



# Final Product/Process Change Notification

Document # : FPCN22104Z

Issue Date: 15 February 2019

<b>Title of Change:</b>	Pd-coated Cu wire qualification on SC88/88A transistor and Bias Resistor Transistor at ON Semiconductor, Leshan, China facility.							
<b>Proposed Changed Material First Ship Date:</b>	15 February 2020							
<b>Current Material Last Order Date:</b>	31 July 2019 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.							
<b>Current Material Last Delivery Date:</b>	31 October 2019 The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory.							
<b>Product Category:</b>	Active components – Discrete components							
<b>Contact information:</b>	Contact your local ON Semiconductor Sales Office or < <a href="mailto:Andy.Tao@onsemi.com">Andy.Tao@onsemi.com</a> >							
<b>Samples:</b>	Contact your local ON Semiconductor Sales Office to place sample order or < <a href="mailto:PCN.samples@onsemi.com">PCN.samples@onsemi.com</a> > Sample requests are to be submitted no later than 45 days after publication of this change notification.							
<b>Sample Availability Date:</b>	15 March 2019							
<b>PPAP Availability Date:</b>	15 March 2019							
<b>Additional Reliability Data:</b>	Contact your local ON Semiconductor Sales Office or < <a href="mailto:Rui.Zhang@onsemi.com">Rui.Zhang@onsemi.com</a> >.							
<b>Type of Notification:</b>	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 <a href="mailto:PCN.Support@onsemi.com">PCN.Support@onsemi.com</a> .							
<b>Change Category</b>	<b>Type of Change</b>							
Process – Assembly	Change of wire bonding							
<b>Description and Purpose:</b>								
<p>ON Semiconductor is notifying customer of its use of Pd-coated Cu wire for their impacted devices at ON Semiconductor's Leshan, China facility. Discrete products built with bipolar transistor are represented by this Process Change Notice.</p> <p>At the expiration of this PCN, these devices will be built with Pd-coated Cu wire at the same site. Datasheet specifications and product electrical performance remain unchanged. Reliability Qualification and full electrical characterization over temperature has been performed.</p>								
<table border="1"> <thead> <tr> <th></th> <th style="background-color: #92d050;">Before Change Description</th> <th style="background-color: #92d050;">After Change Description</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Bond Wire</td> <td style="text-align: center;">0.8 mils bare Cu wire</td> <td style="text-align: center;">0.8 mils Pd-coated Cu wire</td> </tr> </tbody> </table>				Before Change Description	After Change Description	Bond Wire	0.8 mils bare Cu wire	0.8 mils Pd-coated Cu wire
	Before Change Description	After Change Description						
Bond Wire	0.8 mils bare Cu wire	0.8 mils Pd-coated Cu wire						
<b>Reason / Motivation for Change:</b>	<p><b>Change benefits for customer:</b> Compare bare Cu wire , Pd-coated Cu wire has large range of oxidation resistant and better corrosion resistant</p> <p><b>Risk for late release for customer:</b> Longer lead time due to limited flexibility in terms of manufacturing and capacity planning.</p>							



<b>Anticipated impact on fit, form, function, reliability, product safety or manufacturability</b>	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.	
<b>Sites Affected:</b>	ON Semiconductor Sites: ON Leshan, China	External Foundry/Subcon Sites: None
<b>Marking of Parts/ Traceability of Change:</b>	Products assembled with 0.8mils Pd-coated Cu wire from ON Semiconductor Leshan facility will have a Finish Goods Date Code of WW05, 2020 or 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	1008hrs	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	-	0/1305
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	1008hrs	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	-	0/1305
RSH	JESD22- B106	Ta = 265C, 10 sec	-	0/30



QV DEVICE NAME: BC856BDW1T1G

RMS: 40519

PACKAGE: SC88

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 100% max rated V	1008hrs	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	JESD22-A101	85°C, 85% RH, V=80% rated V or 100V max.	2016 hrs	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	-	0/1305
RSH	JESD22- B106	Ta = 265C, 10 sec	-	0/30

**Note: AEC-1paper 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 Characteristic Summary:

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

Electrical characteristics are not impacted.

**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](#).

Part Number	Qualification Vehicle
NSVT45010MW6T1G	BC856BDW1T1G
NSVT45010MW6T3G	
NSVTB60BDW1T1G	
SBC856BDW1T3G	
SBC857CDW1T1G	
SMBT3906DW1T1G	
NSVBC847BDW1T2G	SBC846BDW1T1G
NSVBC848CDW1T1G	
NSVMBT3904DW1T3G	
NSVT45011MW6T3G	
SBC846BPDW1T2G	
SBC847BDW1T3G	
SBC847BPDW1T3G	
SBC847CDW1T1G	
SMBT3946DW1T1G	
NSVB1706DMW5T1G	
NSVMUN5111DW1T3G	
NSVMUN5113DW1T3G	
NSVMUN5133DW1T1G	
NSVMUN5137DW1T1G	
NSVMUN5211DW1T3G	
NSVMUN5213DW1T3G	
NSVMUN5214DW1T3G	
NSVMUN5215DW1T1G	
NSVMUN5312DW1T2G	
NSVMUN5312DW1T3G	
NSVMUN5314DW1T3G	
NSVMUN5316DW1T1G	
NSVMUN5331DW1T1G	
NSVMUN5332DW1T1G	
NSVUMC2NT1G	
NSVUMC3NT1G	
NSVUMC5NT1G	
NSVUMC5NT2G	
SMUN5112DW1T1G	



SMUN5113DW1T1G	SMUN5211DW1T1G
SMUN5115DW1T1G	
SMUN5116DW1T1G	
SMUN5232DW1T1G	
SMUN5237DW1T1G	
SMUN5313DW1T1G	
SMUN5313DW1T3G	
SMUN5315DW1T1G	
SMUN5330DW1T1G	
SMUN5335DW1T2G	
SSVMUN5312DW1T2G	