

Qualification Report For
NS2 assembly site for MSOP_VSSOP and HTSSOP in Green package sets.
Package designators: DGQ, DGK, DGN, DGS

Approved 5/30/08

The UTAC NS2 (UTL2) assembly site qualification for MSOP,VSSOP and HTSSOP in Green package sets is fully qualified and meets the Texas Instruments quality and reliability standards for High Performance Analog.

Qualification Information

Qual id#: a08723862007226152535		
Affected Sites: TUC-Tucson,MLA-K-Lumpur,NSE-Thailand	Affected Business:	HPA,HPL,HSCC,PPM,SPM
Qual Type: Major Change Assembly		
Qual Description: Qual vehicle TPS40003DGQ		

Qual Device: TPS40003DGQ

Package Attributes:

Assembly Site: NS2	Package Designator: DGQ
Package Size: 118.11 X 118.11	Pin Count: 10
Moisture Sensitivity Level: Level 2/260°C	Flammability Rating: Class UL94-V0
Wire Bond Method: 1.0 mil Au TS	Mount compound: Able 2200D
Lead Frame P/N: 6457991	Mold Compound: G600
Lead Finish: NiPdAu	Lead Frame Material: Cu

Die 1 Attributes:

Material Master Die Name: BLBFTP40003AC	Die Size (mils): 62.0 X 60.0
Die revision: A	Technology: Bi-CMOS
Wafer fab Site: DLN	Metal 1: TiW/AICu
Fab Process: LBC4	Metal 2: TiW/AICu
Passivation: 10KACN	Metal 3: TiW/AICu

Reliability Results

Test Type	Condition/Duration	SS/Fails	QBS	Reference
Preconditioning	Level 1, 260C	152/0x3	N	
**Steady-state Life Test	155C (240 Hrs)	462/0	Y	
**Biased HAST	130C/85%RH (96 Hrs)	77/0	Y	NSE G600 Enterprise qual
**Autoclave 121C	121C, 15 PSI (96 Hrs)	76/0x3	N	
**T/C -65C/150C	-65C/+150C (500, 1000 Cyc)	76/0x3	N	
Resistance to Solvents	(ink symbol only)	22/0	Y	NSE G600 Enterprise qual
Solderability	Steam age, 8 hours	11/0x3	N	
Lead Fatigue	# of leads, min. 3 units	22/0	Y	NSE G600 Enterprise qual
Physical Dimensions	Per mechanical drawing	5/0x3	N	
Flammability	Method A - UL94-0	5/0	Y	NSE G600 Enterprise qual
Flammability	Method B - IEC 695-2-2	5/0	Y	NSE G600 Enterprise qual
Flammability	Method C - UL 1694	5/0	Y	NSE G600 Enterprise qual
Bond Strength	76 ball bonds, min. 3 units	132/0x3	N	11 units
Ball Shear	76 ball bonds, min. 3 units	132/0x3	N	11 units
Die Shear	-	11/0x3	N	
Manufacturability	(per mfg. Site specification)	Pass	N	
Laser Marking	Per specification	4/0x3	N	
Salt Atmosphere	24 Hrs	22/0	Y	NSE G600 Enterprise qual
X-ray	(top side only)	1500/0x3	N	
**High Temp. Storage Bake	170C (168, 420hrs)	77/0	Y	NSE G600 Enterprise qual
Moisture Sensitivity	(level 1 @ 260C peak +0/-5C)	12/0x3	N	
Visual Inspection	Per specification	32/08x3	N	

** - Samples used to populate these tests must be preconditioned per the appropriate sequence.