



Title of Change:	Qualification of Power Schottky Die-Shrink for DPAK, SO8 FL and TO-220 Package.																																													
Proposed first ship date:	14 June 2018																																													
Contact information:	Contact your local ON Semiconductor Sales Office or <SitiNurhaza.MohdRamli@onsemi.com>																																													
Samples:	Contact your local ON Semiconductor Sales Office																																													
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or <MohdAzizi.Azman@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 accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact <PCN.Support@onsemi.com>.																																													
Change Part Identification:	There will be no change in the device marking scheme. Clean date code will be advised as requested.																																													
Change category:	<input checked="" type="checkbox"/> Wafer Fab Change <input type="checkbox"/> Assembly Change <input type="checkbox"/> Test Change <input type="checkbox"/> Other _____																																													
Change Sub-Category(s):	<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: _____																																													
Sites Affected:	ON Semiconductor Sites: ON ISMF, Malaysia ON Seremban, Malaysia ON Binh Duong Province, Vietnam	External Foundry/Subcon Sites: Tongfu Microelectronics Co., Ltd (TFME)																																												
Description and Purpose:																																														
This is the Final Product Change Notification (FPCN) of IPCN20930X, announcing that ON Semiconductor is qualifying Power Schottky die shrink-guard ring width on selected non-automotive qualified OPNs listed in this FPCN OPNs. The detail changes as below:																																														
<table border="1"> <thead> <tr> <th>Material to be changed</th> <th>Before Change Description</th> <th>After Change Description</th> </tr> </thead> <tbody> <tr> <td>Die Shrink – Guard Ring Width</td> <td>4mils</td> <td>1mils</td> </tr> </tbody> </table>			Material to be changed	Before Change Description	After Change Description	Die Shrink – Guard Ring Width	4mils	1mils																																						
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No other changes imposed on the affected OPNs. Products had gone thru reliability testing as per industrial requirements and it's proven that device performances are not affected.																																														
Reliability Data Summary:																																														
QV Device Name: NRVBD660CTRLG																																														
<table border="1"> <thead> <tr> <th>Test</th> <th>Specification</th> <th>Condition</th> <th>Interval</th> <th>Results</th> </tr> </thead> <tbody> <tr> <td>HTRB</td> <td>JESD22-A108</td> <td>Ta=80°C, 100% max rated V</td> <td>1000 hrs</td> <td>0/240</td> </tr> <tr> <td rowspan="3">IOL</td> <td>MIL-STD-750</td> <td>Ta=+25°C, delta Tj=100°C</td> <td rowspan="3">15000 cyc</td> <td rowspan="3">0/240</td> </tr> <tr> <td>(M1037)</td> <td>On/off = 2 min</td> </tr> <tr> <td>AEC-Q101</td> <td></td> </tr> <tr> <td>TC</td> <td>JESD22-A104</td> <td>Ta= - 65°C to +150°C</td> <td>1000 cyc</td> <td>0/240</td> </tr> <tr> <td>H3TRB</td> <td>JESD22 A101</td> <td>Ta=85°C RH=85% bias=80% rated V or 100V Max</td> <td>1000 hrs</td> <td>0/240</td> </tr> <tr> <td>AC</td> <td>JESD22 A102</td> <td>Ta = 121°C, P= 15 PSIG, RH = 100%, 96 Hours</td> <td>96 hrs</td> <td>0/240</td> </tr> <tr> <td>PC</td> <td>J-STD-020 JESD-A113</td> <td>MSL 1 @ 260 °C</td> <td></td> <td>0/960</td> </tr> <tr> <td>RSH</td> <td>JESD22- B106</td> <td>Ta = 265C, 10 sec</td> <td></td> <td>0/90</td> </tr> </tbody> </table>			Test	Specification	Condition	Interval	Results	HTRB	JESD22-A108	Ta=80°C, 100% max rated V	1000 hrs	0/240	IOL	MIL-STD-750	Ta=+25°C, delta Tj=100°C	15000 cyc	0/240	(M1037)	On/off = 2 min	AEC-Q101		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
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QV Device Name: SBRB1045T4G

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=90°C, 100% max rated V	1000 hrs	0/240
IOL	MIL-STD-750	Ta=+25°C, delta Tj=100°C	8572 cyc	0/240
	(M1037)	On/off = 2 min		
	AEC-Q101			
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:

Part Number	Qualification Vehicle
MBR440MFST1G	NRVBD660CTRLG
MBR440MFST3G	
MBR460MFST1G	
MBR460MFST3G	
MBRD1035CTLG	
MBRD1035CTLT4G	
MBRD620CTT4G	
MBRD630CTT4G	
MBRD640CTG	
MBRD640CTT4G	
MBRD640CTT4H	
MBRD650CTG	
MBRD650CTT4G	
MBRD660CTG	
MBRD660CTRLG	
MBRD660CTT4G	
MBRD660CTT4H	
MBR560MFST1G	



MBR560MFST3G	NRVBD660CTRLG
MBR1060G	
MBRD320G	
MBRD320RLG	
MBRD320RLH	
MBRD320T4G	
MBRD320T4H	
MBRD330G	
MBRD330RLG	
MBRD330T4G	
MBRD340G	
MBRD340RLG	
MBRD340T4G	
MBRD350G	
MBRD350RLG	
MBRD350T4G	
MBRD360G	
MBRD360RLG	
MBRD360T4G	
MBR1035G	
MBR1045G	
MBR1045H	
MBR830MFST1G	
MBR830MFST3G	
MBR860MFST1G	
MBR860MFST3G	
MBRD1045T4G	



Appendix A: Changed Products

Product	Customer Part Number	Qualification Vehicle
MBR1035G		SBRB1045T4G
MBR1045G		SBRB1045T4G
MBR1060G		NRVBD660CTRLG
MBR440MFST1G		NRVBD660CTRLG
MBR440MFST3G		NRVBD660CTRLG
MBR460MFST1G		NRVBD660CTRLG
MBR460MFST3G		NRVBD660CTRLG
MBR560MFST1G		NRVBD660CTRLG
MBR560MFST3G		NRVBD660CTRLG
MBR830MFST1G		SBRB1045T4G
MBR830MFST3G		SBRB1045T4G
MBR860MFST1G		SBRB1045T4G
MBR860MFST3G		SBRB1045T4G
MBRD1035CTLG		NRVBD660CTRLG
MBRD1035CTLT4G		NRVBD660CTRLG
MBRD1045T4G		SBRB1045T4G
MBRD320G		NRVBD660CTRLG
MBRD320RLG		NRVBD660CTRLG
MBRD320T4G		NRVBD660CTRLG
MBRD330G		NRVBD660CTRLG
MBRD330RLG		NRVBD660CTRLG
MBRD330T4G		NRVBD660CTRLG
MBRD340G		NRVBD660CTRLG
MBRD340RLG		NRVBD660CTRLG
MBRD340T4G		NRVBD660CTRLG
MBRD350G		NRVBD660CTRLG
MBRD350RLG		NRVBD660CTRLG
MBRD350T4G		NRVBD660CTRLG
MBRD360G		NRVBD660CTRLG
MBRD360RLG		NRVBD660CTRLG
MBRD360T4G		NRVBD660CTRLG
MBRD620CTT4G		NRVBD660CTRLG
MBRD630CTT4G		NRVBD660CTRLG
MBRD640CTG		NRVBD660CTRLG
MBRD640CTT4G		NRVBD660CTRLG
MBRD650CTG		NRVBD660CTRLG
MBRD650CTT4G		NRVBD660CTRLG
MBRD660CTG		NRVBD660CTRLG
MBRD660CTRLG	MBRD660CTRLG	NRVBD660CTRLG
MBRD660CTT4G		NRVBD660CTRLG