ON Semiconductor

Final Product/Process Change Notification

Document # : FPCN20790
Issue Date: 24 February 2015

Title of Change:	T3 WDFN Dual Copper Wire Conversion in SBN
Proposed first ship date:	29 May 2015
Contact information:	Contact your local ON Semiconductor Sales Office or GK Yeng <GuoKun.Yeng@onsemi.com>
Samples:	Contact your local ON Semiconductor Sales Office
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or Donna Scheuch <Donna.Scheuch@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 approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact <PCN.Support@onsemi.com>.
Change Part Identification:	Affected parts will be identified with a date code of WW21'15 or later

Change category(s):

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

Sites Affected:	Site 1	Site 2
☐ All site(s) ☐ not applicable ☒ ON Semiconductor site(s) : ☐ External Foundry/Subcon site(s):	ON Seremban, Malaysia	

Description and Purpose:

ON Semiconductor has qualified 2.0 mil copper wire bonding on WDFN3030 8L T3 technologies.

Copper wire exhibits significantly better conductivity than gold or aluminum, enabling better heat dissipation and increased power ratings.

Intermetallic growth in copper bonds is significantly slower than in gold wire bonds. This results in lower electrical resistance, lower heat generation and, ultimately, increased bond reliability and device performance. This is important for high temperature application.

Reliability Data Summary:

Test	Name	Test Conditions	Specification	Read Point	Lot A	Lot B	Lot C	Control
HTGB	High Temp Gate Bias	TA = 150°C	JESD22-A108	1008 Hrs	0/84	0/84	0/84	0/84
HTSL	High Temp Storage Life	TA = 150°C	JESD22 A103	1008 Hrs	0/84	0/84	0/84	0/84
IOL-PC	Preconditioning Intermittent Operating Life	Ta=+25°C, delta Tj=100°C On/off = 2 min	MIL STD750, M 1037, AEC Q101	15000 Cyc	0/84	0/84	0/84	0/84
TC-PC	Preconditioning Temperature Cycling	TA min= -55 °C TA max= 150 °C	JESD22 A104	1000 Cyc	0/84	0/84	0/84	0/84
H3TRB-PC	Preconditioning High Humidity High Temp Rev Bias	Ta=85°C, 85% RH, 80% rated or 100V max	JESD22 A101	1008 Hrs	0/84	0/84	0/84	0/84
UHAST-PC	Preconditioning Unbiased Highly Accelerated Stress Test	Temp= +130°C, RH=85% , p = 18.8 psig, unbiased	JESD22-A118	96 Hrs	0/84	0/84	0/84	0/84

Electrical Characteristic Summary:

Electrical characteristics are not impacted

List of affected Standard Parts:

NTLLD4901NFTAG
NTLLD4901NFTWG
NTLLD4951NFTWG