

**Features and Benefits**

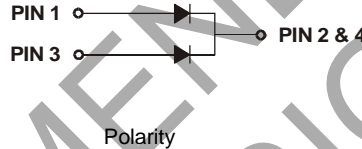
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 150A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications

**Mechanical Data**

- Case: TO263 (D2PAK)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish — Tin. Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: See Diagram
- Weight: 1.7 grams (Approximate)



Top View

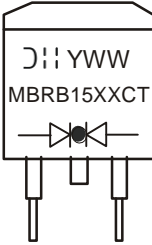


**Ordering Information** (Note 1)

Part Number	Packaging	Shipping
MBRB1530CT-T	TO263 (D2PAK)	800/Tape & Reel, 13-inch
MBRB1535CT-T	TO263 (D2PAK)	800/Tape & Reel, 13-inch
MBRB1540CT-T	TO263 (D2PAK)	800/Tape & Reel, 13-inch
MBRB1545CT-T	TO263 (D2PAK)	800/Tape & Reel, 13-inch

Note: 1. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

**Marking Information**



MBRB15XXCT = Product Type Marking Code Where  
 XX = 30, 35, 40 or 45, Depending on Device Type  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 2 for 2002)  
 WW = Week Code (01 to 53)

**Maximum Ratings** (@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>					V
Working Peak Reverse Voltage	V <sub>RWM</sub>	30	35	40	45	V
DC Blocking Voltage	V <sub>R</sub>					V
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	I <sub>FSM</sub>	150				A
Single Half Sine-Wave Superimposed on Rated Load						

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal	R <sub>θJT</sub>	3.0	°C/W
Operating Temperature Range (Note 2)	T <sub>J</sub>	V <sub>R</sub> ≤ 80% V <sub>RRM</sub>	-65 to +150
		V <sub>R</sub> ≤ 50% V <sub>RRM</sub>	≤+180
		DC Forward Mode	≤+200
Storage Temperature Range	T <sub>STG</sub>	-65 to +175	°C

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
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	I <sub>RM</sub>	0.1	mA
at Rated DC Blocking Voltage (Note 3) @ T <sub>A</sub> = +100°C		15	
Maximum Reverse Recovery Time (Note 4)	t <sub>RR</sub>	30	ns
Typical Total Capacitance (Note 5)	C <sub>T</sub>	250	pF

- Notes:
- The heat generated must be less than the thermal conductivity from Junction-to-Ambient: dP<sub>D</sub>/dT<sub>J</sub> < 1/R<sub>θJA</sub>.
  - 300μs pulse width, 2% duty cycle.
  - 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).
  - Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

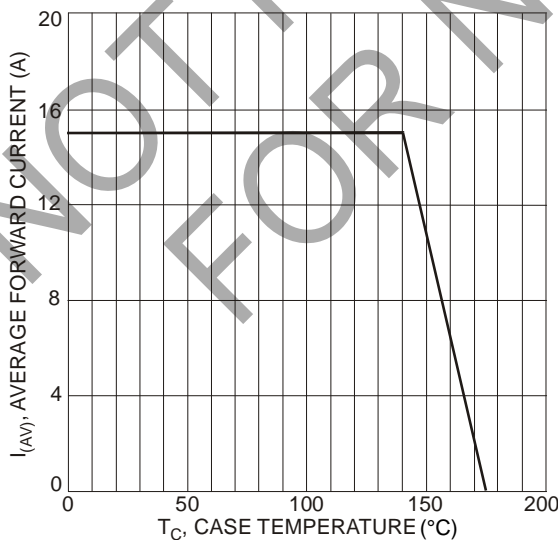


Fig. 1 Forward Current Derating Curve

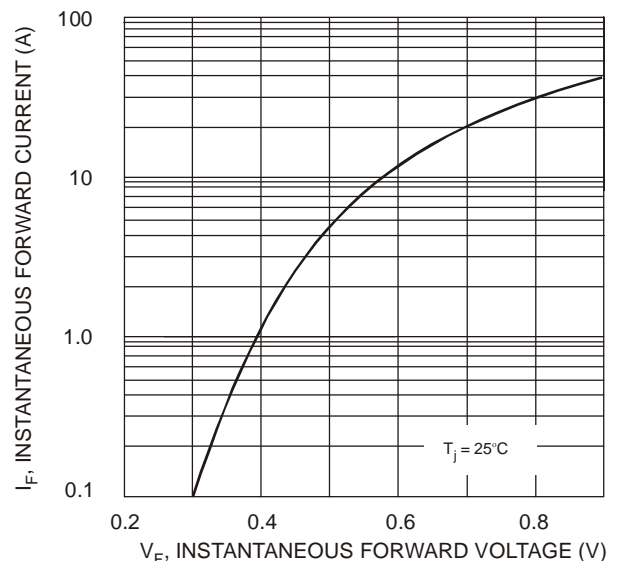


Fig. 2 Typical Forward Characteristics, per Element

NOT RECOMMENDED FOR NEW DESIGN -  
NO ALTERNATE PART



MBRB1530CT - MBRB1545CT

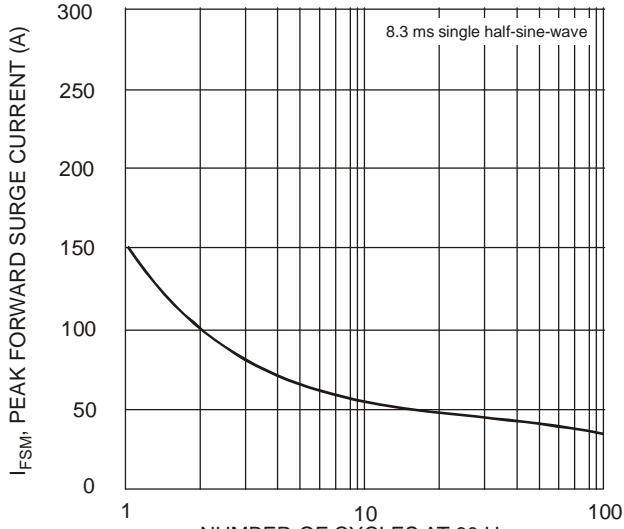


Fig. 3 Max Non-Repetitive Surge Current

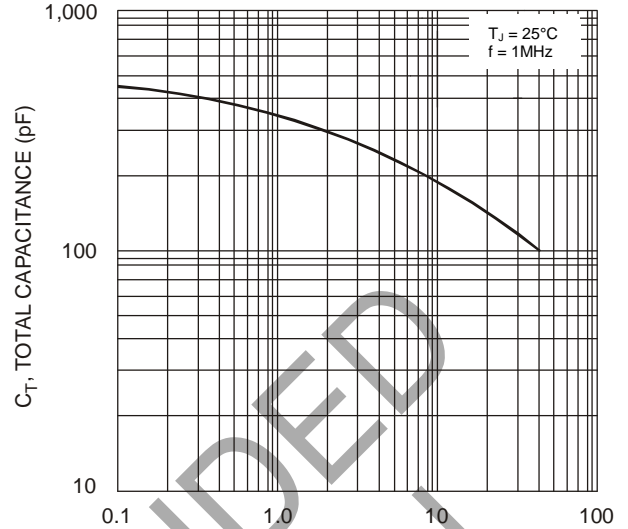


Fig. 4 Typical Total Capacitance

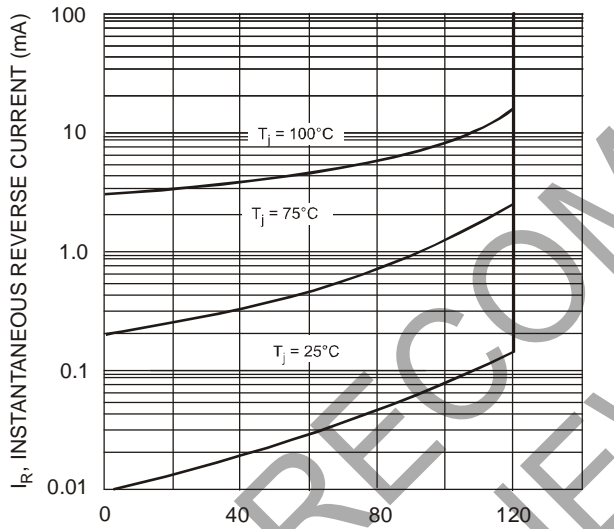


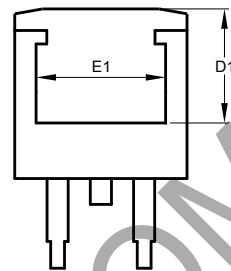
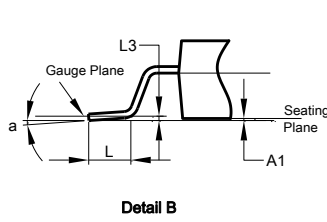
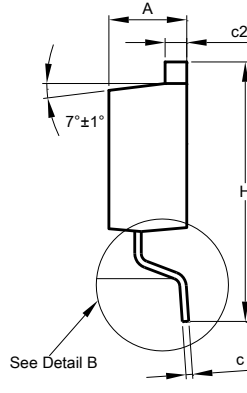
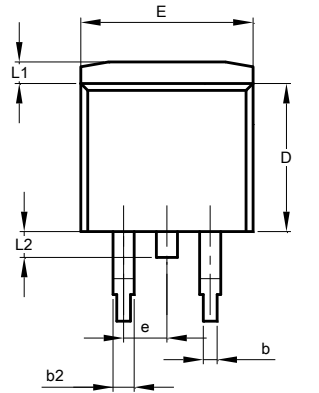
Fig. 5 Typical Reverse Characteristics, per element

NOT RECOMMENDED FOR NEW DESIGN

**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**TO263AB (D2PAK)**

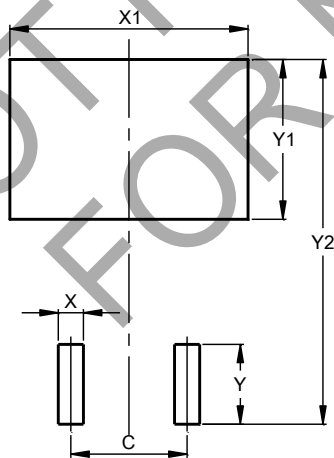


TO263AB (D2PAK)			
Dim	Min	Max	Typ
A	4.07	4.82	-
A1	0.00	0.25	-
b	0.51	0.99	-
b2	1.15	1.77	-
c	0.356	0.73	-
c2	1.143	1.65	-
D	8.39	9.65	-
D1	6.55	6.95	-
e	2.54 TYP		
E	9.66	10.66	-
E1	6.23	8.23	-
H	14.61	15.87	-
L	1.78	2.79	-
L1	-	1.67	-
L2	-	1.77	-
L3	-	-	0.254
a	0°	8°	-
All Dimensions in mm			

**Suggested Pad Layout**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**TO263AB (D2PAK)**



Dimensions	Value (in mm)
C	5.08
X	1.10
X1	10.41
Y	3.50
Y1	7.01
Y2	15.99

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