PCN Number:	20131118001	PCN Date:	11/22/2013
Title:	Qualification of NFME as Additional Assembly/Test Site for DBV Package Devices		
Customer Contact:	PCN Manager	Phone: +1(214)480-6037	Dept: Quality Services
Proposed 1st Ship Date:	02/22/2014	Estimated Sample Availability:	Date Provided at Sample request

Change Type:					
☒	Assembly Site	☒	Assembly Process	☒	Assembly Materials
☐	Design	☐	Electrical Specification	☐	Mechanical Specification
☒	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☐	Wafer Fab Site	☐	Wafer Fab Materials	☐	Wafer Fab Process
		☐	Part number change		

PCN Details

Description of Change:

Qualification of NFME as Additional Assembly/Test Site for DBV Package Devices. Material differences are shown in the following table:

• Group 1 – Devices that will have the following change

	NS2	NFME
Wire	Au	Au, Cu
Mold Compound	CZ0096	R-17
Leadframe Finish	NiPdAu	Matte Sn

Upon expiration of this PCN, TI will combine lead free solutions in a single ***standard part number***, for example; ***UCC27511DBVR*** – can ship with both Matte Sn and NiPdAu.

• Group 2 – Devices that will have Mold Compound change only

	NS2	NFME
Mold Compound	CZ0096	R-17

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:

ECAT: G4 = NiPdAu
ECAT: G3 = Matte

Assembly Site			
UTAC 2 Thailand	Assembly Site Origin (22L)	ASO: NS2	ECAT: G4
NFME	Assembly Site Origin (22L)	ASO: NFM	ECAT: G3

Sample product shipping label (not actual product label)

ASSEMBLY SITE CODES: NS2 =B, NFME = E

Product Affected: Group 1

UCC27511DBVR	UCC27517DBVT	UCC27518DBVR	UCC27519DBVR
UCC27511DBVT	UCC27517DBVR	UCC27518DBVT	UCC27519DBVT

Product Affected: Group 2

UCC27531DBVR	UCC27531DBVT	UCC27532DBVR	UCC27532DBVT

Group 1 : 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 1 : TPS2051BDBVR (MSL1-260C)

Package Construction Details

Assembly Site:	NFME	Mold Compound:	R-17
# Pins-Designator, Family:	5-DBV, SOT-23	Mount Compound:	A-03
Lead Finish, Base	Matte Sn, Cu	Bond Wire:	1.3 Mil Dia. Cu

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size / Fail	
		Lot 1	Lot 2
Electrical Characterization	-	30/0	30/0
**Temp Cycle, -65C/150C	500 Cycles	77/0	77/0
Manufacturability (MQ)	(per mfg. Site specification)	Pass	-
Moisture Sensitivity	L2-260C	12/0	12/0

**- Preconditioning sequence: Level 1-260C.

Qual Vehicle 2 : TPS2552DBVR-1 (MSL1-260C)			
Package Construction Details			
Assembly Site:	NFME	Mold Compound:	R-17
# Pins-Designator, Family:	6-DBV, SOT-23	Mount Compound:	A-03
Lead Finish, Base	Matte Sn, Cu	Bond Wire:	2.0 Mil Dia. Cu

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot3
Electrical Characterization	-	30/0	30/0	30/0
Manufacturability Qualification (MQ)	(per mfg. Site specification)	Pass	Pass	Pass
**Life Test	125C (1000 Hrs)	40/0	40/0	40/0
**Temp Cycle, -65C/150C	500 Cycles	77/0	77/0	77/0
**High Temp Storage Bake	170C (420 Hrs)	77/0	77/0	77/0
**Unbiased HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0
Moisture Sensitivity	L1-260C	12/0	12/0	12/0

**- Preconditioning sequence: Level 1-260C.

Qual Vehicle 3 : TPS61041DBVR (MSL 1-260C)			
Package Construction Details			
Assembly Site:	NFME	Mold Compound:	R-17
# Pins-Designator, Family:	5-DBV, SOT-23	Mount Compound:	A-03
Lead Finish, Base	Matte Sn, Cu	Bond Wire:	1.3 Mil Dia. Cu

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot3
Electrical Characterization	-	30/0	30/0	30/0
Manufacturability Qualification (MQ)	(per mfg. Site specification)	Pass	Pass	Pass
**Temp Cycle, -65C/150C	500 Cycles	77/0	77/0	77/0
**High Temp Storage Bake	170C (420 Hrs)	77/0	77/0	77/0
**Unbiased HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0
Moisture Sensitivity	L1-260C	12/0	12/0	12/0

**- Preconditioning sequence: Level 1-260C.

Qual Vehicle 4 : TPS2552DBVR-1 (MSL1-260C)			
Package Construction Details			
Assembly Site:	NFME	Mold Compound:	R-17
# Pins-Designator, Family:	6-DBV, SOT-23	Mount Compound:	A-03
Lead Finish, Base	Matte Sn, Cu	Bond Wire:	2.0 Mil Dia. Au

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot3
Electrical Characterization	-	30/0	30/0	30/0
Manufacturability Qualification (MQ)	(per mfg. Site specification)	Pass	-	-
**Life Test	125C (1000 Hrs)	40/0	40/0	40/0
**Temp Cycle, -65C/150C	500 Cycles	77/0	77/0	77/0
**High Temp Storage Bake	170C (420 Hrs)	77/0	77/0	77/0
**Unbiased HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0

**- Preconditioning sequence: Level 1-260C.

Qual Vehicle 5 : TPS61041DBVR (MSL 1-260C)					
Package Construction Details					
Assembly Site:	NFME		Mold Compound:	R-17	
# Pins-Designator, Family:	5-DBV, SOT-23		Mount Compound:	A-03	
Lead Finish, Base	Matte Sn, Cu		Bond Wire:	1.3 Mil Dia. Au	
Qualification: ☐ **Plan** ☒ **Test Results**					
Reliability Test	Conditions	Sample Size / Fail			
		Lot 1	Lot 2	Lot3	
Electrical Characterization	-	30/0	30/0	30/0	
Manufacturability Qualification (MQ)	(per mfg. Site specification)	Pass	-	-	
**Temp Cycle, -65C/150C	500 Cycles	77/0	77/0	77/0	
**High Temp Storage Bake	170C (420 Hrs)	77/0	77/0	77/0	
**Unbiased HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0	
**- Preconditioning sequence: Level 1-260C.					

Group 2 : Qualification Data

Qual Vehicle 1 : TPS2553DBV (MSL 1-260C)					
Package Construction Details					
Assembly Site:	NFME		Mold Compound:	R-17	
# Pins-Designator, Family:	6-DBV, SOT-23		Mount Compound:	A-03	
Lead Finish, Base	NiPdAu, Cu		Bond Wire:	2.0 Mil Dia. Au	
Qualification: ☐ **Plan** ☒ **Test Results**					
Reliability Test	Conditions	Sample Size / Fail			
Electrical Characterization	-	30/0			
Manufacturability Qualification (MQ)	(per mfg. Site specification)	Pass			
**Autoclave	121C (96 Hrs)	77/0			
**Temp Cycle, -65C/150C	500 Cycles	77/0			
Solderability	Steam age, 8 hours	22/0			
Moisture Sensitivity	Level-1, 260C	12/0			
**- Preconditioning sequence: Level 1-260C.					

Qual Vehicle 2 : OPA365AIDBV (MSL 1-260C)					
Package Construction Details					
Assembly Site:	NFME		Mold Compound:	R-17	
# Pins-Designator, Family:	5-DBV, SOT-23		Mount Compound:	A-03	
Lead Finish, Base	NiPdAu, Cu		Bond Wire:	1.0 Mil Dia. Au	
Qualification: ☐ **Plan** ☒ **Test Results**					
Reliability Test	Conditions	Sample Size / Fail			
Manufacturability Qualification (MQ)	(per mfg. Site specification)	Pass			
Salt Atmosphere	24 Hrs	22/0			
X-ray	(top side only)	5/0			
**Autoclave	121C (96 Hrs)	77/0			
**Temp Cycle, -65C/150C	500 Cycles	77/0			
**Thermal Shock -65/150C	1000 Cycles	77/0			
**High Temp Storage Bake	170C (420 Hrs)	77/0			
Moisture Sensitivity	Level-1, 260C	12/0			
**- Preconditioning sequence: Level 1-260C.					

Qual Vehicle 3 : THS4304DBV (MSL 1-260C)			
Package Construction Details			
Assembly Site:	NFME	Mold Compound:	R-17
# Pins-Designator, Family:	5-DBV, SOT-23	Mount Compound:	A-03
Lead Finish, Base	NiPdAu, Cu	Bond Wire:	1.0 Mil Dia. Au

Qualification: ☐ **Plan** ☒ **Test Results**		
Reliability Test	Conditions	Sample Size / Fail
Manufacturability Qualification (MQ)	(per mfg. Site specification)	Pass
Salt Atmosphere	24 Hrs	22/0
X-ray	(top side only)	5/0
**Autoclave	121C (96 Hrs)	77/0
**Temp Cycle, -65C/150C	500 Cycles	77/0
**Thermal Shock -65/150C	1000 Cycles	77/0
**High Temp Storage Bake	170C (420 Hrs)	77/0
Moisture Sensitivity	Level-1, 260C	12/0
**- Preconditioning sequence: Level 1-260C.		

Qual Vehicle 4 : THS9001DBV (MSL 1-260C)			
Package Construction Details			
Assembly Site:	NFME	Mold Compound:	R-17
# Pins-Designator, Family:	6-DBV, SOT-23	Mount Compound:	A-03
Lead Finish, Base	NiPdAu, Cu	Bond Wire:	1.0 Mil Dia. Au

Qualification: ☐ **Plan** ☒ **Test Results**		
Reliability Test	Conditions	Sample Size / Fail
Manufacturability Qualification (MQ)	(per mfg. Site specification)	Pass
Salt Atmosphere	24 Hrs	22/0
X-ray	(top side only)	5/0
**Autoclave	121C (96 Hrs)	77/0
**Temp Cycle, -65C/150C	500 Cycles	77/0
**Thermal Shock -65/150C	1000 Cycles	77/0
**High Temp Storage Bake	170C (420 Hrs)	77/0
Moisture Sensitivity	Level-1, 260C	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**
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