

PCN Number:	20180329000B	PCN Date:	June 10, 2019
Title:	Qualify TI Mexico as an additional Assembly & Test site for select PDIP devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Change Type:			
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet
<input type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site
<input checked="" 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 type="checkbox"/>	Wafer Fab Site
		<input type="checkbox"/>	Wafer Fab Materials
		<input type="checkbox"/>	Wafer Fab Process

PCN Details

Description of Change:

Revision B is to update the affected device list that does **Not** require a marking change in the Product Affected Section under Group 1 and highlighted in **Blue**. These devices will keep their existing marking format. We apologize for any inconvenience this may have caused.

Texas Instruments is pleased to announce the qualification of TI Mexico as an additional Assembly & Test site for the list of devices shown below. Material differences between sites are as follows.

Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly City
Carsem	CRS	MYS	Jelapang
TI Mexico	MEX	MEX	Aguascalientes

Material Differences:

	Carsem	TI Mexico
Mount compound	434165	4147858
Mold compound	435006	4211880
Lead finish	NiPdAu	NiPdAu

Marking Differences:

	Carsem	TI Mexico
Group 1 Device		
Group 2 Device		

	Group 3 Device		

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

Reason for Change:

Continuity of Supply. Carsem will shut down PDIP packages by Dec2018.

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

None

Anticipated impact on Material Declaration

<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI Eco-Info website . There is no impact to the material meeting current regulatory compliance requirements with this PCN change.
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Changes to product identification resulting from this PCN:

Assembly Site		
Carsem	Assembly Site Origin (22L)	ASO: CRS
TI Mexico	Assembly Site Origin (22L)	ASO: MEX

Sample product shipping label (not actual product label)

Product Affected : Group 1

BQ2004EPNG4	UC2825NG4	UC3770ANG4	UC2525ANG4
BQ2004PNG4	UC2527ANG4	UC3770BNG4	UC3823ANG4
DAC714P	UC2610NG4	UC2842ANG4	UC3823NG4
DAC714PG4	UC2705NG4	UC2842NG4	UC3824NG4
DAC716PG4	UC2707NG4	UC2843ANG4	UC3825ANG4
DAC716PK	UC3843ANG4	UC2843NG4	UC3825NG4
DAC7800KPG4	UC3843NG4	UC2844ANG4	UC3854NG4
DAC7800LPG4	UC3844ANG4	UC3842ANG4	UC3856NG4
INA101HP	UC3844NG4	OPA2244PA	UC3861NG4
INA101HPG4	UC3845ANG4	OPA2244PAG4	UC3867NG4
INA105KP	UC3845NG4	OPA2337PA	UC3901NG4
INA105KPG4	UC3852NG4	OPA2337PAG4	UC3902NG4
INA121P	UC3853NG4	OPA2705PA	UC3906NG4
INA121PA	UC3854ANG4	OPA2705PAG4	UC3907NG4
INA121PAG4	UC3854BNG4	OPA340PA	UC39432NG4
INA121PG4	UC2844NG4	OPA340PAG4	UCC25701NG4
INA125P	UC2845ANG4	OPA344PA	UCC25702NG4
INA125PA	UC2845NG4	OPA344PAG4	UCC2806NG4
INA125PAG4	UC2846NG4	OPA347PA	UCC2810NG4
INA125PG4	UC2853NG4	OPA347PAG4	UCC2817ANG4
INA2134PA	UC2854ANG4	OPA4137P	UCC2818ANG4
INA2134PAG4	UC2854BNG4	OPA4137PA	UCC2818NG4
INA2137PA	UC2854NG4	OPA4137PAG4	UCC35701NG4
INA2137PAG4	UC2856NG4	OPA703PA	UCC3806NG4
MPC508AP	UC2901NG4	OPA703PAG4	UCC3817ANG4
MPC508APG4	UC2906NG4	OPA705PA	UCC3817NG4
MPC509AP	UC2907NG4	PGA202KP	UCC3818ANG4
MPC509APG4	UC29432NG4	PGA202KPG4	UCC3818NG4
MPY634KP	UC3524ANG4	PGA203KP	VFC320BPG4
MPY634KPG4	UC3525ANG4	PGA203KPG4	VFC320CPG4
OPA2137P	UC3525BNG4	PGA2310PA	VFC32KP
OPA2137PA	UC3527ANG4	PGA2310PAG4	VFC32KPG4
OPA2137PAG4	UC3610NG4	PGA2311P	XTR101AP
OPA2137PG4	UC3705NG4	PGA2311PA	XTR101APG4
UC2708NG4	UC3706NG4	PGA2311PAG4	XTR105P
UC2709NG4	UC3707NG4	PGA2311PG4	XTR105PA
UC2710NG4	UC3708NG4	SN0708100P	XTR105PAG4
UC28025NG4	UC3709NG4	UAF42AP	XTR105PG4
UC2825ANG4	UC3710NG4	UAF42APG4	XTR110KP
UC2825BNG4	UC3717ANG4	UC2524ANG4	XTR110KPG4

Product Affected : Group 2

BQ2004EPN	UC2844N	UC3717AN	UC3907N
BQ2004HPN	UC2845AN	UC3770AN	UC39432N
BQ2004PN	UC2845N	UC3770BN	UC80851N
DAC716P	UC2846N	UC3823AN	UC81185N
DAC716PB	UC2852N	UC3823N	UC81186N
UC2524AN	UC2853N	UC3824N	UC81500AN
UC2525AN	UC2854AN	UC3825AN	UC81501AN
UC2525BN	UC2854BN	UC3825BN	UC81502AN
UC2527AN	UC2854N	UC3825N	UC81521P
UC2610N	UC2856N	UC3842AN	UC81522P
UC2705N	UC2901N	UC3842N	UCC25701N
UC2706N	UC2902N	UC3843AN	UCC25702N
UC2707N	UC2906N	UC3843N	UCC2806N
UC2708N	UC2907N	UC3844AN	UCC2810N
UC2709N	UC29432N	UC3844N	UCC2817AN
UC2710N	UC3524AN	UC3845AN	UCC2817N
UC28025N	UC3525AN	UC3845N	UCC2818AN
UC2823AN	UC3525BN	UC3852N	UCC2818N
UC2823N	UC3527AN	UC3853N	UCC35701N
UC2824N	UC3610N	UC3854AN	UCC35702N
UC2825AN	UC3611N	UC3854BN	UCC3806N
UC2825BN	UC3705N	UC3854N	UCC3810N
UC2825N	UC3706N	UC3856N	UCC3817AN
UC2842AN	UC3707N	UC3861N	UCC3817N
UC2842N	UC3708N	UC3867N	UCC3818AN
UC2843AN	UC3708NE	UC3901N	UCC3818N
UC2843N	UC3709N	UC3902N	
UC2844AN	UC3710N	UC3906N	
Product Affected : Group 3			
DAC7800KP	DAC7800LP	VFC320BP	VFC320CP

Qualification Report

PDIP 8/14/16 PIN OFFLOAD TO FMX Devices without Die Overcoat Polyimide

Approve Date 20-Mar-2018

Product Attributes

Attributes	Qual Device: <u>PGA2310PA</u>	QBS Package Reference: <u>L293DNE</u>	QBS Package Reference: <u>LT1013CP</u>	QBS Package Reference: <u>MSP430F2013IN</u>	QBS Package Reference: <u>NE5532P</u>	QBS Package Reference: <u>SN74HC595N</u>	QBS Package Reference: <u>SN74HCT540N</u>
Assembly Site	FMX	FMX	FMX	MLA	FMX	MLA	MLA
Package Family	PDIP	PDIP	PDIP	PDIP	PDIP	PDIP	PDIP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	SFAB	SFAB	SFAB	TSMC-10	SFAB	SFAB	SFAB
Wafer Fab Process	BCMOS	J11	J11	TSMC EMB FLASH	J11	74HC	74HC-NONEPI

Attributes	QBS Package Reference: <u>SN74LS03N</u>	QBS Package Reference: <u>TLC339IN</u>	QBS Package Reference: <u>TPA3122D2N</u>	QBS Package Reference: <u>TPS2041P</u>	QBS Package Reference: <u>TS12A4514P</u>	QBS Package Reference: <u>UCC37322P</u>
Assembly Site	MLA	FMX	MLA	FMX	FMX	FMX
Package Family	PDIP	PDIP	PDIP	PDIP	PDIP	PDIP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	SFAB	DFAB	UMC FAB8AB	DFAB	DFAB	DFAB
Wafer Fab Process	J11	LINCOS_5/5	LBC5X	LBC3S	LBC3S	LBC3S

- QBS: Qual By Similarity
- Qual Device PGA2310PA is qualified at Not Classified

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>PGA2310PA</u>	QBS Package Reference: <u>L293DNE</u>	QBS Package Reference: <u>LT1013CP</u>	QBS Package Reference: <u>MSP430F2013IN</u>	QBS Package Reference: <u>NE5532P</u>	QBS Package Reference: <u>SN74HC595N</u>	QBS Package Reference: <u>SN74HCT540N</u>
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	-	3/231/0	-	3/225/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-	-	-	-	Pass	-
FLAM	Flammability (UL 94V-0)	-	-	-	-	-	-	-	3/15/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	3/231/0	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-	-	3/231/0	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	3/231/0	-	3/231/0	-	3/231/0	3/231/0

LI	Lead Fatigue	Leads	-	3/66/0	-	3/45/0	3/66/0	3/45/0	3/45/0
LI	Lead Pull to Destruction	Leads	-	3/144/0	-	3/126/0	3/72/0	3/144/0	3/180/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass	Pass	Pass
PKG	Lead Finish Adhesion	Leads	-	3/45/0	-	3/45/0	3/45/0	3/45/0	2/30/0
SD	Solderability	8 Hours Steam Age	-	3/66/0	-	3/66/0	3/66/0	3/66/0	3/66/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/225/0	3/231/0	3/231/0	-	3/231/0	3/231/0

Type	Test Name / Condition	Duration	QBS Package Reference: SN74LS03N	QBS Package Reference: TLC339IN	QBS Package Reference: TPA3122D2N	QBS Package Reference: TPS2041P	QBS Package Reference: TS12A4514P	QBS Package Reference: UCC37322P
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	-	1/77/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-	-	-	-	-
FLAM	Flammability (UL 94V-0)	-	-	-	-	-	-	3/15/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	3/231/0	3/231/0	-	1/77/0	3/231/0
LI	Lead Fatigue	Leads	3/45/0	3/45/0	3/45/0	-	-	3/45/0
LI	Lead Pull to Destruction	Leads	3/126/0	3/126/0	3/180/0	-	-	3/70/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass	Pass
PKG	Lead Finish Adhesion	Leads	3/45/0	3/45/0	3/45/0	-	-	3/45/0
SD	Solderability	8 Hours Steam Age	3/66/0	3/66/0	3/66/0	-	-	3/66/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0	1/77/0	3/231/0

- 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

THIS INFORMATION RELATING TO QUALITY AND RELIABILITY IS PROVIDED "AS IS." Product information detailed in this report may not accurately reflect TI's current product materials, processes and testing used in the construction of the TI products. Customers are solely responsible to conduct sufficient engineering and additional qualification testing to determine whether a device is suitable for use in their applications. Using TI products outside limits stated in TI's datasheet may void TI's warranty. See TI's Terms of Sale at "<http://www.ti.com/lscds/ti/legal/termsofsale.page>"

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