



Title of Change:	Copper wire conversion and Lead frame material change for LA74330V.																																																												
Proposed first ship date:	12 June 2017 <i>or earlier after customer approval</i>																																																												
Contact information:	Contact your local ON Semiconductor Sales Office or <Hiroshi.Kojima@onsemi.com>																																																												
Samples:	Contact your local ON Semiconductor Sales Office																																																												
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or <Satoru.Fujinuma@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:	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 Process Change Notification is to notify customers of the following change:																																																													
➤ Gold wire connecting chip and Lead will be changed to Copper wire.																																																													
<table border="1" style="width: 100%; text-align: center;"> <thead> <tr style="background-color: #92d050;"> <th>Material Change</th><th>Before Change</th><th>After Change</th></tr> </thead> <tbody> <tr> <td>Wire material</td><td>Au</td><td>Cu</td></tr> </tbody> </table>		Material Change	Before Change	After Change	Wire material	Au	Cu																																																						
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➤ The replacement of existing lead frame raw material of 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 two materials.																																																													
<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="2">Lead frame Raw Material</th><th>C19400(Alternative)</th><th>C50710(Existing)</th></tr> </thead> <tbody> <tr style="background-color: #d9e1f2;"> <td colspan="4">Mechanical properties</td></tr> <tr> <td>Coefficient of Thermal Expansion</td><td>X10⁻⁶/K</td><td>17.6</td><td>17.0</td></tr> <tr> <td>Thermal Conductivity</td><td>W (m·K)</td><td>262</td><td>155</td></tr> <tr> <td>Electrical Resistivity</td><td>μΩm</td><td>0.025</td><td>0.054</td></tr> <tr> <td>Electrical Conductivity</td><td>%IACS</td><td>65</td><td>32</td></tr> <tr> <td>Modulus Elasticity</td><td>KN/mm²</td><td>121</td><td>115</td></tr> <tr style="background-color: #fce4d6;"> <td colspan="4">Chemical properties</td></tr> <tr> <td>Cu</td><td>%</td><td>Remain</td><td>Remain</td></tr> <tr> <td>Zn</td><td>%</td><td>0.05 ~ 0.20</td><td>Max 0.20</td></tr> <tr> <td>Pb</td><td>%</td><td>Max 0.03</td><td>Max 0.02</td></tr> <tr> <td>Fe</td><td>%</td><td>2.10 ~ 2.60</td><td>Max 0.10</td></tr> <tr> <td>P</td><td>%</td><td>0.01 ~ 0.15</td><td>Max 0.15</td></tr> <tr> <td>Sn</td><td>%</td><td>None</td><td>1.70 ~ 2.30</td></tr> <tr> <td>Ni</td><td>%</td><td>None</td><td>0.10 ~ 0.40</td></tr> </tbody> </table>		Lead frame Raw Material		C19400(Alternative)	C50710(Existing)	Mechanical properties				Coefficient of Thermal Expansion	X10 ⁻⁶ /K	17.6	17.0	Thermal Conductivity	W (m·K)	262	155	Electrical Resistivity	μΩm	0.025	0.054	Electrical Conductivity	%IACS	65	32	Modulus Elasticity	KN/mm ²	121	115	Chemical properties				Cu	%	Remain	Remain	Zn	%	0.05 ~ 0.20	Max 0.20	Pb	%	Max 0.03	Max 0.02	Fe	%	2.10 ~ 2.60	Max 0.10	P	%	0.01 ~ 0.15	Max 0.15	Sn	%	None	1.70 ~ 2.30	Ni	%	None	0.10 ~ 0.40
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There is no change to the electrical characteristic performance for the affected products.																																																													

**Reliability Data Summary:**

QV DEVICE NAME : LA74330V-TLM-H

PACKAGE : SSOP30(275mil)

Test	Specification	Condition	Interval	Results
HTOL	EIAJ ED-4701/100	Tj=Tjmax, Vcc=Operatingmax	1000 hrs	0/22
THB*	EIAJ ED-4701/100	85°C, 85% RH, Vcc=recommended	1000 hrs	0/22
TC*	EIAJ ED-4701/100	Ta= -65°C to +150°C	100 cyc	0/22
AC*	EIAJ ED-4701-3	Ta=121°C ,RH=100% ,205kPa	50 hrs	0/22
HTSL	EIAJ ED-4701/200	Ta= 150°C	1000 hrs	0/22
RSH	EIAJ ED-4701/300	Ta = 255°C , 10 sec (peak 260°C)	2times	0/22

Note:

The test items with * mark are put into operation after the reflow soldering (at 255°C for 10seconds)

Electrical Characteristic Summary:

Electrical characteristics are not impacted.

List of Affected Standard Parts:

Part Number	Qualification Vehicle
LA74330V-TLM-H	LA74330V-TLM-H