ON Semiconductor®

Final Product/Process Change Notification

Document # : FPCN20930XB1
Issue Date: 3 May 2018

Title of Change:	Update to FPCN20930XB - 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 or <PCN.Samples@onsemi.com>
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:	☒ Wafer Fab Change ☐ Assembly Change ☐ Test Change ☐ Other _____

Change Sub-Category(s):

☐ Manufacturing Site Change/Addition
☐ Manufacturing Process Change
☒ Material Change
☐ Product specific change
☐ Datasheet/Product Doc change
☐ Shipping/Packaging/Marking
☐ Other: _____

Sites Affected:	ON Semiconductor Sites: ON ISMF, Malaysia ON Seremban, Malaysia ON Dong Nai Province, Vietnam	External Foundry/Subcon Sites: Tongfu Microelectronics Co.LTD (TFME)

Description and Purpose:

This Update Notification announces to customers that ON Binh Duong Province, Vietnam will be removed from the Sites Affected list of FPCN20930XB and list ON Dong Nai Province, Vietnam as the correct assembly site affected.

ON Binh Duong Province, Vietnam is removed from FPCN20930XB because this site is for DBC manufacturing and not affected by Power Schottky die shrink -guard ring width changes.

The other information in FPCN20930XB remains the same as below:

Material to be changed	Before Change Description	After Change Description
Die Shrink – Guard Ring Width	4mils	1mils

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:

NRVBD660CTRLG

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=80°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	JEDS22 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

SBRB1045T4G

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	8572 cyc	0/240
TC	JESD22-A104	Ta= - 65°C to +150°C	1000 cyc	0/240
H3TRB	JEDS22 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	
MBR1060G	
MBRD320G	
MBRD320RLG	
MBRD320RLH	
MBRD320T4G	
MBRD320T4H	
MBRD330G	
MBRD330RLG	
MBRD330T4G	
MBRD340G	
MBRD340RLG	
MBRD340T4G	
MBRD350G	

Part Number	Qualification Vehicle
MBRD350RLG	NRVBD660CTRLG
MBRD350T4G	
MBRD360G	
MBRD360RLG	
MBRD360T4G	
MBR1035G	SBRB1045T4G
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		NRVBD660CTRLG
MBRD660CTT4G		NRVBD660CTRLG