MBR1545CT - MBR1560CT

15A SCHOTTKY BARRIER RECTIFIER

Product Summary

V_{RRM} (V)	I_O (A)	V_F Max (V) @ +25°C	I_R Max (mA) @ +25°C
45	15	0.84	0.1
60	15	0.90	1.0

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
- For Use in Low-Voltage, High Frequency Inverters, and Free Wheeling Diodes
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

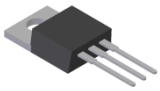
Description and Applications

The MBR1545CT & MBR1560CT are designed to meet the stringent requirements of commercial applications, such as:

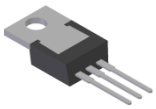
- Polarity Protection Diodes
- Re-Circulating Diodes
- Switching Diodes

Mechanical Data

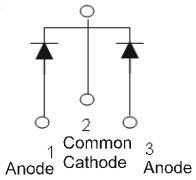
- Case: TO220AB
- Case Material: Molded Plastic.
  UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish – Tin.
  Solderable per MIL-STD-202, Method 208 e3
- Polarity: As Marked on Body
- Weight: 2.24 grams (Approximate)



TO220AB
Top View



TO220AB
Bottom View



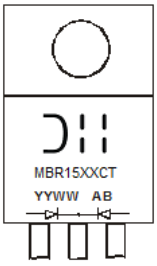
Package Pin-Out
Configuration

Ordering Information (Note 4)

Device	Packaging	Shipping
MBR1545CT	TO220AB	50/Tube
MBR1560CT	TO220AB	50/Tube

Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



MBR15XXCT = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last Two Digits of Year (ex: 15= 2015)
WW = Week (01 - 53)

Maximum Ratings (Per Leg) (@T_A = +25°C, unless otherwise specified.)

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

Characteristic		Symbol	MBR 1545CT	MBR 1560CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage (Note 7)		V_{RRM} V_{RWM} V_R	45	60	V
RMS Reverse Voltage		$V_{R(RMS)}$	31.5	42	V
Average Rectified Output Current (Note 5)	@ T_C = +125°C	I_O	15		A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I_{FSM}	150		A
Forward Voltage Drop	@ I_F = 15A, T_C = +125°C @ I_F = 7.5A, T_C = +125°C @ I_F = 15A, T_C = +25°C	V_{FM}	0.72 0.57 0.84	0.80 0.65 0.90	V
Peak Reverse Current at Rated DC Blocking Voltage (Note 7)	@ T_C = +25°C @ T_C = +125°C	I_{RM}	0.1 15	1.0 50	mA
Typical Total Capacitance (Note 6)		C_T	300		pF
Typical Thermal Resistance Junction to Case (Note 5)		$R_{\theta JC}$	1.7		°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-65 to +150		°C

Notes: 5. Thermal resistance junction to case mounted on heatsink.
6. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
7. Short duration pulse test used to minimize self-heating.

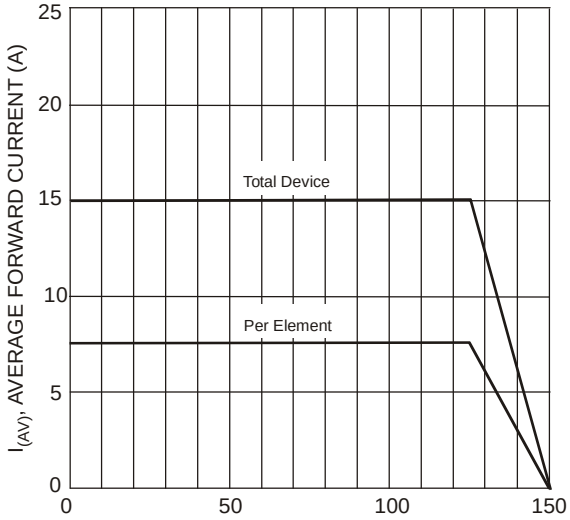


Fig. 1 Forward Current Derating Curve

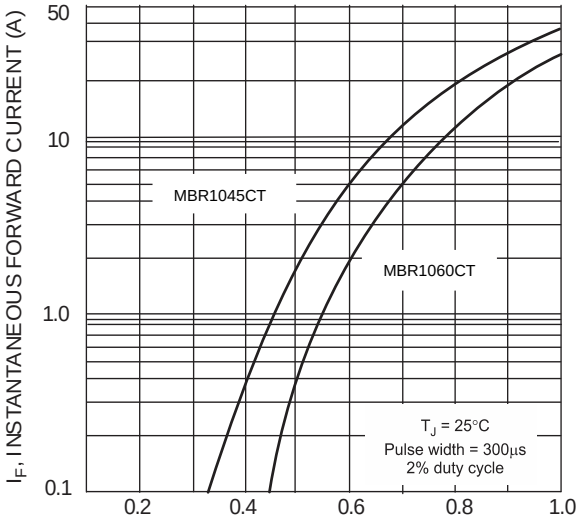


Fig. 2 Typical Forward Characteristics, (per Element)

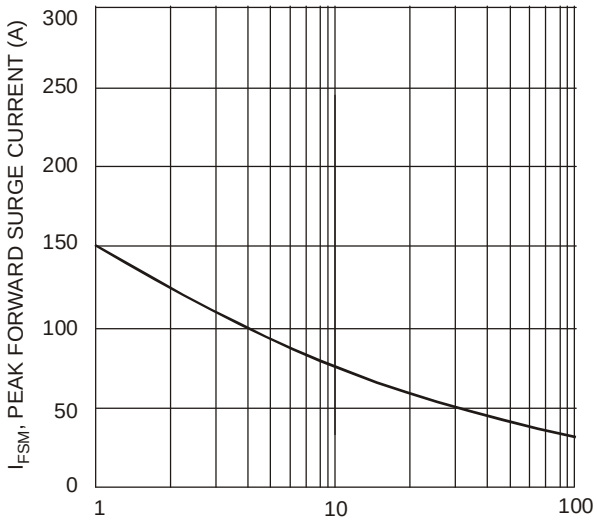


Fig. 3 Max Non-Repetitive Surge Current

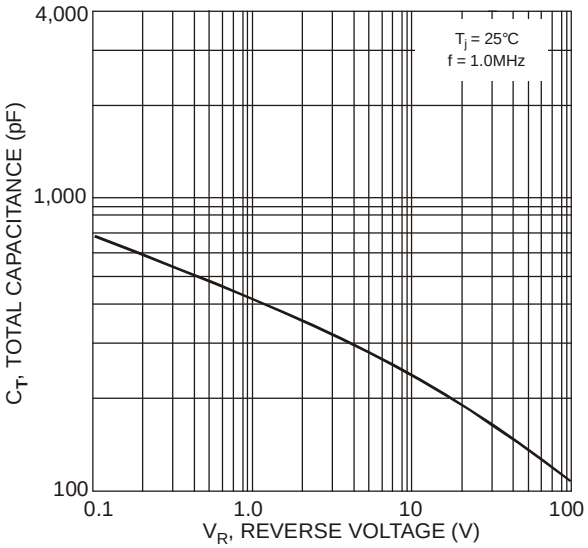


Fig. 4 Typical Total Capacitance (per element)

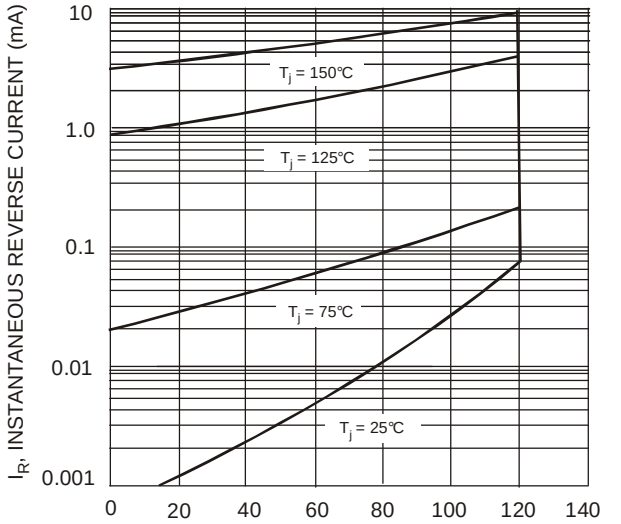
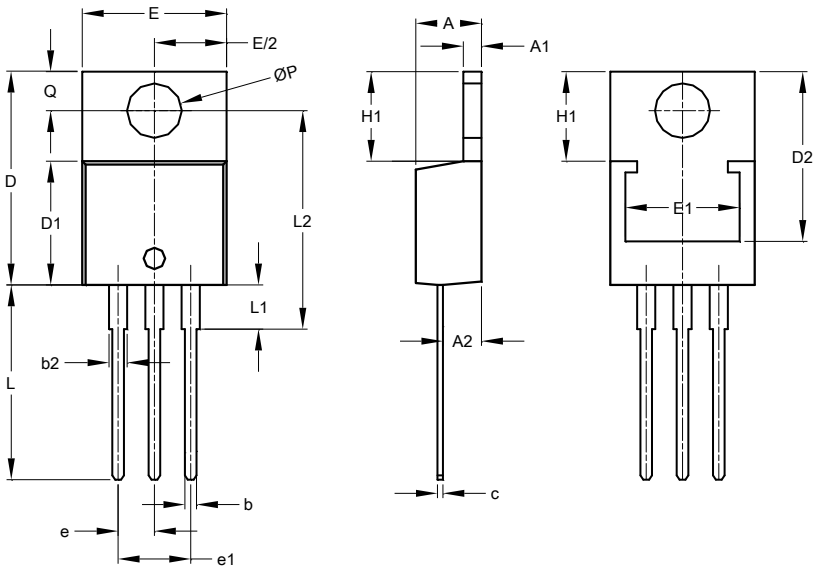


Fig. 5 Typical Reverse Characteristics, (per Element)

Package Outline Dimensions

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



TO220AB			
Dim	**Min**	**Max**	**Typ**
A	3.56	4.82	—
A1	0.51	1.39	—
A2	2.04	2.92	—
b	0.39	1.01	0.81
b2	1.15	1.77	1.24
c	0.356	0.61	—
D	14.22	16.51	—
D1	8.39	9.01	—
D2	11.45	12.87	—
e	—	—	2.54
e1	—	—	5.08
E	9.66	10.66	—
E1	6.86	8.89	—
H1	5.85	6.85	—
L	12.70	14.73	—
L1	—	6.35	—
L2	15.80	16.20	16.00
P	3.54	4.08	—
Q	2.54	3.42	—
All Dimensions in mm			

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