

PCN Number:	20131025001C		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:									
<p>The purpose of Revision C is to correct the device list in the Product Affected Section of this document. Page 2 of your notification letter was not affected by this error and should have listed your affected device(s) accurately.</p> <p>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.</p> <table border="1"> <tr> <td>Currently Qualified Sites, Process, wafer dia.</td> <td>Additional Site, Process, wafer dia.</td> </tr> <tr> <td>TMSC-WF2, 0.60UM, 200mm</td> <td>Vanguard, VIS .5UM/0.6UM DPDM, 200mm</td> </tr> </table> <p>Qualification details are provided in the Qual Data Section.</p>						Currently Qualified Sites, Process, wafer dia.	Additional Site, Process, wafer dia.	TMSC-WF2, 0.60UM, 200mm	Vanguard, VIS .5UM/0.6UM DPDM, 200mm
Currently Qualified Sites, Process, wafer dia.	Additional Site, Process, wafer dia.								
TMSC-WF2, 0.60UM, 200mm	Vanguard, VIS .5UM/0.6UM DPDM, 200mm								
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: 2d: MSL 2 /260C/1 YEAR SEAL DT MSL 1 /235C/UNLIM 03/29/04 OPT: ITEM: 39 LBL: 5A (L)T0:1750	 	(1P) SN74LS07NSR (Q) 2000 (D) 0336 (31T) LOT: 3959047MLA (4W) TKY (1T) 7523483SI2 (P) (2P) REV: (V) 0033317 (20L) CSO: S/E (21L) CCO:USA (22L) A30:MLA (23L) A60:MYS
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Product Affected: Corrected Device List

OPA2336EA/250	OPA2336P	OPA340UA/2K5G4	OPA2336E/250G4
OPA2336EA/2K5G4	OPA340UA	OPA2336E/2K5G4	OPA2336UAG4
OPA2336UA/2K5G4	OPA2336U	OPA2336UA	OPA340PAG4
OPA340UA/2K5	OPA2336EA/2K5	OPA340NA/3KG4	OPA2336PG4
OPA340PA	OPA2336PA	OPA340NA/250	OPA2336UG4
OPA2336UA/2K5	OPA2336EA/250G4	OPA340NA/250G4	OPA340-W
OPA2336U/2K5	OPA2336E/2K5	OPA340NA/3K	OPA2336PAG4
OPA2336U/2K5G4	OPA340UAG4	OPA2336E/250	

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