



<b>Title of Change:</b>	Mold compound change to Green version for TO220AB/AC & Lead frame change from Pin3 to Pin2 for TO-220AC.										
<b>Proposed first ship date:</b>	28 February 2018										
<b>Contact information:</b>	Contact your local ON Semiconductor Sales Office or <edgar.kim@onsemi.com>										
<b>Samples:</b>	Contact your local ON Semiconductor Sales Office										
<b>Additional Reliability Data:</b>	Contact your local ON Semiconductor Sales Office or <Ken.Fergus@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>	Affected products will be identified with date code.										
<b>Change category:</b>	<input type="checkbox"/> Wafer Fab Change <input checked="" 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>	ON Semiconductor Sites: None	External Foundry/Subcon Sites: Panjit									
<b>Description and Purpose:</b>											
<p>This Final Notification announces to customers that due to environmental concerns, the standard industry is moving into Green Halogen-Free products.</p> <p>This mold compound change is a cooperative directive to go to Green. Also to meet the industry's product development trends and product commonality, the TO220AC package middle pin has been removed.</p>											
<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>Mold Compound</td> <td>ELL2KS200</td> <td>ELER-8-620</td> </tr> <tr> <td>Lead frame</td> <td>Lead frame 3 pin( middle pin is short)</td> <td>Lead frame 2 pin(remove middle pin)</td> </tr> </tbody> </table>			Material to be changed	Before Change Description	After Change Description	Mold Compound	ELL2KS200	ELER-8-620	Lead frame	Lead frame 3 pin( middle pin is short)	Lead frame 2 pin(remove middle pin)
Material to be changed	Before Change Description	After Change Description									
Mold Compound	ELL2KS200	ELER-8-620									
Lead frame	Lead frame 3 pin( middle pin is short)	Lead frame 2 pin(remove middle pin)									



## Reliability Data Summary:

QV DEVICE NAME: MBR2060CT, for changing mold compound to Green version.

Test	Specification	Condition	Interval	Results
PC	J-STD-020 JESD-A113	TMCL -55~+150 ,5cycle Bake 125 +5/-0 °C, 24hours Temperature humidity 85°C/85%RH, 168hours 4. Reflow 3 times	1 cyc	0/693(3lots)
HTRB	JESD22-A108	Ta=100°C, 100% max rated V	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
H <sup>3</sup> TRB (THBT)	JESD22-A101	TA=85°C+/-2°C RH=85%+/-5% VR=80%VB(customer spec.) DC Supply	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
TC (TMCL)	JESD22-A104	Ta = - 55 + 0°C / - 10°C 10 mins Ta = + 150 + 15°C / - 0°C 10 mins Transfer time ≤ 1 min. The load Should reach temp. within 15 mins	100 cyc 500 cyc 1000 cyc	0/231(3lots) 0/231(3lots) 0/231(3lots)
PTC (PRCL)	JESD22- B105	ΔTj≥100°C DC supply On time: 2 mins at least , Off time : 2 mins at least	7500 cyc 15000 cyc	0/231(3lots) 0/231(3lots)
HTSL	JESD22-A103C	Ta = 150C	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
RSH	JESD22 A-111 (SMD) B-106 (PTH)	Temperature of solder pot=260±5°C Time for dipping in solder=10±1sec Dipping depth=within 1.27mm of the body	1 cyc	0/90(3lots)

QV DEVICE NAME: MBR760 for changing the lead frame from 3 pins to 2 pins.

Test	Specification	Condition	Interval	Results
PC	J-STD-020 JESD-A113	TMCL -55~+150 ,5cycle Bake 125 +5/-0 °C, 24hours Temperature humidity 85°C/85%RH, 168hours 4. Reflow 3 times	1 cyc	0/693(3lots)
HTRB	JESD22-A108	Ta=100°C, 100% max rated V	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
H <sup>3</sup> TRB (THBT)	JESD22-A101	TA=85°C+/-2°C RH=85%+/-5% VR=80%VB(customer spec.) DC Supply	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
TC (TMCL)	JESD22-A104	Ta = - 55 + 0°C / - 10°C 10 mins Ta = + 150 + 15°C / - 0°C 10 mins Transfer time ≤ 1 min. The load Should reach temp. within 15 mins	100 cyc 500 cyc 1000 cyc	0/231(3lots) 0/231(3lots) 0/231(3lots)
PTC (PRCL)	JESD22- B105	ΔTj≥100°C DC supply On time: 2 mins at least , Off time : 2 mins at least	7500 cyc 15000 cyc	0/231(3lots) 0/231(3lots)
HTSL	JESD22-A103C	Ta = 150C	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
RSH	JESD22 A-111 (SMD) B-106 (PTH)	Temperature of solder pot=260±5°C Time for dipping in solder=10±1sec Dipping depth=within 1.27mm of the body	1 cyc	0/90(3lots)



**Electrical Characteristic Summary:**  
 Electrical characteristic are not impacted.

**List of Affected Parts:**

Part Number	Qualification Vehicle
MBR1045	MBR760
MBR1050	
MBR1060	
MBR735	
MBR745	
MBR750	
MBR760	
MBR1645	
MBR1660	
MBR1535CT	
MBR1545CT	
MBR1560CT	
MBR2035CT	
MBR2045CT	
MBR2050CT	
MBR2060CT	
MBR2535CT	
MBR2545CT	
MBR2550CT	
MBR2560CT	

**Appendix A: Changed Products**

Product	Customer Part Number	Qualification Vehicle
MBR1045		MBR760
MBR1050		MBR760
MBR1060		MBR760
MBR1535CT		MBR2060CT
MBR1545CT		MBR2060CT
MBR1560CT		MBR2060CT
MBR1660		MBR760
MBR2035CT		MBR2060CT
MBR2045CT		MBR2060CT
MBR2050CT		MBR2060CT
MBR2060CT		MBR2060CT
MBR2535CT		MBR2060CT
MBR2550CT		MBR2060CT
MBR2560CT		MBR2060CT
MBR735		MBR760
MBR745		MBR760
MBR750		MBR760
MBR760		MBR760