

## **Power-One Compliance to Decabromodiphenyl Ether (Deca-BDE) Content Change in the European Union RoHS Directive**

The European Court of Justice has annulled the Decabromodiphenyl Ether (Deca-BDE) exemption to the EU Restriction of Hazardous Substances (RoHS) Directive, dated October 2005 (Decision 2005/717/EC), stating that the European Commission used an incorrect criterion in risk assessment as the basis for exemption.

The RoHS Deca-BDE exemption had allowed the use of the Deca-BDE flame retardant in electrical and electronics products. Deca-BDE is commonly used to protect plastic components of electronic devices from the risk of fire. In some Power-One DC-DC converters, Deca-BDE is present in the tape that is used to facilitate thermal transfer and electrical insulation.

The effective date of this European Court of Justice decision is July 1, 2008. As of that date, equipment containing Deca-BDE substances in excess of the RoHS Directive maximum-concentration values must not be placed on the market in the European Union.

The majority of Power-One's products are already fully compliant to these revised RoHS Deca-BDE requirements. DC-DC converters that require that the thermal transfer, and electrical insulation tape be changed in order to meet these revised Deca-BDE requirements are listed in the accompanying Product Change Notice.

Please feel free to address any questions directly to the undersigned.

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<b>PCN Date:</b>		May 20, 2008 <b>UPDATED February 12, 2010. Removed labeling requirement for dual board open frame model packaging</b>		
<b>Supplier Name:</b>		Power-One Inc.		
<b>Supplier PCN Tracking #:</b>		PCN Deca-BDE exemption.doc		
<b>Description of Change:</b>		Elimination of Deca-BDE exemption: Deca-BDE in polymeric applications; published in the Official Journal of the European Union, 13 October, 2005		
<b>Reason for Change:</b>		The European Court of Justice (ECJ) has annulled the decabromodiphenyl ether (Deca-BDE) exemption to the EU Restriction of Hazardous Substances (RoHS) directive, dated October 2005 (Decision 2005/717/EC), stating that the European Commission used an incorrect criterion, an EU risk assessment as the basis for exemption. This enters into force on July 1, 2008.		
<b>Summary of changes between new and old part:</b>		Tape used as thermal transfer and electrical insulation has been changed. The new material has better adhesive and thermal transfer qualities than the original material and is fully RoHS compliant without use of exemption.		
<b>Traceability guidelines (lot code/date code, markings, ship date...)</b>		Parts manufactured as dual board open frame models, these are identified by the serial number incorporating date code 0823 (2008, week 23) or greater. For potted modules, date code 6150 (2006, day 150) or greater are compliant.		
<b>Last Time Buy Date:</b>		Not applicable		
<b>Datasheet attached?</b>		No changes to the data sheets		
<b>Mfgr. Part Number</b>	<b>Mfgr. Part Number</b>	<b>PCN Effectivity Date</b>	<b>Module Type</b>	<b>Last Time Buy Date</b>
FC100V20A-G	Same as before	5/21/08	potted module	N/A
FES200ZE-A	Same as before	5/21/08	dual board open frame	N/A
HBD040ZED-AN	Same as before	5/21/08	dual board open frame	N/A
HBD040ZGE-A	Same as before	5/21/08	dual board open frame	N/A
HBD040ZGE-A1VS6	Same as before	5/21/08	dual board open frame	N/A
HBD060YGE-A	Same as before	5/21/08	dual board open frame	N/A
HBD060ZGE-A	Same as before	5/21/08	dual board open frame	N/A
HBD060ZGE-A2HS4	Same as before	5/21/08	dual board open frame	N/A
HBD060ZGE-AS11	Same as before	5/21/08	dual board open frame	N/A
HBD060ZGE-AS12	Same as before	5/21/08	dual board open frame	N/A
HBD060ZGE-AS15	Same as before	5/21/08	dual board open frame	N/A
HBD060ZGE-AS3	Same as before	5/21/08	dual board open frame	N/A
HBS033ZE-ANT	Same as before	5/21/08	dual board open frame	N/A
HBS050YG-A	Same as before	5/21/08	dual board open frame	N/A
HBS050YH-ANT	Same as before	5/21/08	dual board open frame	N/A
HBS050ZE-A	Same as before	5/21/08	dual board open frame	N/A
HBS050ZE-ANT	Same as before	5/21/08	dual board open frame	N/A

Mfgr. Part Number	Mfgr. Part Number	PCN Effectivity Date	Module Type	Last Time Buy Date
HBS050ZG-ANT	Same as before	5/21/08	dual board open frame	N/A
HBS050ZG-ANT9	Same as before	5/21/08	dual board open frame	N/A
HBS050ZG-AT	Same as before	5/21/08	dual board open frame	N/A
HBS050ZH-ANT	Same as before	5/21/08	dual board open frame	N/A
HBS050ZH-AS1	Same as before	5/21/08	dual board open frame	N/A
HBS066ZE-ANT	Same as before	5/21/08	dual board open frame	N/A
HBS075ZG-A	Same as before	5/21/08	dual board open frame	N/A
HBS075ZH-AT	Same as before	5/21/08	dual board open frame	N/A
HBS100YG-ANT	Same as before	5/21/08	dual board open frame	N/A
HBS100ZE-ANT	Same as before	5/21/08	dual board open frame	N/A
HBS100ZG-ANT	Same as before	5/21/08	dual board open frame	N/A
HBS150YH-A	Same as before	5/21/08	dual board open frame	N/A
HBS150Z26-ANT	Same as before	5/21/08	dual board open frame	N/A
HBS150ZG-ANT	Same as before	5/21/08	dual board open frame	N/A
HES037ZD-ANT	Same as before	5/21/08	dual board open frame	N/A
HES050ZD-ANT	Same as before	5/21/08	dual board open frame	N/A
HES050ZE-ANT	Same as before	5/21/08	dual board open frame	N/A
HES050ZE-AS1	Same as before	5/21/08	dual board open frame	N/A
HES054ZB-AS1	Same as before	5/21/08	dual board open frame	N/A
HES075ZD-ANT	Same as before	5/21/08	dual board open frame	N/A
HES100ZE-A	Same as before	5/21/08	dual board open frame	N/A
HES100ZE-ANT	Same as before	5/21/08	dual board open frame	N/A
HES100ZE-ANT7	Same as before	5/21/08	dual board open frame	N/A
HES100ZE-AS1	Same as before	5/21/08	dual board open frame	N/A
HES100ZG-A	Same as before	5/21/08	dual board open frame	N/A
HES100ZG-ANT	Same as before	5/21/08	dual board open frame	N/A
HHD20ZGE-1V	Same as before	5/21/08	dual board open frame	N/A
HHD25ZEB-N	Same as before	5/21/08	dual board open frame	N/A
HHD25ZED	Same as before	5/21/08	dual board open frame	N/A
HHD25ZED-N	Same as before	5/21/08	dual board open frame	N/A
HHD25ZED-N8	Same as before	5/21/08	dual board open frame	N/A
HWD075DGE-A	Same as before	5/21/08	dual board open frame	N/A
HWD075DGE-A2V9	Same as before	5/21/08	dual board open frame	N/A
HWD075DGE-A8	Same as before	5/21/08	dual board open frame	N/A
IAS010ZGY-1	Same as before	5/21/08	potted module	N/A
IES013ZE	Same as before	5/21/08	potted module	N/A
IES020ZG	Same as before	5/21/08	potted module	N/A
IES020ZG-S1	Same as before	5/21/08	potted module	N/A
IES020ZG-S5	Same as before	5/21/08	potted module	N/A
LES010ZE-3N	Same as before	5/21/08	potted module	N/A
LES015YG	Same as before	5/21/08	potted module	N/A
LES015YH	Same as before	5/21/08	potted module	N/A
LES015YJ-S2	Same as before	5/21/08	potted module	N/A
LES015ZG	Same as before	5/21/08	potted module	N/A
LES020ZG-3N	Same as before	5/21/08	potted module	N/A
OBS017ZE	Same as before	5/21/08	potted module	N/A
OBS025ZG	Same as before	5/21/08	potted module	N/A
OBS025ZH	Same as before	5/21/08	potted module	N/A

Mfgr. Part Number	Mfgr. Part Number	PCN Effectivity Date	Module Type	Last Time Buy Date
OBS025ZH-S2	Same as before	5/21/08	potted module	N/A
OES033ZE-A	Same as before	5/21/08	dual board open frame	N/A
OES033ZE-AS2	Same as before	5/21/08	dual board open frame	N/A
OES040ZG-A	Same as before	5/21/08	dual board open frame	N/A
OWD4812	Same as before	5/21/08	potted module	N/A
OWD4812S1-SEG3	Same as before	5/21/08	potted module	N/A
OWS1212	Same as before	5/21/08	potted module	N/A
OWS4805S7	Same as before	5/21/08	potted module	N/A
QBS033ZE-ANT	Same as before	5/21/08	dual board open frame	N/A
QBS038ZD-ANT	Same as before	5/21/08	dual board open frame	N/A
QBS038ZD-ANT2H	Same as before	5/21/08	dual board open frame	N/A
QBS050ZE-ANT	Same as before	5/21/08	dual board open frame	N/A
QBS050ZE-ANT2H	Same as before	5/21/08	dual board open frame	N/A
QBS050ZG-ANT	Same as before	5/21/08	dual board open frame	N/A
QBS050ZG-ANT1V	Same as before	5/21/08	dual board open frame	N/A
QBS050ZH-ANT	Same as before	5/21/08	dual board open frame	N/A
QBS074Z7-ANT7	Same as before	5/21/08	dual board open frame	N/A
QBS075YG-A	Same as before	5/21/08	dual board open frame	N/A
QBS075ZG-ANT	Same as before	5/21/08	dual board open frame	N/A
QBS075ZG-ANT7	Same as before	5/21/08	dual board open frame	N/A
QBS075ZH-ANT	Same as before	5/21/08	dual board open frame	N/A
QBS100YH-A	Same as before	5/21/08	dual board open frame	N/A
QBS100ZG-ANTS1	Same as before	5/21/08	dual board open frame	N/A
QBS100ZG-ANTS2	Same as before	5/21/08	dual board open frame	N/A
QBS100ZG-ANTS3	Same as before	5/21/08	dual board open frame	N/A
QBS100ZH-A	Same as before	5/21/08	dual board open frame	N/A
QBS100ZH-ANT	Same as before	5/21/08	dual board open frame	N/A
QBS100ZJ-A	Same as before	5/21/08	dual board open frame	N/A
QBS100ZJ-A1V	Same as before	5/21/08	dual board open frame	N/A
QBS100ZJ-AN	Same as before	5/21/08	dual board open frame	N/A
QBS100ZJ-ANT	Same as before	5/21/08	dual board open frame	N/A
QBS100ZJ-AT	Same as before	5/21/08	dual board open frame	N/A
QBS120ZH-A	Same as before	5/21/08	dual board open frame	N/A
QES018ZB-ANT	Same as before	5/21/08	dual board open frame	N/A
QES024ZY-ANT	Same as before	5/21/08	dual board open frame	N/A
QES024ZY-ANT8	Same as before	5/21/08	dual board open frame	N/A
QES025ZD-A	Same as before	5/21/08	dual board open frame	N/A
QES025ZD-A1H	Same as before	5/21/08	dual board open frame	N/A
QES025ZD-AK	Same as before	5/21/08	dual board open frame	N/A
QES027ZB-A	Same as before	5/21/08	dual board open frame	N/A
QES027ZB-AK	Same as before	5/21/08	dual board open frame	N/A
QES030Z2-ANT	Same as before	5/21/08	dual board open frame	N/A
QES030ZA-ANTS1	Same as before	5/21/08	dual board open frame	N/A
QES033ZE-A	Same as before	5/21/08	dual board open frame	N/A
QES033ZE-ANT	Same as before	5/21/08	dual board open frame	N/A
QES036YB-A	Same as before	5/21/08	dual board open frame	N/A
QES036Z1.8-ANT	Same as before	5/21/08	dual board open frame	N/A
QES036ZB-A	Same as before	5/21/08	dual board open frame	N/A

Mfgr. Part Number	Mfgr. Part Number	PCN Effectivity Date	Module Type	Last Time Buy Date
QES036ZB-AK	Same as before	5/21/08	dual board open frame	N/A
QES036ZB-ANT	Same as before	5/21/08	dual board open frame	N/A
QES036ZB-AT	Same as before	5/21/08	dual board open frame	N/A
QES036ZB-AT9	Same as before	5/21/08	dual board open frame	N/A
QES038ZD-A	Same as before	5/21/08	dual board open frame	N/A
QES038ZD-ANT	Same as before	5/21/08	dual board open frame	N/A
QES050YE-A	Same as before	5/21/08	dual board open frame	N/A
QES050ZD-A	Same as before	5/21/08	dual board open frame	N/A
QES050ZD-A1V	Same as before	5/21/08	dual board open frame	N/A
QES050ZD-AK	Same as before	5/21/08	dual board open frame	N/A
QES050ZD-ANS1	Same as before	5/21/08	dual board open frame	N/A
QES050ZD-ANT	Same as before	5/21/08	dual board open frame	N/A
QES050ZD-ANT1H	Same as before	5/21/08	dual board open frame	N/A
QES050ZD-ANT81V	Same as before	5/21/08	dual board open frame	N/A
QES050ZD-ANTS1	Same as before	5/21/08	dual board open frame	N/A
QES050ZD-AT	Same as before	5/21/08	dual board open frame	N/A
QES050ZE-A	Same as before	5/21/08	dual board open frame	N/A
QES050ZE-AN	Same as before	5/21/08	dual board open frame	N/A
QES050ZE-ANT	Same as before	5/21/08	dual board open frame	N/A
QES065ZD-ANTS1	Same as before	5/21/08	dual board open frame	N/A
QES066YE-AN	Same as before	5/21/08	dual board open frame	N/A
QES066ZE-A	Same as before	5/21/08	dual board open frame	N/A
QES066ZE-A1V	Same as before	5/21/08	dual board open frame	N/A
QES066ZE-A2V	Same as before	5/21/08	dual board open frame	N/A
QES066ZE-AK	Same as before	5/21/08	dual board open frame	N/A
QES066ZE-AN	Same as before	5/21/08	dual board open frame	N/A
QES066ZE-ANT	Same as before	5/21/08	dual board open frame	N/A
QES066ZE-ANT8	Same as before	5/21/08	dual board open frame	N/A
QES066ZE-ANT9	Same as before	5/21/08	dual board open frame	N/A
QES066ZE-ANTS1	Same as before	5/21/08	dual board open frame	N/A
QES066ZE-AT	Same as before	5/21/08	dual board open frame	N/A
QES100Z5.1-AN	Same as before	5/21/08	dual board open frame	N/A
TES113ZD-A	Same as before	5/21/08	dual board open frame	N/A
TES150ZE-A1	Same as before	5/21/08	dual board open frame	N/A
TES150ZE-AS1	Same as before	5/21/08	dual board open frame	N/A
TQD080ZE2.0-A	Same as before	5/21/08	dual board open frame	N/A
TQD085ZEB-AS1	Same as before	5/21/08	dual board open frame	N/A
TQD085ZED-A	Same as before	5/21/08	dual board open frame	N/A
TQD100ZGE-A	Same as before	5/21/08	dual board open frame	N/A