



Title of Change:	Foundry capacity expansion to Hangzhou Silan Integrated Circuit Co. LTD (Silan) and op amp & comparator design change for all wafer fab facilities		
Proposed first ship date:	23 June 2016 or earlier upon customer approval		
Contact information:	Contact your local ON Semiconductor Sales Office or <Shannon.Riggs@onsemi.com>		
Samples:	Contact your local ON Semiconductor Sales Office		
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or <Ken.Fergus@onsemi.com>.		
Type of notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change. ON Semiconductor will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact <PCN.Support@onsemi.com>.		
Change Part Identification:	Changed part identification will be distinguished by manufacturing date code and lot traceability. Changed material will be sourced on or after W25, 2016 depending on inventory depletion schedules. External package labels (bar codes) will identify the fab source location.		
Change category:	☒ Wafer Fab Change ☐ Assembly Change ☐ Test Change ☐ Other _____		
Change Sub-Category(s):	☒ Manufacturing Site Change/Addition ☐ Material Change ☐ Datasheet/Product Doc change ☐ Manufacturing Process Change ☐ Product specific change ☐ Shipping/Packaging/Marking ☒ Other: <u>Design Change</u>		
Sites Affected:	☐ All site(s) ☐ not applicable ☒ ON Semiconductor site(s) : ON Roznov, Czech Republic ☒ External Foundry/Subcon site(s) Hangzhou Silan Integrated Circuit Co., LTD		
Description and Purpose:			
FPCN20984XA is issued to add orderable part numbers (OPNs) to the original list of affected devices. These devices are packaged in bulk (tube/rail) options, and are otherwise identical in form/fit/function to the tape and reel packed devices listed on the original notice. See the complete listing of the added OPNs below. FPCN 20984X Description: In order to provide best in class supply continuity, ON Semiconductor is pleased to announce Hangzhou Silan Integrated Circuit Co. LTD (Silan) has been qualified as an alternate supply source for general purpose, bipolar analog op-amp and comparator products. Additionally, and as part of ON Semiconductor's continuous improvement efforts, the affected designs have been modified in both the ON Semiconductor's Roznov (Roznov) and Silan wafer fabrication facilities. Both fab locations will provide the same design version of products, and parts will be pin-for-pin replacements for existing devices, with no change in part nomenclature.			

**Reliability Data Summary:**

Roznov Wafer Fab

QV DEVICE NAME: One lot LM393, two lots LM358

PACKAGE: Soic 8/14

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs	0/240
TC	JESD22-A104	Ta= -65°C to +150°C	500 cyc	0/240
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C		

Silan Wafer Fab

QV DEVICE NAME: One lot LM393, two lots LM358

PACKAGE: Soic 8/14

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs	0/240
ELFR	JESD22-A108	Ta=125C, 100% max rated Vcc	48 hrs	0/2400
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/240
TC	JESD22-A104	Ta= -65°C to +150°C	500 cyc	0/240
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/240
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C		

Electrical Characteristic Summary:

Electrical characterization has been completed with no changes to the AC/DC specifications. ON Semiconductor recommends samples be obtained for application specific review and validation.

As a result of the design modification, the ESD capability will be revised as follows:

Device	from	HBM (V)	MM (V)	to	HBM (V)	MM (V)
LM358DG	from	2000	200	to	250	100
LM324DG	from	2000	200	to	200	100
LM393DG	from	1500	150	to	250	100
LM339DG	from	1500	200	to	250	100
LM2901DG	from	1500	200	to	250	100
LM2902DG	from	2000	200	to	200	100
LM2903DG	from	1500	150	to	250	100
LM2904DG	from	2000	200	to	250	100



List of affected Standard Parts:

Part Number	Qualification Vehicle
LM358DG	LM393DR2G + LM324DR2G
LM324DG	LM393DR2G + LM324DR2G
LM393DG	LM393DR2G + LM324DR2G
LM339DG	LM393DR2G + LM324DR2G
LM2901DG	LM393DR2G + LM324DR2G
LM2902DG	LM393DR2G + LM324DR2G
LM2903DG	LM393DR2G + LM324DR2G
LM2904DG	LM393DR2G + LM324DR2G