



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20150116000A
Qualification of JCET as an Alternate Assembly Site for Select Devices in PDIP
Package
Change Notification / Sample Request

Date: 1/30/2015
To: MOUSER PCN

Dear Customer:

Revision A is to update the description of change to provide clarification on the included BOM comparison table.

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

20150116000
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
CD4052BE	null
CD4066BE	null
CD4541BE	null
LM239N	null
LM258AP	null
LM258P	null
LM2902N	null
LM2904P	null
LM293P	null
LM339AN	null
LM358AP	null
LM393AP	null
NA555P	null
NE5532P	null
OP07CP	null
SN74HC00N	null
SN74HC02N	null
SN74HC04N	null
SN74HC138N	null
SN74HC14N	null
SN74HC165N	null
SN74HC595N	null
ULN2003AIN	null

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

PCN Number:	20150116000A	PCN Date:	01/30/2015
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Title:	Qualification of JCET as an Alternate Assembly Site for Select Devices in PDIP Package		
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Customer Contact:	PCN Manager	Dept:	Quality Services
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Proposed 1st Ship Date:	04/19/2015	Estimated Sample Availability:	Provided upon Request
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Change Type:			
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<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input checked="" 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 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:

Revision A is to update the description of change to provide clarification on the included BOM comparison table seen below. These additions are highlighted and **bolded** below.

Texas Instruments is pleased to announce the qualification of JCET ChuZhou as an alternate Assembly site for the PDIP devices listed below. Material differences between the current sites and new site is shown below:

Package	MLA		ALP		FMX			JCET CZ		
	14 pin PDIP	16 pin PDIP	8 pin PDIP	14 pin PDIP	8 pin PDIP	14 pin PDIP	16 pin PDIP	8 pin PDIP	14 pin PDIP	16 pin PDIP
Mount Compound	4042500	4042500	4147858	4147858	4147858	4147858	4147858	11204001701	11204001701	11204001701
Mold Compound	4042503	4042503	141002027	141002027	4042503	4042503	4042503	13102026801	13102026801	13102026801
Lead Finish	NiPdAu	NiPdAu	NiPdAu	NiPdAu	NiPdAu	NiPdAu	NiPdAu	Post-Plate Matte Sn	Post-Plate Matte Sn	Post-Plate Matte Sn
Bond wire composition	Cu	Cu	Au	Au	Cu	Cu	Cu	Cu	Cu	Cu
Bond wire diameter	0.96 MIL	0.96 MIL	1.0 MIL	0.8 MIL	0.96 MIL	0.96 MIL	0.96 MIL	1.0 MIL	1.0 MIL	1.0 MIL

Upon expiry of this PCN TI will combine lead free solutions in a single [standard part number](#), for example; [CD4052BE](#) - can ship with both Matte Sn and NiPdAu/Ag.

Example:

- Customer order for 7500units of CD4052BE with 2500 units SPQ (Standard Pack Quantity per Reel).

- TI can satisfy the above order in one of the following ways.

- I. 3 Reels of NiPdAu finish.
- II. 3 Reels of Matte Sn finish
- III. 2 Reels of Matte Sn and 1 reel of NiPdAu finish.
- IV. 2 Reels of NiPdAu and 1 reel of Matte Sn finish.

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:

Assembly Site		
TI Malaysia	Assembly Site Origin (22L)	ASO: MLA

Microchip Technology	Assembly Site Origin (22L)	ASO: ALP
TI Mexico	Assembly Site Origin (22L)	ASO: MEX
JCET Chuzhou	Assembly Site Origin (22L)	ASO: GP6

Sample product shipping label (not actual product label)





MADE IN: Malaysia
2DC: 2Q:

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) 7523483SI2
(P)
(2P) REV: (V) 0033317
(20L) CSO: SHE (21L) CCO:USA
(22L) ASO: MLA (23L) ACO: MYS

Topside Device marking:

Assembly site code for MLA= K

Assembly site code for ALP= 8

Assembly site code for MEX= M

Assembly site code for GP6= F

Product Affected			
CD4052BE	LM2902N	LM393AP	SN74HC04N
CD4066BE	LM2904P	NA555P	SN74HC138N
CD4541BE	LM293P	NE5532P	SN74HC14N
LM239N	LM324NE3	OP07CP	SN74HC165N
LM258AP	LM339AN	SN74HC00N	SN74HC595N
LM258P	LM358AP	SN74HC02N	ULN2003AIN

Qualification Report

JCET Chuzhou 8-pin PDIP (P) Cu Wire Package Qual Approved on 03/11/2014

Product Attributes

Attributes	Qual Device: LM358P	Qual Device: LM393P	Qual Device: NE555P	QBS Package: CD4051BE	QBS Package: ULN2003AN
Assembly Site	JCET CHUZHOU	JCET CHUZHOU	JCET CHUZHOU	JCET CHUZHOU	JCET CHUZHOU
Package Family	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
Wafer Fab Site	SFAB	SFAB	SFAB	SFAB	SFAB
Wafer Fab Process	J11	J11	J11	HC-C	J11

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL1-260C: LM358P, LM393P, NE555P

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LM358P	Qual Device: LM393P	Qual Device: NE555P	QBS Package: CD4051BE	QBS Package: ULN2003AN
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-	-	3/231/0	3/231/0
AC	Autoclave, 121C	96 Hours	1/77/0	-	-	3/231/0	-
TC	Temperature Cycle, -65C/150C	500 Cycles	1/77/0	-	-	3/231/0	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	1/77/0	-	-	3/231/0	-
HTOL	Life Test, 150C	300 Hours	1/77/0	-	-	3/231/0	-
WBS	Ball Bond Shear	Wires	3/228/0	1/76/0	1/76/0	3/228/0	3/228/0
WBP	Bond Pull	Wires	3/228/0	1/76/0	1/76/0	3/228/0	3/228/0
SD	Solderability	8 Hours Steam Age-Pb Free	3/66/0	-	-	3/66/0	-
PD	Physical Dimensions	--	3/15/0	-	-	3/15/0	-
LI	Lead Fatigue	Leads	3/66/0	-	-	3/66/0	-
ED	Electrical Characterization	Per Datasheet Parameters	Pass	-	-	Pass	-
LI	Lead Pull to Destruction	Leads	3/66/0	-	-	3/66/0	-
FLAM	Flammability (IEC 695-2-2)	--	3/15/0	-	-	3/15/0	-
FLAM	Flammability (UL 94V-0)	--	3/15/0	-	-	3/15/0	-
FLAM	Flammability (UL-1694)	--	3/15/0	-	-	3/15/0	-

- 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

TI Qualification ID: 20130204-77481

Qualification Report

JCET Chuzhou 14-pin PDIP (N) Cu Wire Package Qual Approved on 02/04/2014

Product Attributes

Attributes	Qual Device: LM324N	Qual Device: LM339N	Qual Device: SN74HC164N	QBS Package: CD4051BE	QBS Package: ULN2003AN
Assembly Site	JCET CHUZHOU	JCET CHUZHOU	JCET CHUZHOU	JCET CHUZHOU	JCET CHUZHOU
Package Family	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
Wafer Fab Site	SFAB	SFAB	SFAB	SFAB	SFAB
Wafer Fab Process	J11	J11	HCMOS	HC-C	J11

- Qual Devices qualified at LEVEL1-260C: LM324N, LM339N
- Qual Device SN74HC164N is qualified at Not Classified

- QBS: Qual By Similarity

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LM324N	Qual Device: LM339N	Qual Device: SN74HC164N	QBS Package: CD4051BE	QBS Package: ULN2003AN
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	1/77/0	3/231/0	3/231/0
AC	Autoclave 121C	96 Hours	-	-	1/77/0	3/231/0	-
TC	Temperature Cycle -65C/150C	500 Cycles	-	-	1/77/0	3/231/0	-
HTSL	High Temp. Storage Bake 170C	420 Hours	-	-	-	3/231/0	-
HTOL	Life Test, 150C	300 Hours	-	-	1/77/0	3/231/0	-
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0
WBP	Bond Pull	Wires	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0
SD	Solderability	Pb Free/Solder	-	-	3/66/0	3/66/0	-
PD	Physical Dimensions	--	-	-	3/15/0	3/15/0	-
LI	Lead Fatigue	--	3/66/0	3/66/0	3/66/0	3/66/0	-
LI	Lead Pull to Destruction	Leads	3/66/0	3/66/0	3/66/0	3/66/0	-
FLAM	Flammability (IEC 695-2-2)	--	-	-	-	3/15/0	-
FLAM	Flammability (UL 94V-0)	--	-	-	-	3/15/0	-
FLAM	Flammability (UL-1694)	--	-	-	-	3/15/0	-

- 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/1khrs, 140C/480hrs, 150C/300hrs, and 155C/240hrs

- The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1khrs, and 170C/420hrs

- The following are equivalent Temp Cycle options per JESD47: -55C/125C/700cyc and -65C/150C/600cyc

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

Qualification Report

JCET Chuzhou 16-pin PDIP (N) Cu Wire Package Qual Approved on 02/04/2014

Product Attributes

Attributes	Qual Device: CD4051BE	Qual Device: ULN2003AN
Assembly Site	JCET CHUZHOU	JCET CHUZHOU
Package Family	PDIP	PDIP
Flammability Rating	UL 94 V-0	UL 94 V-0
Wafer Fab Site	SFAB	SFAB
Wafer Fab Process	HC-C	J11

- Qual Devices qualified at Not Classified: CD4051BE, ULN2003AN

- QBS: Qual By Similarity

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: CD4051BE	Qual Device: ULN2003AN
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	3/231/0
AC	Autoclave 121C	96 Hours	3/231/0	-
TC	Temperature Cycle -65C/150C	500 Cycles	3/231/0	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	-
HTOL	Life Test, 150C	300 Hours	3/231/0	-
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0
WBP	Bond Pull	Wires	3/228/0	3/228/0
SD	Solderability	8 Hours Steam Age	3/66/0	-
PD	Physical Dimensions	--	3/15/0	-
LI	Lead Fatigue	Leads	3/66/0	-
LI	Lead Pull to Destruction	Leads	3/66/0	-
ED	Electrical Characterization	Per Datasheet Parameters	1/77/0	-
FLAM	Flammability (IEC 695-2-2)	--	3/15/0	-
FLAM	Flammability (UL 94V-0)	--	3/15/0	-
FLAM	Flammability (UL-1694)	--	3/15/0	-

- 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/1khrs, 140C/480hrs, 150C/300hrs, and 155C/240hrs

- The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1khrs, and 170C/420hrs

- The following are equivalent Temp Cycle options per JESD47: -55C/125C/700cyc and -65C/150C/500cyc

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

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