



Final Product/Process Change Notification

Document #:FPCN25167Z

Issue Date:21 Jul 2023

Title of Change:	Au wire to Cu wire conversion for onsemi Leshan Zener and Transistor product	
Proposed Changed Material First Ship Date:	21 Jan 2024 or earlier if approved by customer	
Current Material Last Order Date:	N/A <i>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.</i>	
Current Material Last Delivery Date:	N/A <i>The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory</i>	
Product Category:	Active components – Discrete components	
Contact information:	Contact your local onsemi Sales Office or Jim.Peng@onsemi.com	
PCN Samples Contact:	Contact your local onsemi Sales Office to place sample order. 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:	15 Sep 2023	
PPAP Availability Date:	10 Sep 2023	
Additional Reliability Data:	Contact your local onsemi Sales Office or c.l.yang@lps.com.cn	
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. The change will be implemented at 'Proposed Change Material First Ship Date' in compliance to J-STD-46 or ZVEI, or earlier upon customer approval, or per our signed agreements. onsemi 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 wire bonding	
Description and Purpose:		
onsemi is notifying customer of its conversion from Au wire to bare Cu wire for below affected part number. Upon the expiration of this PCN, devices will be built with bare Cu wire at the same site. Datasheet specifications and product electrical performance remain unchanged. Reliability qualification and full electrical characterization over temperature were performed for qualification vehicle device. The Cu wire is with higher thermal conductivity and lower resistivity that benefits for customer application. This is to unify the wire material in assembly process.		
	From	To
Bond Wire	0.8 mils Au wire	0.8 mils bare Cu wire

Reason / Motivation for Change:	Process/Material 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 onsemi in relation to the PCN, associated risks are verified and excluded. No anticipated impacts.			
Sites Affected:				
onsemi Sites			External Foundry/Subcon Sites	
onsemi Leshan, China			None	
Marking of Parts/ Traceability of Change:	Assembly Date Code			
Reliability Data Summary:				
Qual Vehicle Device: SMBT2000T1G RMS: 39349, 43095 Package: SC-74				
Test	Specification	Condition	Interval	Result
PC	JESD22-A113	MSL 1 @260 °C	Before TC, UHAST, HAST, IOL	0/924
HAST	JESD22-A110	Ta = 130°C, 85%RH, ~18.8 psig, 80% rated V	192 hrs	0/231
UHAST	JESD22-A118	Ta = 130°C, 85%RH, ~ 18.8 psig	96 hrs	0/231
TC	JESD22-A104	Ta = - 65°C to +150°C	1000 cycs	0/231
IOL	MIL-STD-750 Method 1037	Ta =25°C, Delta Tj=100C°, t(on)=t(off)= 2 min	30000 cycs	0/231
HTSL	JESD22- A103	Ta =150°C, no bias	2016 hrs	0/231
HTRB	JESD22-A108	Ta =150°C , bias = 100% of rated V	1008 hrs	0/231
RSH	JESD22- B106	Ta = 265°C, 10 sec	-	0/30
SD	J-STD-002, B102	Ta = 245°C, 5 sec	-	0/30
Qual Vehicle Device: SMMBTA42LT1G				
RMS: 41152				
Package: SOT-23				
Test	Specification	Condition	Interval	Result
PC	JESD22-A113	MSL 1 @260 °C	Before TC, UHAST, HAST, IOL	0/924
HAST	JESD22-A110	Ta = 130°C, 85%RH, ~18.8 psig, 80% rated V	192 hrs	0/231
UHAST	JESD22-A118	Ta = 130°C, 85%RH, ~ 18.8 psig	96 hrs	0/231
TC	JESD22-A104	Ta = - 65°C to +150°C	1000 cycs	0/231
IOL	MIL-STD-750 Method 1037	Ta =25°C, Delta Tj=100C°, t(on)=t(off)= 2 min	30000 cycs	0/231
HTSL	JESD22- A103	Ta =150°C, no bias	2016 hrs	0/231
HTRB	JESD22-A108	Ta =150°C , bias = 100% of rated V	1008 hrs	0/231
RSH	JESD22- B106	Ta = 265°C, 10 sec	-	0/30
SD	J-STD-002, B102	Ta = 245°C, 5 sec	-	0/30

Qual Vehicle Device: SNST3904DXV6T5G

RMS: 64763

Package: SOT-563

Test	Specification	Condition	Interval	Result
PC	JESD22-A113	MSL 1 @260 °C	Before TC, UHAST, HAST, IOL	0/924
HAST	JESD22-A110	Ta = 110°C, 85%RH, ~3 psig, 80% rated V	528 hrs	0/231
UHAST	JESD22-A118	Ta = 110°C, 85%RH, ~ 3 psig	264 hrs	0/231
TC	JESD22-A104	Ta = - 65°C to +150°C	1000 cycs	0/231
IOL	MIL-STD-750 Method 1037	Ta =25°C, Delta Tj=100C°, t(on)=t(off)= 2 min	30000 cycs	0/231
HTSL	JESD22- A103	Ta =150°C, no bias	2016 hrs	0/231
HTRB	JESD22-A108	Ta =150°C , bias = 100% of rated V	1008 hrs	0/231
RSH	JESD22- B106	Ta = 265°C, 10 sec	-	0/30
SD	J-STD-002, B102	Ta = 245°C, 5 sec	-	0/30

Qual Vehicle Device: SZMMBZ47VALT1G

RMS: 41154

Package: SOT-23

Test	Specification	Condition	Interval	Result
PC	JESD22-A113	MSL 1 @260 °C	Before TC, UHAST, HAST, IOL	0/924
HAST	JESD22-A110	Ta = 130°C, 85%RH, ~18.8 psig, 80% rated V	192 hrs	0/231
UHAST	JESD22-A118	Ta = 130°C, 85%RH, ~ 18.8 psig	96 hrs	0/231
TC	JESD22-A104	Ta = - 65°C to +150°C	1000 cycs	0/231
IOL	MIL-STD-750 Method 1037	Ta =25°C, Delta Tj=100C°, t(on)=t(off)= 2 min	30000 cycs	0/231
HTSL	JESD22- A103	Ta =150°C, no bias	2016 hrs	0/231
HTRB	JESD22-A108	Ta =150°C , bias = 100% of rated V	1008 hrs	0/231
RSH	JESD22- B106	Ta = 265°C, 10 sec	-	0/30
SD	J-STD-002, B102	Ta = 245°C, 5 sec	-	0/30

Qual Vehicle Device: SESD9L5.0ST5G

RMS: 76922

Package: SOD-923

Test	Specification	Condition	Interval	Result
PC	JESD22-A113	MSL 1 @260 °C	Before TC, UHAST, HAST	0/693
HAST	JESD22-A110	Ta = 130°C, 85%RH, ~18.8 psig, 80% rated V	192 hrs	0/231
UHAST	JESD22-A118	Ta = 130°C, 85%RH, ~ 18.8 psig	96 hrs	0/231
TC	JESD22-A104	Ta = - 65°C to +150°C	1000 cycs	0/231
HTSL	JESD22- A103	Ta =150°C, no bias	2016 hrs	0/231
HTRB	JESD22-A108	Ta =150°C , bias = 100% of rated V	1008 hrs	0/231
RSH	JESD22- B106	Ta = 265°C, 10 sec	-	0/30
SD	J-STD-002, B102	Ta = 245°C, 5 sec	-	0/30

Qual Vehicle Device: NUP1128HT1G

RMS: 50665

Package: SOD-323

Test	Specification	Condition	Interval	Result
PC	JESD22-A113	MSL 1 @260 °C	Before TC, UHAST, HAST, IOL	0/924
HAST	JESD22-A110	Ta = 130°C, 85%RH, ~18.8 psig, 80% rated V	192 hrs	0/231
UHAST	JESD22-A118	Ta = 130°C, 85%RH, ~ 18.8 psig	96 hrs	0/231
TC	JESD22-A104	Ta = - 65°C to +150°C	1000 cycs	0/231
IOL	MIL-STD-750 Method 1037	Ta =25°C, Delta Tj=100C°, t(on)=t(off)= 2 min	30000 cycs	0/231
HTSL	JESD22- A103	Ta =150°C, no bias	2016 hrs	0/231
HTRB	JESD22-A108	Ta =150°C , bias = 100% of rated V	2016 hrs	0/231
RSH	JESD22- B106	Ta = 265°C, 10 sec	-	0/30
SD	J-STD-002, B102	Ta = 245°C, 5 sec	-	0/30

Qual Vehicle Device: SZCM1213A-04SO

RMS: 76697

Package: SC-74

Test	Specification	Condition	Interval	Result
PC	JESD22-A113	MSL 1 @260 °C	Before TC, UHAST, HAST	0/693
HAST	JESD22-A110	Ta = 130°C, 85%RH, ~18.8 psig, 80% rated V	192 hrs	0/231
UHAST	JESD22-A118	Ta = 130°C, 85%RH, ~ 18.8 psig	96 hrs	0/231
TC	JESD22-A104	Ta = - 65°C to +150°C	1000 cycs	0/231
HTSL	JESD22- A103	Ta =150°C, no bias	2016 hrs	0/231
HTRB	JESD22-A108	Ta =150°C , bias = 100% of rated V	1008 hrs	0/231
RSH	JESD22- B106	Ta = 265°C, 10 sec	-	0/30
SD	J-STD-002, B102	Ta = 245°C, 5 sec	-	0/30

Refer to the attached AEC1 Pager for more details.

To view attachments:

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.

Electrical Characteristics Summary:

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**.

Current Part Number	New Part Number	Qualification Vehicle
NSVMUN2212T1G	NA	SMBT2000T1G + SMMBTA42LT1G
NSVT30010MXV6T1G	NA	SNST3904DXV6T5G
NSVT3904DXV6T1G	NA	SNST3904DXV6T5G
SBC847CDXV6T1G	NA	SNST3904DXV6T5G
SMUN2214T3G	NA	SMBT2000T1G + SMMBTA42LT1G
SMUN2216T1G	NA	SMBT2000T1G + SMMBTA42LT1G
SMUN2230T1G	NA	SMBT2000T1G + SMMBTA42LT1G
SMUN2232T1G	NA	SMBT2000T1G + SMMBTA42LT1G
SZMMQA33VT1G	NA	SZMMBZ47VALT1G +SMBT2000T1G
SZMMBZ6V2ALT1G	NA	SZMMBZ47VALT1G
SZMMBZ5V6ALT1G	NA	SZMMBZ47VALT1G
SZESD9101P2T5G	NA	SESD9L5.0ST5G
SZESD8351XV2T1G	NA	NUP1128HT1G
SZESD7361XV2T1G	NA	NUP1128HT1G
SZESD8351P2T5G	NA	SESD9L5.0ST5G
SZESD7371P2T5G	NA	SESD9L5.0ST5G
SZESD7361P2T5G	NA	SESD9L5.0ST5G
SZESD7351P2T5G	NA	SESD9L5.0ST5G
SZESD7351HT1G	NA	NUP1128HT1G
SZESD7205WTT1G	NA	SZCM1213A-04SO
SZESD7002WTT1G	NA	SZCM1213A-04SO
SZESD1L001W1T2G	NA	SZCM1213A-04SO
SMUN2240T1G	NA	SMBT2000T1G + SMMBTA42LT1G
SMUN2114T1G	NA	SMBT2000T1G + SMMBTA42LT1G
SMSD602-RT1G	NA	SMBT2000T1G + SMMBTA42LT1G