ON Semiconductor®

Final Product/Process Change Notification

Document # : FPCN21387XA
Issue Date: 27 October 2016

Title of Change:	Lead frame raw material change from C50710 to C19400 of SSOP16 (225mil) and SSOP30 (275mil)
Proposed first ship date:	30 January 2017
Contact information:	Contact your local ON Semiconductor Sales Office or <Takeshi2.Hoshino@onsemi.com>, <Yutaka.Okamura@onsemi.com>, <Shinya.Okada@onsemi.com>, <Hiroshi.Kojima@onsemi.com>, <Tetsuya.Fukushima@onsemi.com>
Samples:	Contact your local ON Semiconductor Sales Office
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office
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:	Affected products will be identified with date code.
Change category:	☐ Wafer Fab Change ☒ Assembly Change ☐ Test Change ☐ Other _____

Change Sub-Category(s):

☐ Manufacturing Site Change/Addition
☐ Manufacturing Process Change
☒ Material Change
☐ Product specific change
☐ Datasheet/Product Doc change
☐ Shipping/Packaging/Marking
☐ Other: _____

Sites Affected:

☐ All site(s) ☐ not applicable ☒ ON Semiconductor site(s) : ON Tarlac City, Philippines ☐ External Foundry/Subcon site(s)

Description and Purpose:

This is a Final Process Change to announce the replacement of existing lead frame raw material from C50710 to C19400 (C50710/C19400: ASTM code). The reason is that the existing lead frame raw material will no longer be available.

The table below shows comparison of mechanical and chemical properties between the two materials

Material Name		C50710 (Berore Change)	C19400 (After Change)
Mechanical properties			
Coefficient of Thermal Expansion	$X10^{-6}/K$	17.0	17.6
Thermal Conductivity	W (m·K)	155	262
Electrical Resistivity	μΩm	0.054	0.025
Electrical Conductivity	%IACS	32	65
Modulus Elasticity	KN/mm^2	115	121
Chemical properties			
Cu	%	Remain	Remain
Zn	%	Max 0.20	0.05 ~ 0.20
Pb	%	Max 0.02	Max 0.03
Fe	%	Max 0.10	2.10 ~ 2.60
P	%	Max 0.15	0.01 ~ 0.15
Sn	%	1.70 ~ 2.30	None
Ni	%	0.10 ~ 0.40	None

Reliability Data Summary:

QV DEVICE NAME : LV8860V-TLM-H
PACKAGE : SSOP16

Test	Specification	Condition	Interval	Results
HTSL	JEITA ED-4701/200	Ta=150°C	1008 hrs	0/22
AC	JEITA ED-4701-3	Ta=121°C , 15psig	96 hrs	0/22
TC	JEITA ED-4701/100	Ta= -65°C to +150°C	100 cyc	0/22
SD	JEITA ED-4701/301	Ta = 245°C , 5 sec	-	PASS
PC	JEITA ED-4701/300	MSL 3 @ 260 °C	2 times-	PASS

QV DEVICE NAME : LV23401V-N-TLM-H
PACKAGE : SSOP30

Test	Specification	Condition	Interval	Results
HTSL	JEITA ED-4701/200	Ta=150°C	1008 hrs	0/22
AC	JEITA ED-4701-3	Ta=121°C , 15psig	96 hrs	0/22
TC	JEITA ED-4701/100	Ta= -65°C to +150°C	100 cyc	0/22
SD	JEITA ED-4701/301	Ta = 245°C , 5 sec	-	PASS
PC	JEITA ED-4701/300	MSL 3 @ 260 °C	2 times-	PASS

Electrical Characteristic Summary:

Electrical characteristics are not impacted.

List of affected Standard Parts:

Part Number	Qualification Vehicle
LB11867FV-TLM-E	LV8860V-TLM-H
LB11867RV-TLM-H	LV8860V-TLM-H
LB8503V-TLM-E	LV8860V-TLM-H
LV5710V-TLM-E	LV8860V-TLM-H
LB11696V-TLM-E	LV23401V-N-TLM-H
LB11697V-TLM-E	LV23401V-N-TLM-H