

PCN Number:	20121022000A	PCN Date:	07/30/2015
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Title:	Qualification of TI Clark as Additional Assembly/Test Site for Select Devices on the SON Package		
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Customer Contact:	PCN Manager	Dept:	Quality Services
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Change Type:			
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification
<input checked="" type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Assembly Materials
<input type="checkbox"/>		<input type="checkbox"/>	Mechanical Specification
<input type="checkbox"/>		<input type="checkbox"/>	Test Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process

PCN Details

Description of Change:

Revision A is to remove select devices in the Product Affected Section (with ~~strikethrough~~) and highlighted in yellow. These devices will continue to be assembled at the current Assembly/Test site.

Qualification of TI Clark as Additional Assembly/Test Site for Select Devices on the SON Package. Assembly differences are shown in the following table:

	NSE	TI Clark
Wire	1.0 , 1.30 Mil Au	0.96, 1.30 Mil Cu

The device in the product affected list is being qualified by similarity (see Qualification Data).

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

Reason for Change:

- 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:

Assembly Site		
NSE Thailand	Assembly Site Origin (22L)	ASO: NSE
TI Clark Philippines	Assembly Site Origin (22L)	ASO: QAB

Sample product shipping label (not actual product label)
 ASSEMBLY SITE CODES: NSE =J, TI-Clark = I

Product Affected:			
HPA00489DRVR	TPS715A33DRVR	TPS73701DRVR	TPS79918DRVR
HPA01044DRVR	TPS715A33DRVRG4	TPS73701DRVT	TPS79918DRVRG4
TPS3808G01DRVR	TPS715A33DRVT	TPS78218DRVR	TPS79918DRVT
TPS3808G01DRVRG4	TPS715A33DRVTG4	TPS78218DRVT	TPS79918DRVTG4
TPS3808G01DRVT	TPS72012DRVR	TPS78230DRVR	TPS799195DRVR
TPS3808G01DRVTG4	TPS72012DRVT	TPS78230DRVT	TPS799195DRVRG4
TPS3808G25DRVR	TPS728330185DRVR	TPS79901DRVR	TPS799195DRVT
TPS3808G25DRVRG4	TPS728330185DRVT	TPS79901DRVRG4	TPS799195DRVTG4
TPS3808G25DRVT	TPS73533DRVR	TPS79901DRVT	
TPS3808G25DRVTG4	TPS73533DRVT	TPS79901DRVTG4	
Qualification Data			
This qualification has been specifically developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.			
Qual Vehicle : TPS3808G25DRV (MSL2-260C)			
Package Construction Details			
Assembly Site:	Clark-AT	Mold Compound:	4208625
# Pins-Designator, Family:	6-DRV, WSON	Mount Compound:	4207768
Lead Finish, Base	NiPdAu, Cu	Bond Wire:	0.96 Mil Dia. Cu
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results			
Reliability Test	Conditions	Sample Size / Fail	
Manufacturability Qualification (MQ)	-	1/0	
**Biased HAST	130C/85%RH (96 Hrs)	77/0	
ESD CDM	200V, 500V	3/0	
ESD HBM	500V, 1000V	3/0	
Latch-up, High Temp	100 mA and 1.5 x Vmax @ max Tj	6/0	
**- Preconditioning sequence: Level 2-260C.			
**- Preconditioning sequence: Level 2-260C.			

Reference Qualification: SON Package at TI-Clark

Qualification Data: Approved 09/19/2012			
This qualification has been specifically developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.			
Qual Vehicle 1 : TPS61165DRV (MSL 2-260C)			
Package Construction Details			
Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	6-DRV, WSON	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu	Bond Wire:	0.96 Mil Dia., Cu
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results			
Reliability Test	Conditions	Sample Size / Fail	
Manufacturability Qualification (MQ)	-	Pass	
Moisture Sensitivity	L2-260C +5/-0C	12/0	
Qual Vehicle 2 : BQ25046DQC (MSL 2-260C)			
Package Construction Details			
Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	10-DQC, WSON	Mount Compound:	4207768
Leadframe (Finish, Base):	NiPdAu	Bond Wire:	1.3 Mil Dia., Cu
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results			
Reliability Test	Conditions	Sample Size / Fail	

Manufacturability Qualification (MQ)			Pass		
Moisture Sensitivity		L2-260C +5/-0C	15/0		
Qual Vehicle 3 : BQ27500DRZ (MSL 2-260C)					
Package Construction Details					
Assembly Site:		TI Clark	Mold Compound:		4208625
# Pins-Designator, Family:		12-DRZ, VSON	Mount Compound:		4207768
Leadframe (Finish, Base):		NiPdAu	Bond Wire:		0.96 Mil Dia., Au
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results					
Reliability Test		Conditions		Sample Size / Fail	
Manufacturability Qualification (MQ)				Pass	
Moisture Sensitivity		L2-260C +5/-0C		15/0	
Qual Vehicle 4 : THS9000DRW (MSL 2-260C)					
Package Construction Details					
Assembly Site:		TI Clark	Mold Compound:		4208625
# Pins-Designator, Family:		6-DRW, VSON	Mount Compound:		4207768
Leadframe (Finish, Base):		NiPdAu	Bond Wire:		0.96 Mil Dia., Au
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results					
Reliability Test		Conditions		Sample Size / Fail	
Manufacturability Qualification (MQ)				Pass	
Moisture Sensitivity		L2-260C +5/-0C		15/0	
Qual Vehicle 5 : TLV70028DSE (MSL 1-260C)					
Package Construction Details					
Assembly Site:		TI Clark	Mold Compound:		4208625
# Pins-Designator, Family:		6-DSE, WSON	Mount Compound:		4207768
Leadframe (Finish, Base):		NiPdAu	Bond Wire:		0.80 Mil Dia., Au
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results					
Reliability Test		Conditions		Sample Size / Fail	
				Lot 1	Lot 2
				Lot 3	
Salt Atmosphere		24 Hrs		22/0	22/0
**High Temp Storage Bake		170C (420 Hrs)		77/0	77/0
**Autoclave		121C, 2 atm (96 Hrs)		77/0	77/0
**Temp Cycle, -65C/150C		500 Cycles		77/0	77/0
Surface Mount Solderability		Pb Free		22/0	22/0
Surface Mount Solderability		Non-Pb Free		22/0	22/0
Manufacturability Qualification (MQ)		-		Pass	Pass
Moisture Sensitivity		L1-260C +5/-0C		12/0	12/0
**- Preconditioning sequence: Level 1-260C.					
Qual Vehicle 6 : TLV70028DSE- Cu Wire (MSL 1-260C)					
Package Construction Details					
Assembly Site:		TI Clark	Mold Compound:		4208625
# Pins-Designator, Family:		6-DSE, WSON	Mount Compound:		4207768
Leadframe (Finish, Base):		NiPdAu	Bond Wire:		0.80 Mil Dia., Cu
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results					
Reliability Test		Conditions		Sample Size / Fail	
				Lot 1	Lot 2
				Lot 3	
Salt Atmosphere		24 Hrs		22/0	22/0
**High Temp Storage Bake		170C (420 Hrs)		77/0	77/0
**Autoclave		121C, 2 atm (96 Hrs)		77/0	77/0
**Temp Cycle, -65C/150C		500 Cycles		77/0	77/0

Surface Mount Solderability	Pb Free	22/0	22/0	22/0
Surface Mount Solderability	Non-Pb Free	22/0	22/0	22/0
Manufacturability Qualification (MQ)	-	Pass	Pass	Pass
Moisture Sensitivity	L1-260C +5/-0C	12/0	12/0	12/0
**- Preconditioning sequence: Level 1-260C.				
Qual Vehicle 7 : TPS61161DRV (MSL 2-260C)				
Package Construction Details				
Assembly Site:	TI Clark	Mold Compound:	4208625	
# Pins-Designator, Family:	6-DRV, WSON	Mount Compound:	4207768	
Leadframe (Finish, Base):	NiPdAu	Bond Wire:	1.31 Mil Dia., Au	
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
Salt Atmosphere	24 Hrs	22/0	22/0	22/0
**High Temp Storage Bake	170C (420 Hrs)	77/0	77/0	77/0
**Autoclave	121C, 2 atm (96 Hrs)	77/0	77/0	77/0
**Temp Cycle, -65C/150C	500 Cycles	77/0	77/0	77/0
Surface Mount Solderability	Pb Free	22/0	22/0	22/0
Surface Mount Solderability	Non-Pb Free	22/0	22/0	22/0
Manufacturability Qualification (MQ)	-	Pass	Pass	Pass
Moisture Sensitivity	L2-260C +5/-0C	12/0	12/0	12/0
**- Preconditioning sequence: Level 2-260C.				
Qual Vehicle 8 : TPS62750DSK (MSL 1-260C)				
Package Construction Details				
Assembly Site:	TI Clark	Mold Compound:	4208625	
# Pins-Designator, Family:	10-DSK, WSON	Mount Compound:	4207768	
Leadframe (Finish, Base):	NiPdAu	Bond Wire:	1.31 Mil Dia., Cu	
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot 3
Salt Atmosphere	24 Hrs	22/0	22/0	22/0
**High Temp Storage Bake	170C (420 Hrs)	77/0	77/0	77/0
**Autoclave	121C, 2 atm (96 Hrs)	77/0	77/0	77/0
**Temp Cycle, -65C/150C	500 Cycles	77/0	77/0	77/0
Surface Mount Solderability	Pb Free	22/0	22/0	22/0
Surface Mount Solderability	Non-Pb Free	22/0	22/0	22/0
Manufacturability Qualification (MQ)	-	Pass	Pass	Pass
Moisture Sensitivity	L1-260C +5/-0C	12/0	12/0	12/0
**- Preconditioning sequence: Level 1-260C.				
Qual Vehicle 9 : TPS62750DSK (MSL 1-260C)				
Package Construction Details				
Assembly Site:	TI Clark	Mold Compound:	4208625	
# Pins-Designator, Family:	10-DSK, WSON	Mount Compound:	4207768	
Leadframe (Finish, Base):	NiPdAu	Bond Wire:	1.31 Mil Dia., Au	
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size / Fail		
**High Temp Storage Bake	170C (420 Hrs)	77/0		
**Autoclave	121C, 2 atm (96 Hrs)	77/0		
**Temp Cycle, -65C/150C	500 Cycles	77/0		
Manufacturability Qualification (MQ)	-	Pass		
Moisture Sensitivity	L1-260C +5/-0C	12/0		

**- Preconditioning sequence: Level 1-260C.					
Qual Vehicle 10: TPS799L57ZY (MSL1-260C)					
Package Construction Details					
Assembly Site:		Clark-AT	Bump composition: SnAgCu		
# Pins-Designator, Family:		5-YZY, WCSP	Bump diam: 0.23mm		
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results					
Reliability Test		Conditions	Sample Size / Fail		
			Lot 1	Lot 2	
Manufacturability Qualification (MQ)		-	1/0	-	
Electrical Characterization		Over Temp	30/0	-	
**High Temp Storage Bake		170C (420 Hrs)	80/0	80/0	
**Biased HAST		130C/85%RH (96 Hrs)	80/0	-	
**Unbiased HAST		130C/85%RH (96 Hrs)	80/0	80/0	
ESD CDM		200V, 500V	3/0		
ESD HBM		500V, 1000V, 1500V, 2000V	3/0		
High Temp Op Life Test		150C/300 Hrs	80/0	79/0	
**Temp Cycle, -55C/125C		1000 Cycles	80/0	80/0	
Latch-up, High Temp		100 mA and 1.5 x Vmax @ max Tj	6/0		
**- Preconditioning sequence: Level 1-260C.					
Qual Vehicle 11 : TPS62750DSK (MSL 2-260C)					
Package Construction Details					
Assembly Site:		TI Clark	Mold Compound: 4208625		
# Pins-Designator, Family:		6-DRV, WSON	Mount Compound: 4205821		
Leadframe (Finish, Base):		NiPdAu	Bond Wire: 1.31 Mil Dia., Au		
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results					
Reliability Test		Conditions	Sample Size / Fail		
			Lot 1	Lot 2	Lot 3
Salt Atmosphere		24 Hrs	22/0	22/0	22/0
**High Temp Storage Bake		170C (420 Hrs)	77/0	77/0	77/0
**Autoclave		121C, 2 atm (96 Hrs)	77/0	77/0	77/0
**Temp Cycle, -65C/150C		500 Cycles	77/0	77/0	77/0
Surface Mount Solderability		Pb Free	22/0	22/0	22/0
Surface Mount Solderability		Non-Pb Free	22/0	22/0	22/0
Manufacturability Qualification (MQ)		-	Pass	Pass	Pass
Moisture Sensitivity		L2-260C +5/-0C	12/0	12/0	12/0
**- Preconditioning sequence: Level 1-260C.					

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
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