925QSQE/NOPB	DS90UB928QSQX/E7002980		

**Automotive BiCMOS13 Process Qualification at FFAB
(As per AEC-Q100 and JEDEC Guidelines)**

**DS90UH926; MFAB to FFAB BiCMOS13 Transfer
Approved 30-Aug-2016**

Product Attributes

Attributes	Qual Device: DS90UH926QET65
Automotive Grade Level	Grade 2
Operating Temp Range	-40 to +105 C
Product Function	Interface
Wafer Fab Supplier	FFAB
Die Revision	CB
Assembly Site	TIEM-AT
Package Type	QFN
Package Designator	NKB
Ball/Lead Count	60

- QBS: Qual By Similarity
- Qual Device DS90UH926QET65 is qualified at LEVEL3-260CG

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: DS90UH926QET65
Test Group A – Accelerated Environment Stress Tests							
PC	A1	JEDEC J-STD-020 JESD22-A113	3	231	Automotive Preconditioning	Level 3-260C	0 Fails
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	3/231/0
AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	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-BP	A4	MIL-STD883 Method 2011	1	30	Post Temp. Cycle Bond Pull	Wires	1/30/0
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	-	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 150C	1000 Hours	1/45/0
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, 125C	48 Hours	3/2400/21*
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	Bond Shear (Cpk>1.67)	Wires	1/30/0
WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull (Cpk>1.67)	Wires	1/30/0
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	Pb Free	1/15/0
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	-	3/30/0
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

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: DS90UH926QET65
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	2500 V	1/3/0
CDM	E3	AEC Q100-011	1	3	ESD - CDM - Q100	1000 V	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	Electrical Distributions	Cpk>1.67 Room, hot, and cold test	3/90/0

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

* Failures only affect certain system applications. Root cause is due to a design sensitivity with the MCLK function. An 8D report is available on request, which details a minor metal fix.

Junction 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

For questions regarding this notice, e-mails can be sent to the regional contacts shown below, or you can contact 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