

Features and Benefits

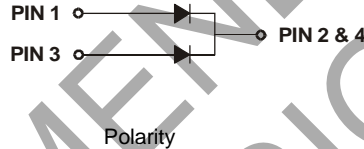
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 150A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications

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

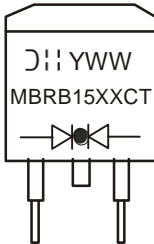


Ordering Information (Note 1)

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
 YWW = Date Code Marking
 Y = Last Digit of Year (ex: 2 for 2002)
 WW = Week Code (01 to 53)

Maximum Ratings (@T_A = +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 _{RRM}					V
Working Peak Reverse Voltage	V _{RWM}	30	35	40	45	V
DC Blocking Voltage	V _R					V
RMS Reverse Voltage	V _{R(RMS)}	21	24.5	28	31.5	V
Average Rectified Output Current @ T _C = +105°C	I _O	15				A
Non-Repetitive Peak Forward Surge Current 8.3ms	I _{FSM}	150				A
Single Half Sine-Wave Superimposed on Rated Load						

Thermal Characteristics

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

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Forward Voltage, Per Element @ I _F = 7.5A	V _{FM}	0.7	V
Voltage Rate of Change	dv/dt	10,000	V/μs
Peak Reverse Current @ T _A = +25°C	I _{RM}	0.1	mA
at Rated DC Blocking Voltage (Note 3) @ T _A = +100°C		15	mA
Maximum Reverse Recovery Time (Note 4)	t _{RR}	30	ns
Typical Total Capacitance (Note 5)	C _T	250	pF

- Notes:
- The heat generated must be less than the thermal conductivity from Junction-to-Ambient: $dP_D/dT_J < 1/R_{θJA}$.
 - 300μs pulse width, 2% duty cycle.
 - Reverse recovery test conditions: I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A (see figure 1).
 - Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

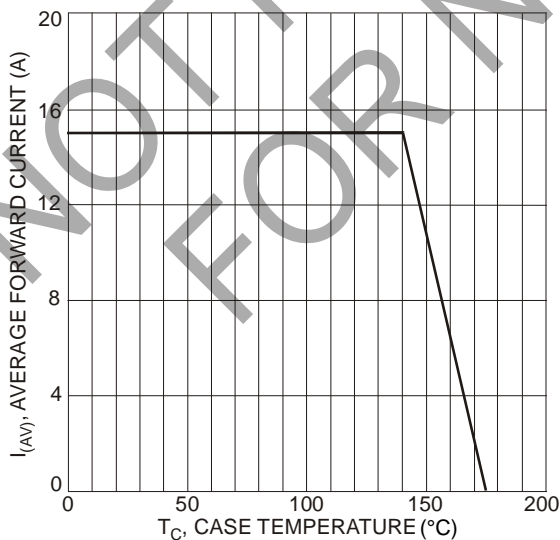


Fig. 1 Forward Current Derating Curve

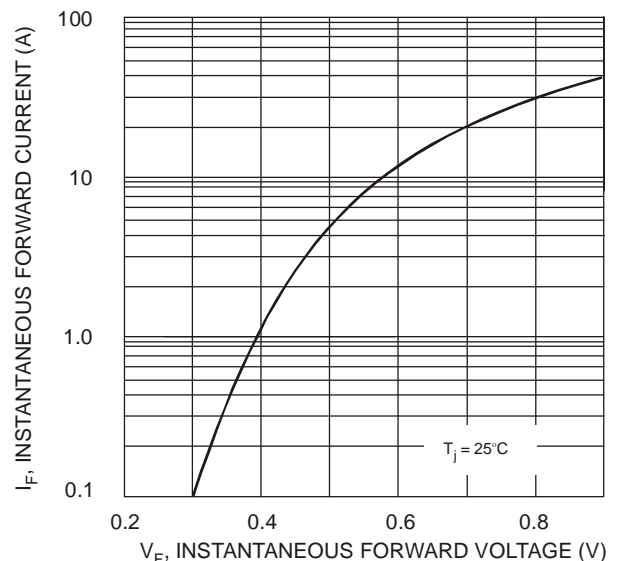


Fig. 2 Typical Forward Characteristics, per Element

NOT RECOMMENDED FOR NEW DESIGN - NO ALTERNATE PART



MBRB1530CT - MBRB1545CT

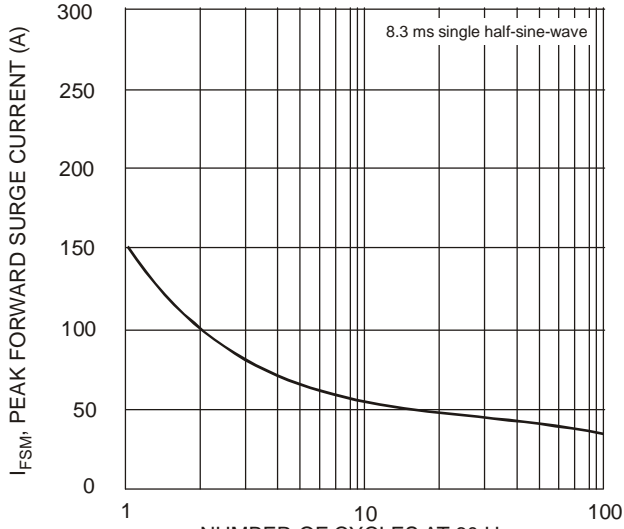


Fig. 3 Max Non-Repetitive Surge Current

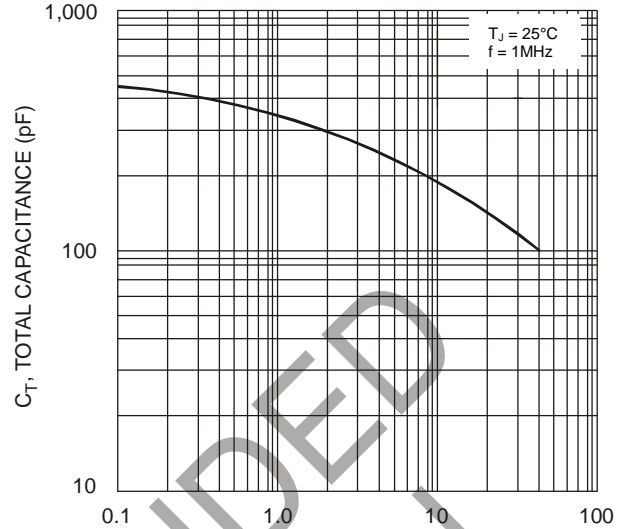


Fig. 4 Typical Total Capacitance

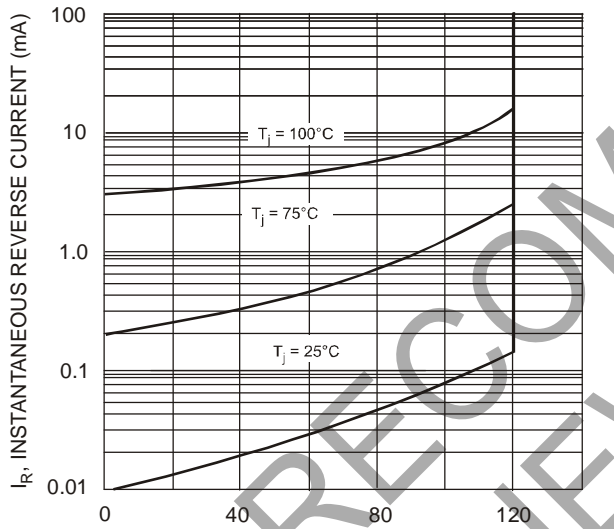


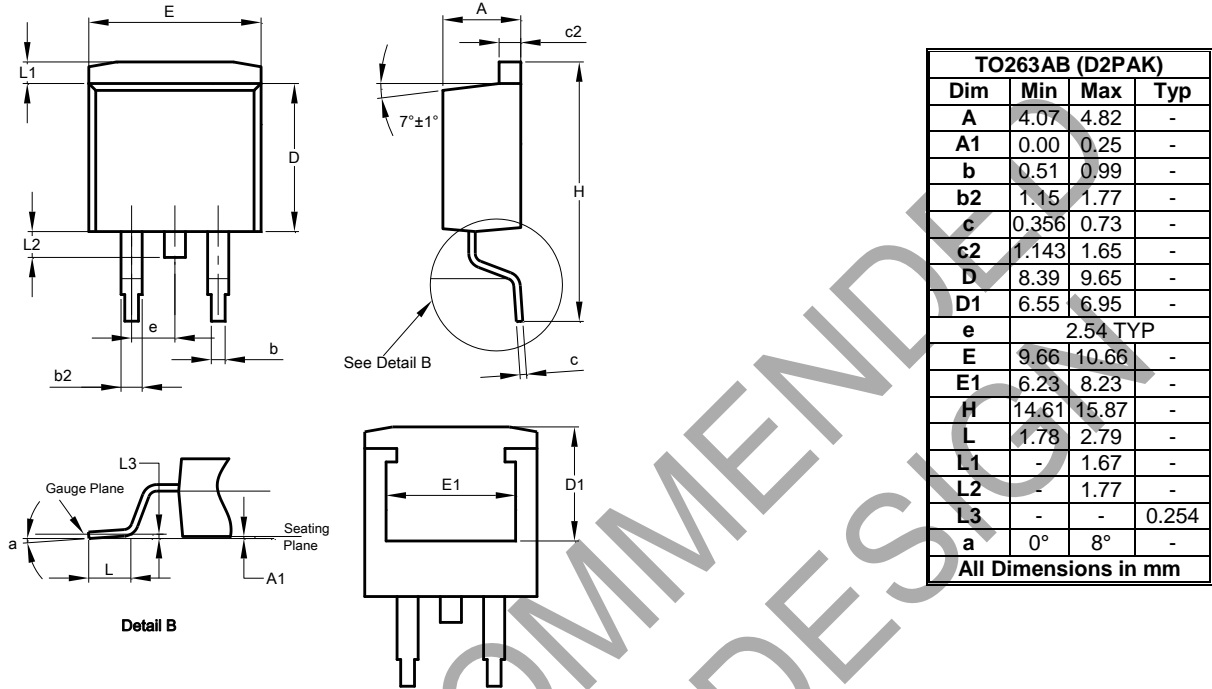
Fig. 5 Typical Reverse Characteristics, per element

NOT RECOMMENDED FOR NEW DESIGN

Package Outline Dimensions

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

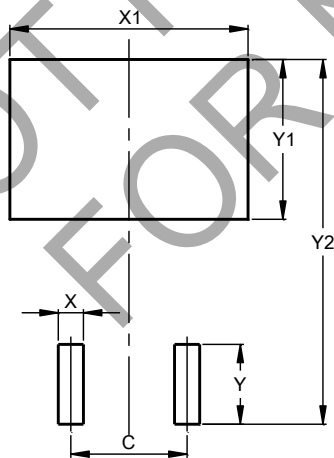
TO263AB (D2PAK)



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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