ON Semiconductor®

Final Product/Process Change Notification

Document #:FPCN23318Z
Issue Date:20 May 2020

Title of Change:	Bare Cu wire to Pd-coated Cu wire conversion; And Nitto GE200 to Henkel GR640 molding compound conversion for transistor devices assembled in ON Semi Leshan facility.
Proposed Changed Material First Ship Date:	21 May 2021 or earlier if approved by customer
Current Material Last Order Date:	28 Feb 2021 *Orders received after the Current Material Last Order Date expiration are to be considered as orders for new changed material as described in this PCN. Orders for current (unchanged) material after this date will be per mutual agreement and current material inventory availability*.
Current Material Last Delivery Date:	20 May 2021 *The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory*
Product Category:	Active components – Discrete components
Contact information:	Contact your local ON Semiconductor Sales Office or Andy.Tao@onsemi.com
PCN Samples Contact:	Contact your local ON Semiconductor Sales Office to place sample order or PCN.samples@onsemi.com Sample requests are to be submitted no later than 45 days after publication of this change notification. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Sample Availability Date:	22 Jun 2020
PPAP Availability Date:	20 Jun 2020
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or ffvf9f@onsemi.com
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 12 months prior to implementation of the change or earlier upon customer approval. ON Semiconductor will consider this proposed change and it's conditions acceptable, unless an inquiry is made in writing within 45 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com.

Change Category

Category	**Type of Change**
Process - Assembly	Change of mold compound, Change of wire bonding

Description and Purpose:

Upon the expiration of this PCN, these devices will be built with 0.8mils Pd-coated Cu wire &Henkel GR640 HV mold compound at the same site.

Datasheet specifications and product electrical performance remain unchanged.

Reliability qualification and full electrical characterization over temperature has been performed.

	Before Change Description	**After Change Description**
Bond Wire	0.8 mils bare Cu wire	0.8 mils Pd-coated Cu wire
Mold compound	Hitach GE200F	Henkel GR640 HV

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Reason / Motivation for Change:	Process/Materials Change
Anticipated impact on fit, form, function, reliability, product safety or manufacturability:	The device has been qualified and validated based on the same Product Specification. The device has successfully passed the qualification tests. Potential impacts can be identified, but due to testing performed by ON Semiconductor in relation to the PCN, associated risks are verified and excluded. No anticipated impacts.

Sites Affected:

ON Semiconductor Sites	External Foundry/Subcon Sites
Leshan Phoenix Semiconductor, China	None

Marking of Parts/ Traceability of Change:	Products assembled with 0.8mils Pd-coated Cu wire & Henkel GR640 HV mold compound from ON Semiconductor Leshan facility will have a Finish Goods Date Code of WW17, 2021or later.

Reliability Data Summary:

QV DEVICE NAME: SMUN5211DW1T1G
RMS : 40517
PACKAGE : SC88

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 100% max rated V	2016hrs	0/231
HTSL	JESD22-A103	Ta= 150°C	2016 hrs	0/231
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	30K cyc	0/231
TC	JESD22-A104	Ta= -65°C to +150°C	2000 cyc	0/231
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192hrs	0/231
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C	-	0/924
RSH	JESD22- B106	Ta = 265C, 10 sec	-	0/30

QV DEVICE NAME: SBC846BDW1T1G
RMS : 40518
PACKAGE : SC88

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 100% max rated V	2016hrs	0/231
HTSL	JESD22-A103	Ta= 150°C	2016 hrs	0/231
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	30K cyc	0/231
TC	JESD22-A104	Ta= -65°C to +150°C	2000 cyc	0/231
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192hrs	0/231
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C	-	0/924
RSH	JESD22- B106	Ta = 265C, 10 sec	-	0/30

QV DEVICE NAME: BC856BDW1T1G
RMSvvv : 40519
PACKAGE : SC88

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 100% max rated V	2016hrs	0/231
HTSL	JESD22-A103	Ta= 150°C	2016 hrs	0/231
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	30K cyc	0/231
TC	JESD22-A104	Ta= -65°C to +150°C	2000 cyc	0/231
H3TRB	JEDS22 A101	85°C, 85% RH, V=80% rated V or 100V max. 2016 Hours	2016hrs	0/231
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C	-	0/924
RSH	JESD22- B106	Ta = 265C, 10 sec	-	0/30

Note: AEC-1pager is attached.

To access file attachments on pdf copy of PCN, please be guided by the steps below:

1. *Download pdf copy of the PCN to your computer*
2. *Open the downloaded pdf copy of the PCN*
3. *Click on the paper clip icon available on the menu provided in the left/bottom portion of the screen to reveal the Attachment field*
4. *Then click on the attached file/s*

Electrical Characteristics Summary:

Three temperature characterization and ESD performance meet datasheet specification. Detail of electrical characterization result is available upon request.

List of Affected Parts:

Note: *Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the* ***PCN Customized Portal.***

Current Part Number	New Part Number	Qualification Vehicle
NSVMUN5135DW1T1G	N/A	SMUN5211DW1T1G
NSVMUN5211DW1T2G	N/A	SMUN5211DW1T1G
NSVMUN5233DW1T3G	N/A	SBC846BDW1T1G
NSVMUN5333DW1T3G	N/A	SBC846BDW1T1G,BC856BDW1T1G
NSVT65010MW6T1G	N/A	BC856BDW1T1G
NSVT65011MW6T1G	N/A	SBC846BDW1T1G
NSVUMZ1NT1G	N/A	SBC846BDW1T1G,BC856BDW1T1G