

PCN Number:	20150804001	PCN Date:	08/10/2015
Title:	Qualification of AMKOR P3 as Additional Assembly and Test Site for Select PQFN Package Devices		

Customer Contact:	PCN Manager	Dept:	Quality Services
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Proposed 1st Ship Date:	11/10/2015	Estimated Sample Availability:	Date Provided at Sample request
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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"/>		<input type="checkbox"/>	Wafer Bump Site
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Materials
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing the qualification of AMKOR P3 as Additional Assembly and Test Site for select devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.

Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City
TI Clark	QAB	PHL	Angeles City, Pampanga
PSI	PAC	PHL	Taguig City
Amkor P3	AP3	PHL	Biñan, Laguna

Material Differences:

	TI Clark	PSI	AMKOR P3
Mold compound	4208625	200805	101388835
Lead finish	NiPdAu	Matte Sn	Matte Sn

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

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:

Assembly Site	Assembly Site Origin (22L)	ASO:
TI-CLARK	Assembly Site Origin (22L)	ASO: QAB
PSI	Assembly Site Origin (22L)	ASO: PAC
AMKOR P3	Assembly Site Origin (22L)	ASO: AP3

Sample product shipping label (not actual product label)



TEXAS INSTRUMENTS

 MADE IN: Malaysia

 2DC: 2D:

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

 OPT:

 ITEM: 39

LBL: 5A (L)TO: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

ASSEMBLY SITE CODES: TI-CLARK = I , PSI = E , AP3 = 3

Product Affected: Group 1 – Power Stage

CSD59962Q5M	CSD95372BQ5MT	CSD95373BQ5MT	CSD95378BQ5MT
CSD95372BQ5M	CSD95373BQ5M	CSD95378BQ5M	

Product Affected: Group 2 – Power Block

CSD59921Q5D	CSD87351Q5D	CSD87352Q5D
CSD86360Q5D	CSD87351ZQ5D	

Group 1 - Qualification Report

Phase V package qual at Amkor-AP3 using CSD95372BQ5M as driver vehicle

Product Attributes

Attributes	Qual Device: CSD95372BQ5M
Qual ID	20150317-112461
Assembly Site	AP3 (AMKOR P3)
Package Family	DQP
Flammability Rating	UL 94 V-0
Wafer Fab Supplier	CFAB
Wafer Fab Process	FET_NCH_LV_Gen2.1

- QBS: Qual By Similarity
- Device CSD95372BQ5M contains multiple dies

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: CSD95372BQ5M
Qual ID			20150317-112461
IOL	(dynamic) Intermittent Operating Life	2500, 5000, 10,000 Cycles (5 min cyc)	3/77/0
AC	**Autoclave 121C	121C, 2 atm (96 Hours)	3/77/0
HAST	**Biased HAST	130C/85%RH (96 Hours)	3/77/0
HTSL	High Temp. Storage Bake	150C (168, 500, 1000 hrs)	3/77/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	3/1/0
TC	**T/C -55C/125C	-55C/+125C (250, 500, 1000 Cyc)	3/77/0

- 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

Group 2 - Qualification Report

Phase V Power Block package qual at Amkor-AP3

Product Attributes

Attributes	Qual Device: CSD86360Q5D	Qual Device: CSD87351Q5D	Qual Device: CSD87351ZQ5D	Qual Device: CSD87352Q5D
Qual ID	20150430-113582	20150430-113582	20150430-113582	20150430-113582
Assembly Site	AMKOR AP3	AMKOR AP3	AMKOR AP3	AMKOR AP3
Package Family	DQY	DQY	DQY	DQY
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	CFAB	CFAB	CFAB	CFAB
Wafer Fab Process	FET_NCH_LV_Gen2.1	FET_NCH_LV_Gen2.0	FET_NCH_LV_Gen2.0	FET_NCH_LV_Gen2.0

- Device CSD86360Q5D contains multiple dies.
- Device CSD87351Q5D contains multiple dies.
- Device CSD87351ZQ5D contains multiple dies.
- Device CSD87352Q5D contains multiple dies.

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: CSD86360Q5D	Qual Device: CSD87351Q5D	Qual Device: CSD87351ZQ5D	Qual Device: CSD87352Q5D
Qual ID			20150430-113582	20150430-113582	20150430-113582	20150430-113582
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	3/1/0	3/1/0	3/1/0	3/1/0

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