12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20140505001
Qualification of Additional Fab (DMOS6), Assembly/Test (TAI) and Cu Wire Option for select MSP430FR57xx devices in the TSSOP Package
Change Notification / Sample Request

Date: 5/16/2014
To: Newark/Farnell 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.

We request you acknowledge 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 you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

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
Phone: +1(214) 480-6037
Fax: +1(214) 480-6659

20140505001
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
MSP430FR5720IPW	null
MSP430FR5728IPW	null
MSP430FR5735IDAR	null
MSP430FR5738IPW	null
MSP430FR5739IDA	null
MSP430FR5739IDAR	null

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

PCN Number:	20140505001	**PCN Date:**	05/16/2014

Title:	Qualification of Additional Fab (DMOS6), Assembly/Test (TAI) and Cu Wire Option for select MSP430FR57xx devices in the TSSOP Package

Customer Contact:	PCN Manager	**Phone:**	+1(214)480-6037	**Dept:**	Quality Services

***Proposed 1st Ship Date:**	08/16/2014	**Estimated Sample Availability:**	Date Provided at Sample request

Change Type:

☒	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Material
☒	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☒	Test Site	☒	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

This notification is to announce the qualification of additional fab (TI-DMOS6), assembly/test (TI-Taiwan) and Cu wire option for select MSP430FR57xx devices in the TSSOP Package.

Wafer Fab Differences

Currently Qualified Sites, process, wafer dia.	Additional Site, process, wafer dia.
DP1DM5, E035 Process, 200mm	**DMOS6, E035 Process, 300mm**

Assembly Site Material Differences for DA Package (There are no other BOM changes)

Material	Current Site/MLA	Additional Site/TAI
Bond Wire Diameter	0.96 mil	**0.8 mil**
Mold Compound	4209002	**4211471**

Assembly Site Material Differences for PW Package (There are no other BOM changes)

Material	Current Site/MLA	Additional Site/TAI
Bond Wire Composition	Au	**Cu**
Bond Wire Diameter	0.96 mil	**0.8 mil**
Mold Compound	4206193	**4211471**

Device Grouping (shown in Product Affected Section)
Group 1 Devices:

- 38 pin DA package/Only adding Fab site

Group 2 Devices:

- 28 pin PW package/Adding Fab site, A/T site, and includes Cu wire change

Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.

Reason for Change:

Add wafer fab capacity and continuity of supply.

1) To align with world technology trends and use wiring with enhanced mechanical and electrical properties
2) Maximize flexibility within our Assembly/Test production sites.
3) Cu is easier to obtain and stock

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):
None

Changes to product identification resulting from this PCN:

There will be no change to topside symbol.

Shipment Labels:

Current Fab Site

Chip Site	Chip site code (20L)	Chip country code (21L)
DP1DM5	DM5	USA

Additional

Chip Site	**Chip site code (20L)**	**Chip country code (21L)**
DMOS6	**DM6**	**USA**

Note: The die revision code will change from "H" (DP1DM5) to "J" (DMOS6). This is only for tracking purposes. There is no change to the die.

Current Assembly Site

Assembly Site	Assembly site Origin (22L)	Assembly country Origin (23L)
TI-Malaysia	MLA	MYS

Additional

Assembly Site	**Assembly site Origin (22L)**	**Assembly country Origin (23L)**
Taiwan	**TAI**	**TWN**

Device Marking for TI Malaysia and TI Taiwan are the same.
Assembly site code for TI Malaysia = K
Assembly site code for TI Taiwan = T

Sample product shipping label (not actual product label)

Product Affected:			
Group 1: 38 pin DA package devices/Only adding Fab site			
MSP430FR5721IDA	MSP430FR5725IDAR	MSP430FR5731IDA	MSP430FR5735IDAR
MSP430FR5721IDAR	MSP430FR5727IDA	MSP430FR5731IDAR	MSP430FR5737IDA
MSP430FR5723IDA	MSP430FR5727IDAR	MSP430FR5733IDA	MSP430FR5737IDAR
MSP430FR5723IDAR	MSP430FR5729IDA	MSP430FR5733IDAR	MSP430FR5739IDA
MSP430FR5725IDA	MSP430FR5729IDAR	MSP430FR5735IDA	MSP430FR5739IDAR
Group 2: 28 pin PW package devices/Adding Fab site, A/T site, and includes Cu wire change			
MSP430FR5720IPW	MSP430FR5724IPWR	MSP430FR5730IPW	MSP430FR5734IPWR
MSP430FR5720IPWR	MSP430FR5726IPW	MSP430FR5730IPWR	MSP430FR5736IPW
MSP430FR5722IPW	MSP430FR5726IPWR	MSP430FR5732IPW	MSP430FR5736IPWR
MSP430FR5722IPWR	MSP430FR5728IPW	MSP430FR5732IPWR	MSP430FR5738IPW
MSP430FR5724IPW	MSP430FR5728IPWR	MSP430FR5734IPW	MSP430FR5738IPWR

Qualification Report
MSP430FR5739IDA/PW transfer to DM6 / TAI
Approved04/23/2014

Product Attributes

Attributes	Qual Device: MSP430FR5739IRHA E035.1 Process Qual	Qual Device: MSP430FR5739IDA Package Qual	Qual Device: MSP430FR5738IPW Package Qual	Supporting QBS: MSP430L092SPWR Package Qual
Assembly Site	TI-Clark	TI-TAIWAN	TI-TAIWAN	TI-TAIWAN
Package Family	QFN	TSSOP	TSSOP	TSSOP
Bond Wire Diameter (mils)	0.8	0.8	0.8	0.8
Mold Compound	4208625	4211471	4211471	4206193
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	TI-DMOS6	TI-DMOS6	TI-DMOS6	TI-DMOS5
Wafer Fab Process	E035.1	E035.1	E035.1	C035

- QBS: Qual By Similarity
- Qual Device for package MSP430FR5739IDA is qualified at LEVEL2-260CG

Qualification Results

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

Test Name	Condition/ Duration	Qual Device: MSP430FR5739IRHA Process Qual	Qual Device: MSP430FR5739IDA Package Qual	Qual Device: MSP430FR5738IPW Package Qual	Supporting QBS: MSP430L092SPWR Package Qual
Biased HAST	96 hrs/85%RH, 130C	-	-		3/231/0
Autoclave	96 hrs/121C / 100%	-	3/231/0		3/231/0
Temperature Cycle	500 cycles -65C/+150C	-	3/231/0		3/231/0
High Temp Storage Bake	1000hrs/150C	-	3/231/0		3/231/0
** Life Test	125C (1000 hrs)	3/231/0	-		-
** Endurance: FRAM extrinsic cycle	25C, 1e^7 cycles, full size	3/231/0	-		-
** FRAM data retention and imprint	125C/85C (1000 hrs)***	3/231/0	-		-
ESD CDM	500V	3/9/0	3/9/0	3/9/0	-
ESD HBM	2000V	3/9/0	3/9/0		-
Latch-Up	100mA/85C, 1.5xVcc	3/18/0	-		-

- Preconditioning was performed for Autoclave, Biased HAST, Temperature Cycle, High Temp Storage Bake. MSL2 for MSP430FR5739IDA and MSL1 for MSP430L092SPWR are applied.

**: Preconditioning: MSL 3 @ 260
***: SS data retention at 125C, OS imprint at 85CQuality 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

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