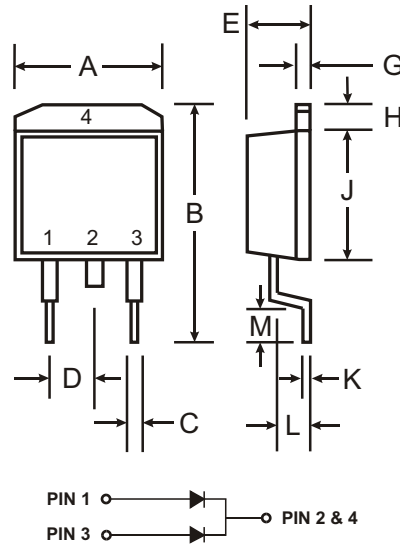



### Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 150A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Lead Free Finish, RoHS Compliant (Note 4)**



D <sup>2</sup> PAK		
Dim	Min	Max
A	9.65	10.69
B	14.60	15.88
C	0.51	1.14
D	2.29	2.79
E	4.37	4.83
G	1.14	1.40
H	1.14	1.40
J	8.25	9.25
K	0.30	0.64
L	2.03	2.92
M	2.29	2.79
All Dimensions in mm		

### Mechanical Data

- Case: D<sup>2</sup>PAK
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish Tin. Solderable per MIL-STD-202, Method 208 
- Polarity: See Diagram
- Marking: See Page 3
- Weight: 1.7 grams (approximate)

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

Characteristic	Symbol	MBRB 1530CT	MBRB 1535CT	MBRB 1540CT	MBRB 1545CT	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	30	35	40	45	V
Working Peak Reverse Voltage	V <sub>RWM</sub>					
DC Blocking Voltage	V <sub>R</sub>					
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	24.5	28	31.5	V
Average Rectified Output Current @ T <sub>C</sub> = 105°C	I <sub>O</sub>	15				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	150				A
Forward Voltage, per Element @ I <sub>F</sub> = 7.5A	V <sub>FM</sub>	0.7				V
Voltage Rate of Change	dv/dt	10,000				V/μs
Peak Reverse Current @ T <sub>A</sub> = 25°C at Rated DC Blocking Voltage (Note 3)	I <sub>RM</sub>	0.1				mA
		15				
Maximum Reverse Recovery Time (Note 2)	t <sub>rr</sub>	30				ns
Typical Total Capacitance (Note 1)	C <sub>T</sub>	250				pF
Typical Thermal Resistance Junction to Terminal	R <sub>JT</sub>	3.0				°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +150				°C

- Notes:
1. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
  2. Reverse recovery test conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A (see figure 1).
  3. 300μs pulse width, 2% duty cycle.
  4. RoHS revision 13.2.2003. High Temperature Solder Exemption Applied, see EU Directive Annex Note 7.

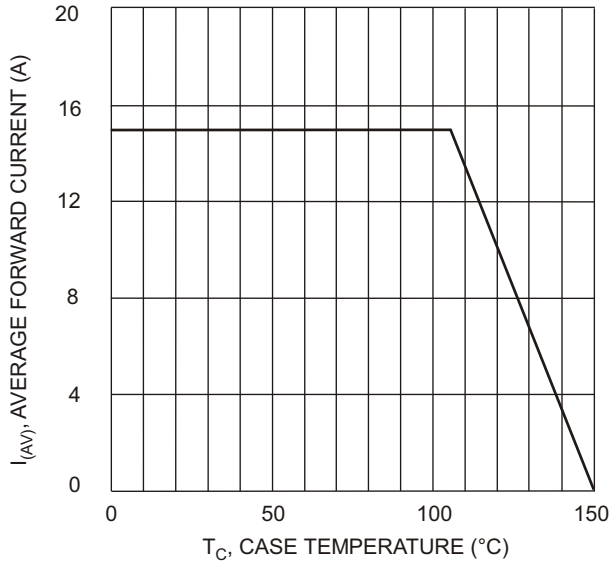


Fig. 1 Forward Current Derating Curve

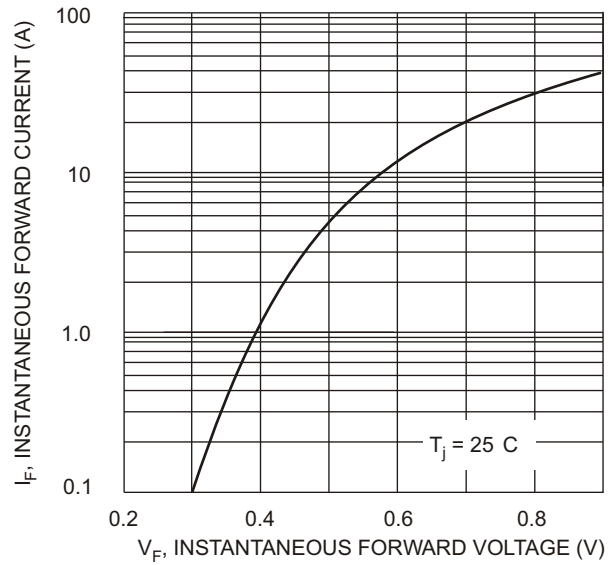


Fig. 2 Typical Fwd Characteristics, per Element

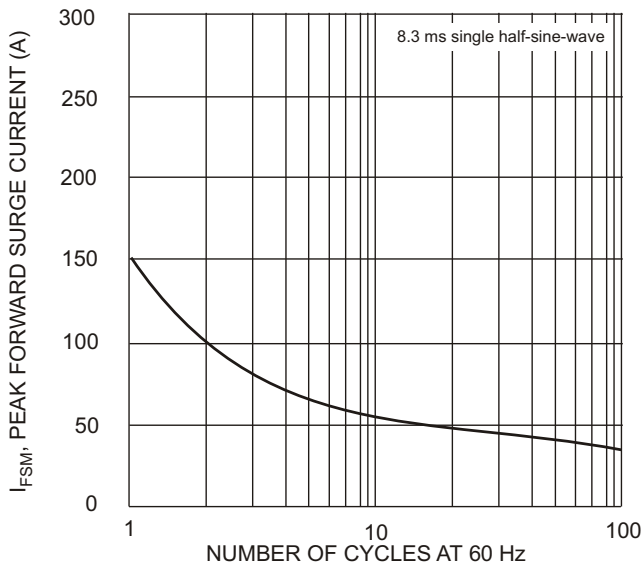


Fig. 3 Max Non-Repetitive Surge Current

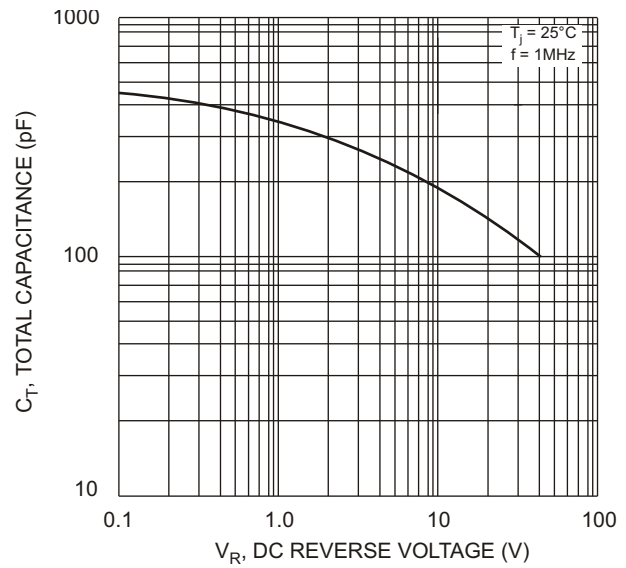


Fig. 4 Typical Total Capacitance

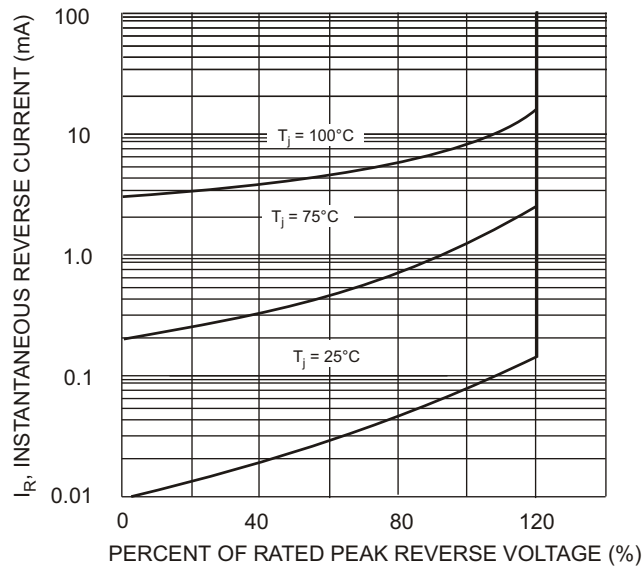


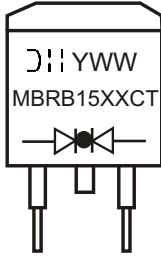
Fig. 5 Typical Reverse Characteristics, per element

**Ordering Information** (Note 6)

Device	Packaging	Shipping
MBRB1530CT-T	D <sup>2</sup> PAK	800/Tape & Reel, 13-inch
MBRB1535CT-T	D <sup>2</sup> PAK	800/Tape & Reel, 13-inch
MBRB1540CT-T	D <sup>2</sup> PAK	800/Tape & Reel, 13-inch
MBRB1545CT-T	D <sup>2</sup> PAK	800/Tape & Reel, 13-inch

Notes: 6. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



MBRB15XXCT = Product type marking code where  
 XX = 30, 35, 40 or 45, depending on device type  
 ⎓ = Manufacturers' code marking  
 YWW = Date code marking  
 Y = Last digit of year ex: 2 for 2002  
 WW = Week code 01 to 52

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