



<b>Title of Change:</b>	Qualification of Power Schottky Top Metal And Back Metal Change with Die Shrink.												
<b>Proposed first ship date:</b>	1 January 2017 <i>or earlier after customer approval.</i>												
<b>Contact information:</b>	Contact your local ON Semiconductor Sales Office or <SitiNurhaza.MohdRamli@onsemi.com>.												
<b>Samples:</b>	Contact your local ON Semiconductor Sales Office or												
<b>Additional Reliability Data:</b>	Contact your local ON Semiconductor Sales Office or <ffxg4t@onsemi.com >.												
<b>Type of notification:</b>	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>.												
<b>Change Part Identification:</b>	There will be no change in the device marking scheme. Clean date code will be advised as requested.												
<b>Change category:</b>	<input checked="" type="checkbox"/> Wafer Fab Change <input type="checkbox"/> Assembly Change <input type="checkbox"/> Test Change <input type="checkbox"/> Other _____												
<b>Change Sub-Category(s):</b>	<input type="checkbox"/> Manufacturing Site Change/Addition <input checked="" type="checkbox"/> Material Change <input type="checkbox"/> Datasheet/Product Doc change <input type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Product specific change <input type="checkbox"/> Shipping/Packaging/Marking <input type="checkbox"/> Other: _____												
<b>Sites Affected:</b>	<input checked="" type="checkbox"/> All site(s) <input type="checkbox"/> not applicable <input type="checkbox"/> ON Semiconductor site(s) : _____ <input type="checkbox"/> External Foundry/Subcon site(s) _____												
<b>Description and Purpose:</b>													
<p>This is the final product change notification (FPCN) of IPCN20930X, announcing that ON Semiconductor is qualifying Power Schottky Metallization Change with Die shrink as follow :</p> <ol style="list-style-type: none"> <li>1. Top metal and/or back metal change</li> <li>2. Top metal, back metal &amp; Die Shrink</li> </ol> <p>Selected non-automotive qualified Orderable Part Numbers (OPNs) are listed in this document. This change will affect multiple packages at its assembly sites. No other changes imposed on the affected Orderable Part Numbers (OPNs).</p>													
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="background-color: #00b050; color: white;">Change From</th> <th style="background-color: #00b050; color: white;">Change To</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><b>Top Metal</b></td> <td style="text-align: center;">TiW/NiV/Au</td> <td style="text-align: center;">TiW/NiV/Ag</td> </tr> <tr> <td style="text-align: center;"><b>Back Metal</b></td> <td style="text-align: center;">Cr/Ni/Au</td> <td style="text-align: center;">Ti/Ni/Ag</td> </tr> <tr> <td style="text-align: center;"><b>Die Shrink</b></td> <td style="text-align: center;">4mils</td> <td style="text-align: center;">1mils</td> </tr> </tbody> </table>			Change From	Change To	<b>Top Metal</b>	TiW/NiV/Au	TiW/NiV/Ag	<b>Back Metal</b>	Cr/Ni/Au	Ti/Ni/Ag	<b>Die Shrink</b>	4mils	1mils
	Change From	Change To											
<b>Top Metal</b>	TiW/NiV/Au	TiW/NiV/Ag											
<b>Back Metal</b>	Cr/Ni/Au	Ti/Ni/Ag											
<b>Die Shrink</b>	4mils	1mils											
<p>Products had gone thru reliability testing as per industrial requirements and it's proven that device performances are not affected.</p>													

**Reliability Data Summary:****NRVBM120LT1G (Back Metal Change Only)**

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=90°C, 100% max rated V	1000 hrs	0/240
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/240
TC	JESD22-A104	Ta = - 65°C to +150°C	1000 cyc	0/240
H3TRB	JESD22 A101	Ta=85°C RH=85% bias=80% rated V or 100V Max	1000 hrs	0/240
AC	JESD22 A102	Ta = 121°C, P= 15 PSIG, RH = 100%, 96 Hours	96 hrs	0/240
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C		0/960
RSH	JESD22- B106	Ta = 265C, 10 sec		0/90

**NRVBS4201T3G (Top Metal and Back Metal Change)**

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=90°C, 80% max rated V	1000 hrs	0/240
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/240
TC	JESD22-A104	Ta= - 65°C to +150°C	1000 cyc	0/240
H3TRB	JESD22 A101	Ta=85°C RH=85% bias=80% rated V or 100V Max	1000 hrs	0/240
AC	JESD22 A102	Ta = 121°C, P= 15 PSIG, RH = 100%, 96 Hours	96 hrs	0/240
PC	J-STD-020 JESD- A113	MSL 1 @ 260 °C		0/960
RSH	JESD22- B106	Ta = 265C, 10 sec		0/90

**NRVBS360T3G (Top Metal, Back Metal with Die Shrink Change)**

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=90°C, 100% max rated V	1000 hrs	0/240
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/240
TC	JESD22-A104	Ta = - 65°C to +150°C	1000 cyc	0/240
H3TRB	JESD22 A101	Ta=85°C RH=85% bias=80% rated V or 100V Max	1000 hrs	0/240
AC	JESD22 A102	Ta = 121°C, P= 15 PSIG, RH = 100%, 96 Hours	96 hrs	0/240
PC	J-STD-020 JESD- A113	MSL 1 @ 260 °C		0/960
RSH	JESD22- B106	Ta = 265C, 10 sec		0/90

**Electrical Characteristic Summary:**

There are no changes in electrical characteristic; product performance meets data sheet specifications. Characterization data is available upon request.

**List of Affected Standard Parts:****1. Back Metal Change Only**

Part Number	Qualification Vehicle
1N5817G	NRVBM120LT1G
1N5817RLG	NRVBM120LT1G
1N5820G	NRVBM120LT1G
1N5820RLG	NRVBM120LT1G
1N5821G	NRVBM120LT1G
1N5821RLG	NRVBM120LT1G
1N5822G	NRVBM120LT1G
1N5822RLG	NRVBM120LT1G
MBRA130LT3G	NRVBM120LT1G
MBRA210LT3G	NRVBM120LT1G
MBRA210LT3H	NRVBM120LT1G
MBRM110LT1G	NRVBM120LT1G
MBRM110LT3G	NRVBM120LT1G
MBRM120LT1G	NRVBM120LT1G
MBRM120LT3G	NRVBM120LT1G
MBRM120LT3H	NRVBM120LT1G
MBRM130LT1G	NRVBM120LT1G
MBRM130LT1H	NRVBM120LT1G
MBRM130LT3G	NRVBM120LT1G
MBRS130LT3G	NRVBM120LT1G
MBRS130LT3H	NRVBM120LT1G
MBRS230LT3G	NRVBM120LT1G
MBRS410LT3G	NRVBM120LT1G

**2. Top Metal and Back metal Change**

Part Number	Qualification Vehicle
1N5818G	NRVBS4201T3G
1N5818RLG	NRVBS4201T3G
1N5819G	NRVBS4201T3G
1N5819RLG	NRVBS4201T3G
80SQ045NG	NRVBS4201T3G
80SQ045NRLG	NRVBS4201T3G
MBR1100G	NRVBS4201T3G
MBR1100RLG	NRVBS4201T3G
MBR150G	NRVBS4201T3G
MBR150RLG	NRVBS4201T3G



MBR160G	NRVBS4201T3G
MBR160RLG	NRVBS4201T3G
MBR3100G	NRVBS4201T3G
MBR3100RLG	NRVBS4201T3G
MBR340G	NRVBS4201T3G
MBR340RLG	NRVBS4201T3G
MBR350RLG	NRVBS4201T3G
MBR360G	NRVBS4201T3G
MBR360RLG	NRVBS4201T3G
MBRA120ET3G	NRVBS4201T3G
MBRA140T3G	NRVBS4201T3G
MBRA1H100T3G	NRVBS4201T3G
MBRA210ET3G	NRVBS4201T3G
MBRA210ET3H	NRVBS4201T3G
MBRA2H100T3G	NRVBS4201T3G
MBRA320T3G	NRVBS4201T3G
MBRA340T3G	NRVBS4201T3G
MBRAF1100T3G	NRVBS4201T3G
MBRAF2H100T3G	NRVBS4201T3G
MBRAF3200T3G	NRVBS4201T3G
MBRAF440T3G	NRVBS4201T3G
MBRM110ET1G	NRVBS4201T3G
MBRM110ET3G	NRVBS4201T3G
MBRM120ET1G	NRVBS4201T3G
MBRM120ET1H	NRVBS4201T3G
MBRM120ET3G	NRVBS4201T3G
MBRM140T1G	NRVBS4201T3G
MBRM140T1H	NRVBS4201T3G
MBRM140T3G	NRVBS4201T3G
MBRM140T3H	NRVBS4201T3G
MBRM1H100T3G	NRVBS4201T3G
MBRM2H100T3G	NRVBS4201T3G
MBRS1100T3G	NRVBS4201T3G
MBRS1100T3H	NRVBS4201T3G
MBRS120T3G	NRVBS4201T3G
MBRS120T3H	NRVBS4201T3G
MBRS130T3G	NRVBS4201T3G
MBRS130T3H	NRVBS4201T3G
MBRS140T3G	NRVBS4201T3G
MBRS140T3H	NRVBS4201T3G
MBRS190T3G	NRVBS4201T3G
MBRS190T3H	NRVBS4201T3G
MBRS240LT3G	NRVBS4201T3G



MBRS240LT3H	NRVBS4201T3G
MBRS2H100T3G	NRVBS4201T3G
MBRS3100PT3G	NRVBS4201T3G
MBRS3100T3G	NRVBS4201T3G
MBRS3100T3H	NRVBS4201T3G
MBRS3200T3G	NRVBS4201T3G
MBRS3201PT3G	NRVBS4201T3G
MBRS3201T3G	NRVBS4201T3G
MBRS320PT3G	NRVBS4201T3G
MBRS320T3G	NRVBS4201T3G
MBRS330PT3G	NRVBS4201T3G
MBRS330T3G	NRVBS4201T3G
MBRS340PT3G	NRVBS4201T3G
MBRS340T3G	NRVBS4201T3G
MBRS340T3H	NRVBS4201T3G
MBRS410ET3G	NRVBS4201T3G
MBRS4201PT3G	NRVBS4201T3G
MBRS4201T3G	NRVBS4201T3G
MBRS540PT3G	NRVBS4201T3G
MBRS540T3G	NRVBS4201T3G
SS16T3G	NRVBS4201T3G

**3. Top Metal, Back Metal with Die Shrink Change**

Part Number	Qualification Vehicle
MBRA160T3G	NRVBS360T3G
MBRAF1540T3G	NRVBS360T3G
MBRAF260T3G	NRVBS360T3G
MBRAF360T3G	NRVBS360T3G
MBRS1540T3G	NRVBS360T3G
MBRS2040LT3G	NRVBS360T3G
MBRS2040LT3H	NRVBS360T3G
MBRS260T3G	NRVBS360T3G
MBRS260T3H	NRVBS360T3G
MBRS360BT3G	NRVBS360T3G
MBRS360PT3G	NRVBS360T3G
MBRS360T3G	NRVBS360T3G
MBRS360T3H	NRVBS360T3G
SS22T3G	NRVBS360T3G
SS24T3G	NRVBS360T3G
SS24T3H	NRVBS360T3G
SS26T3G	NRVBS360T3G
SS26T3H	NRVBS360T3G