

PCN Number: 20150608000 **PCN Date:** 06/15/2015

Title: Qualification of TSMC-WF3 as an additional wafer fab site option for select devices

Customer Contact: [PCN Manager](#) **Dept:** Quality Services

Proposed 1st Ship Date: 09/15/2015 **Estimated Sample Availability:** Date provided at sample request.

Change Type:		
<input type="checkbox"/> Assembly Site	<input type="checkbox"/> Assembly Process	<input type="checkbox"/> Assembly Materials
<input type="checkbox"/> Design	<input type="checkbox"/> Electrical Specification	<input type="checkbox"/> Mechanical Specification
<input type="checkbox"/> Test Site	<input type="checkbox"/> Packing/Shipping/Labeling	<input type="checkbox"/> Test Process
<input type="checkbox"/> Wafer Bump Site	<input type="checkbox"/> Wafer Bump Material	<input type="checkbox"/> Wafer Bump Process
<input checked="" type="checkbox"/> Wafer Fab Site	<input type="checkbox"/> Wafer Fab Materials	<input type="checkbox"/> Wafer Fab Process
	<input type="checkbox"/> Part number change	

PCN Details

Description of Change:

This change notification is to announce the qualification of TSMC-WF3 as an additional wafer fab site option for the products listed in the product affected section of this document.

Current			Additional		
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter
TSMC-WFT (Fab 11)	0.18um-TSMC	200 mm	TSMC-WF3	0.18um-TSMC	200 mm

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:

Current			
Chip Sites	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
TSMC-WFT	T13	USA	Camas
New			
Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
TSMC-WF3	TS5	TWN	Hsinchu



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

(1P) **SN74LS07NSR**
 (Q) **2000** (D) **0336**
 (31T) LOT: 3959047MLA
 (4W) TKY (1T) 7523483S12
 (P)
 (2P) REV: (V) 0033317
 (20L) CSO: SHE (21L) CCO:USA
 (22L) ASD: MLA (23L) AGO: MYS

Product Affected:			
BQ500110RGZR	BQ500412RGZT	UCD90124NPFC	UCD9224RGZT
BQ500110RGZT	BQ501410RGCR	UCD90124NPFCR	UCD9240PFC
BQ500210ARGZR	BQ501410RGCT	UCD90124RGCR	UCD9240PFCG4
BQ500210ARGZT	HPA00589RGCR	UCD90124RGCT	UCD9240PFCR
BQ500210RGZR	HPA00589RGCT	UCD90160RGCR	UCD9240RGCR
BQ500210RGZT	HPA01194RGZR	UCD90160RGCT	UCD9240RGCT
BQ500211ARGZR	HPA02243RGZR	UCD9090RGZR	UCD9244ARGCR
BQ500211ARGZT	UCD3020ARGZR	UCD9090RGZT	UCD9244ARGCT
BQ500211RGZR	UCD3020ARGZT	UCD90910RGCR	UCD9244NRGCR
BQ500211RGZT	UCD3020RGZR	UCD90910RGCT	UCD9244NRGCT
BQ500212ARGZR	UCD3020RGZT	UCD90910-VRGCR	UCD9244RGCR
BQ500212ARGZT	UCD3028RHAR	UCD90910-VRGCT	UCD9244RGCT
BQ500212MRGZR	UCD3028RHAT	UCD9211RHAR	UCD9246ERGCR
BQ500212MRGZT	UCD3040PFC	UCD9211RHAT	UCD9246ERGCT
BQ500212NRGZR	UCD3040PFCR	UCD9212RHAR	UCD9246FRGCR
BQ500212NRGZT	UCD3040RGCR	UCD9212RHAT	UCD9246FRGCT
BQ500215RGCR	UCD3040RGCT	UCD9220RGZR	UCD9246GRGCR
BQ500215RGCT	UCD90120ARGCR	UCD9220RGZT	UCD9246GRGCT
BQ500410ARGZR	UCD90120ARGCT	UCD9222ARGZR	UCD9246RGCR
BQ500410ARGZT	UCD90120CRGCR	UCD9222ARGZT	UCD9246RGCT
BQ500410NRGZR	UCD90120CRGCT	UCD9222RGZR	UCD9248EPFCR
BQ500410NRGZT	UCD90120RGCR	UCD9222RGZT	UCD9248PFC
BQ500410RGZR	UCD90120RGCT	UCD9224ERGZR	UCD9248PFCR
BQ500410RGZT	UCD90124ARGCR	UCD9224ERGZT	
BQ500412RGZR	UCD90124ARGCT	UCD9224RGZR	

Qualification Report

**Qualification of 0.18um-TSMC process technology at TSMC-WF3
Approved 06/03/2015**

Product Attributes

Attributes	Qual Device: BQ500212GRGZT	QBS Product Reference: UCD9240PFC	QBS Process: BQ9000RSM
Assembly Site	TI_CLARK	TAI	TIM (MAL)
Package Family	VQFN	TQFP	QFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Site	TSMC FAB 3	TS3 TSMC NORTH	MIH08 TSMC FAB 3
Wafer Fab Process	18UM	0.18 um eFLASH	LBC7 0.18UM-28L-EFLASH

- QBS: Qual By Similarity
- Qual Device BQ500212GRGZT is qualified at LEVEL3-260C

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

Type	Test Name / Condition	Duration	Qual Device: BQ500212GRGZT	Supporting QBS: UCD9240PFC	QBS Process: BQ9000RSM
PC	Preconditioning Level 3	(per the appropriate pkg level)	-	1/77/0	-
PC	Preconditioning	Level 2 @ 260C peak +5/-0C	-	-	3/831/0
HAST	Biased HAST 130C/85%RH	96 Hours	-	-	3/78/0
AC	Autoclave 121C	96 Hours	-	-	3/231/0
TC	**T/C -65C/150C	500 Cycles	-	1/77/0	-
TC	Post Temp Cycle SAM	CSAM & TSAM analysis after 500 Cycles TC	-	-	1/10/0
TC	Temperature Cycle -65C/150C	500 Cycles	-	-	3/231/0
HTSL	High Temp. Storage Bake 170C	420 Hours	-	-	3/231/0
HTOL	Life Test, 125C	168, 500, 1000 Hrs.	-	1/77/0	-
HTOL	Life Test, 140C	480 Hours	-	-	3/233/0
HBM	ESD - HBM	1000 V	-	-	3/9/0
HBM	ESD - HBM	1500 V	-	-	2/6/0
HBM	ESD - HBM	4000 V/#	1/3/0	-	-
HBM	ESD HBM	500V, 1000V, 1500V, 2000V, 2500V	-	1/3/0	-
CDM	ESD - CDM	250 V	-	-	1/3/0
CDM	ESD - CDM	1000 V	-	-	2/6/0
CDM	ESD - CDM	1500 V/#	1/3/0	-	-
CDM	ESD CDM	200V, 500V, 750V, 1000V	-	1/3/0	-
LU	Latch-up	per JESD78	-	1/6/0	-
LU	Latch-up	(per JESD78)	-	-	3/38/0
LU	Latch-up	Latchup-1/25c	1/6/0	-	-
LU	Latch-up	Latchup-2/85C	1/6/0	-	-
ED	Electrical Characterization, incremental	--	1/5/0	-	-
ED	Electrical Characterization	Per Datasheet Parameters	-	-	1/Pass

- 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

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