

PCN Number:	20131025001A		PCN Date:	05/16/2014	
Title:	Qualification of Vanguard Facility as an additional FAB site source for select OPA340xx and OPA2336xx devices in the 0.60UM process technology				
Customer Contact:	PCN Manager	Phone:	+1(214)480-6037	Dept:	Quality Services
*Proposed 1st Ship Date:	08/16/2014		Estimated Sample Availability:	Date provided at sample request.	
Change Type:					
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input checked="" type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Materials
		<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process
PCN Details					
Description of Change:					
This notification is to announce the qualification of the Vanguard fabrication facility as an additional wafer FAB source for select OPA340xx and OPA2336xx devices listed in "Product Affected" section.					
Currently Qualified Sites, Process, wafer dia.			Additional Site, Process, wafer dia.		
TSMC-WF2, 0.60UM, 200mm			Vanguard, VIS .5UM/0.6UM DPDM, 200mm		
Qualification details are provided in the Qual Data Section.					
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:					
Current					
Chip Site	Chip site code (20L)	Chip country code (21L)			
TSMC-WF2	TS2	TWN			
New					
Chip Site	Chip site code (20L)	Chip country code (21L)			
Vanguard (VIS)	VAN	TWN			

Sample product shipping label (not actual product label)

 TEXAS INSTRUMENTS MADE IN: Malaysia 2DC: 2Q:	 G4		(1P) SN74LS07NSR (Q) 2000 (D) 0336 (31T) LOT: 3959047MLA (4W) TKY (1T) 7523483SI2 (P) (2P) REV: (V) 0033317 (20) CS0: SHE (21) CCO:USA (22L) ASS: MLA (23L) AGO: MYS				
<table border="1"> <tr> <td>MSL 2 /260C/1 YEAR</td> <td>SEAL DT</td> </tr> <tr> <td>MSL 1 /235C/UNLIM</td> <td>03/29/04</td> </tr> </table>	MSL 2 /260C/1 YEAR	SEAL DT	MSL 1 /235C/UNLIM	03/29/04			
MSL 2 /260C/1 YEAR	SEAL DT						
MSL 1 /235C/UNLIM	03/29/04						
OPT: ITEM: 39 LBL: 5A (L)T0:1750							

Product Affected:

OPA2336E/A	OPA2336P	OPA2336UA/G	OPA340NA/H
OPA2336E/A	OPA2336PA	OPA2336UA/G	OPA340PA
OPA2336E/G	OPA2336PA	OPA2336UA	OPA340PA
OPA2336E/G	OPA2336P	OPA2336U	OPA340UA
OPA2336EA/A	OPA2336U	OPA340-W	OPA340UA/G
OPA2336EA/A	OPA2336U/G	OPA340NA/A	OPA340UA/G
OPA2336EA/G	OPA2336U/G	OPA340NA/A	OPA340UA
OPA2336EA/G	OPA2336UA	OPA340NA/H	

Qualification Report

**OPA340 and OPA2336 will transfer from TSMC Fab 2 to Vanguard aka VIS FAB - qualified process flow (0.5um/0.6um) model transfer from TSMC FAB2
Approved 04/26/2014**

Product Attributes

Attributes	Qual Device: OPA2336EA	Qual Device: OPA340NA	QBS Process: DDC112Y	QBS Process: TSC2046IPW	QBS Process: OPA356AQDBVRQ1
Assembly Site	ASESH	NS2	CRS	TAI	NFME
Package Family	VSSOP	SOT	TQFP	TSSOP	SOT
Flammability Rating	UL 94 V-0	UL 94 V-0	UL94 Class V-0	UL94 Class V-0	UL 94 V-0
Wafer Fab Supplier	Vanguard	Vanguard	Vanguard	Vanguard	Vanguard
Wafer Fab Process	0.5/0.6UM	0.5/0.6UM	0.5/0.6UM	0.5/0.6UM	0.5/0.6UM

- QBS: Qual By Similarity
- Qual Device OPA2336EA is qualified at LEVEL2-260C
- Qual Device OPA340NA is qualified at LEVEL1-260C

Test Name / Condition	Duration	Qual Device: OPA2336EA	Qual Device: OPA340NA	QBS Process: DDC112Y	QBS Process: TSC2046IPW	QBS Process: OPA356AQDBVRQ1
Biased HAST, 130C/85%RH	96 Hours	-	-	1/77/0	1/77/0	2/154/0
Autoclave 121C	96 Hours	-	-	1/77/0	1/77/0	2/154/0
Unbiased HAST 130C/85%RH	96 Hours	-	-	-	-	1/77/0
Temperature Cycle, -65/150C	500 Cycles	-	-	1/77/0	1/77/0	2/153/0
High Temp Storage Bake 175C	500 Hours	-	-	-	-	1/45/0
High Temp Storage Bake 150C	1000 Hours	-	-	1/77/0	-	-
High Temp Storage Bake 170C	420 Hours	-	-	-	1/77/0	-
Life Test, 150C	1000 Hours	-	-	1/116/0	-	-
Life Test, 125C	1000 Hours	-	-	-	-	2/158/0
Early Life Failure Rate, 125C	48 Hours	-	-	-	-	3/2400/0
ESD - HBM	1000 V	1/3/0	1/3/0	1/3/0	1/3/0	-
ESD - CDM	250 V	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0
Latch-up	(per JESD78)	1/6/0	1/6/0	1/6/0	-	1/6/0
Electrical Distributions	Cpk>1.67 Room, hot, and cold test	-	-	-	-	1/90/0
Electrical Characterization	Per Datasheet Parameters	1/Pass	1/Pass	1/Pass	1/Pass	-

- 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

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