

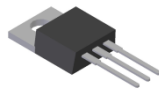
## Product Summary

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F</sub> Max (V) @ +25°C	I <sub>R</sub> Max (mA) @ +25°C
45	15	0.84	0.1
60	15	0.90	1.0

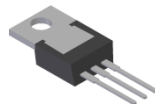
## Description and Applications

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

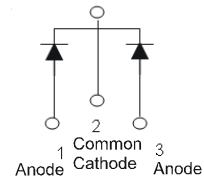
- Polarity Protection Diodes
- Re-Circulating Diodes
- Switching Diodes



TO220AB  
Top View



TO220AB  
Bottom View



Package Pin-Out  
Configuration

## 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**

## Mechanical Data

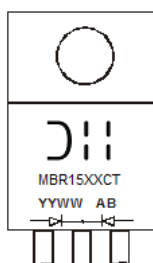
- Case: TO220AB
- Case Material: Molded Plastic.  
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish – Tin.  
Solderable per MIL-STD-202, Method 208 Ⓢ3
- Polarity: As Marked on Body
- Weight: 2.24 grams (Approximate)

## 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](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<sub>A</sub> = +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 <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	45	60	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	31.5	42	V
Average Rectified Output Current (Note 5) @ T <sub>C</sub> = +125°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 Drop @ I <sub>F</sub> = 15A, T <sub>C</sub> = +125°C @ I <sub>F</sub> = 7.5A, T <sub>C</sub> = +125°C @ I <sub>F</sub> = 15A, T <sub>C</sub> = +25°C	V <sub>FM</sub>	0.72 0.57 0.84	0.80 0.65 0.90	V
Peak Reverse Current at Rated DC Blocking Voltage (Note 7) @ T <sub>C</sub> = +25°C @ T <sub>C</sub> = +125°C	I <sub>RM</sub>	0.1 15	1.0 50	mA
Typical Total Capacitance (Note 6)	C <sub>T</sub>	300		pF
Typical Thermal Resistance Junction to Case (Note 5)	R <sub>θJC</sub>	1.7		°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-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.

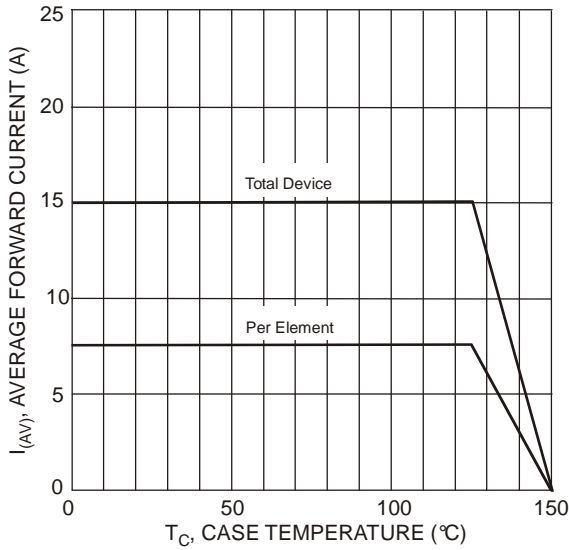


Fig. 1 Forward Current Derating Curve

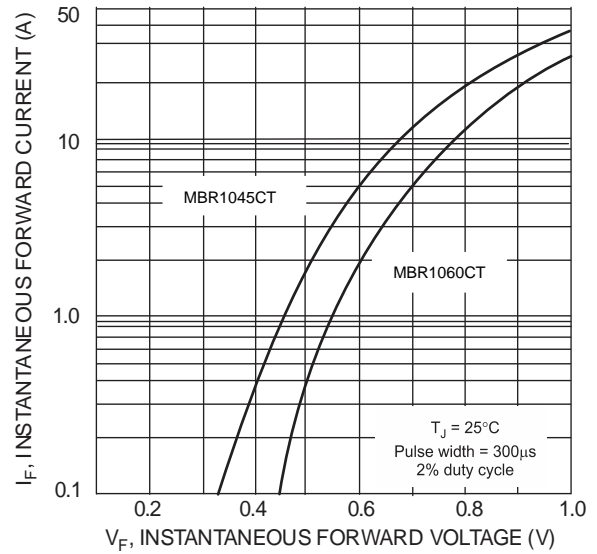


Fig. 2 Typical Forward Characteristics, (per Element)

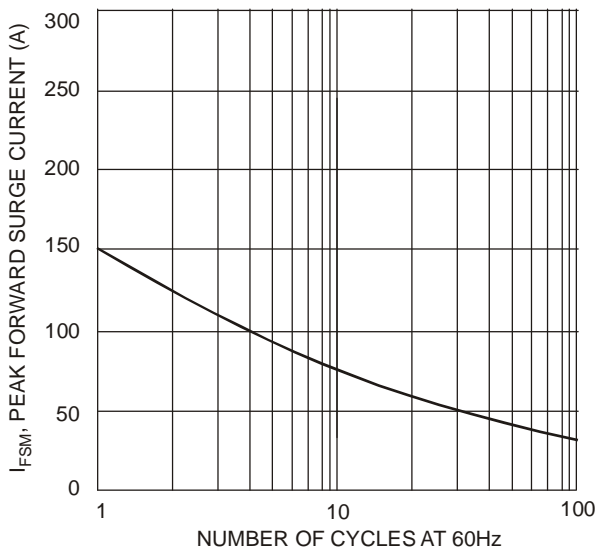


Fig. 3 Max Non-Repetitive Surge Current

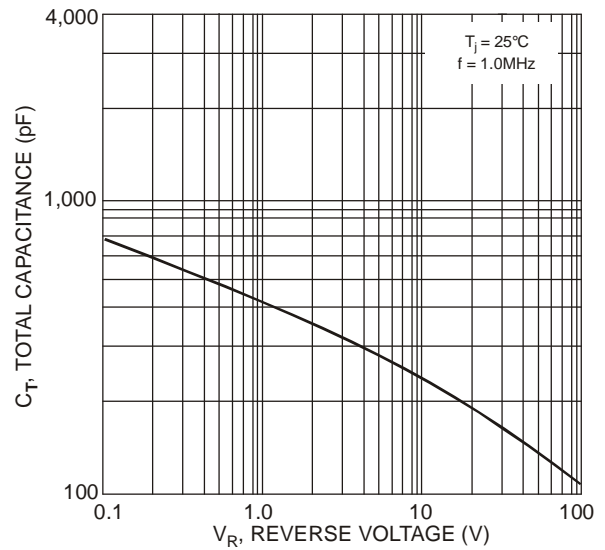


Fig. 4 Typical Total Capacitance (per element)

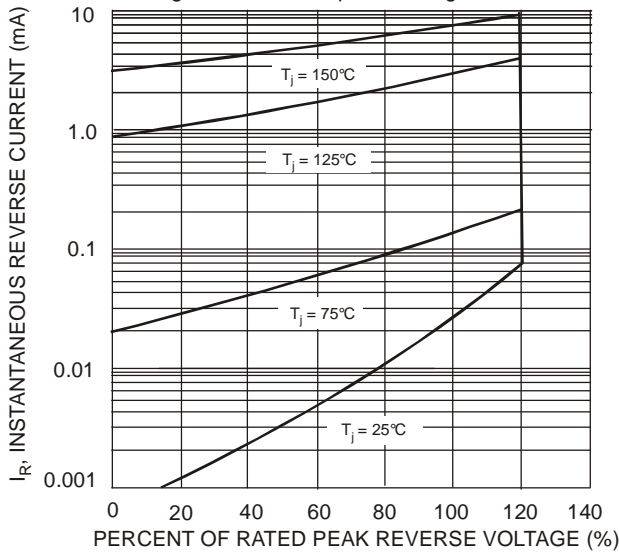
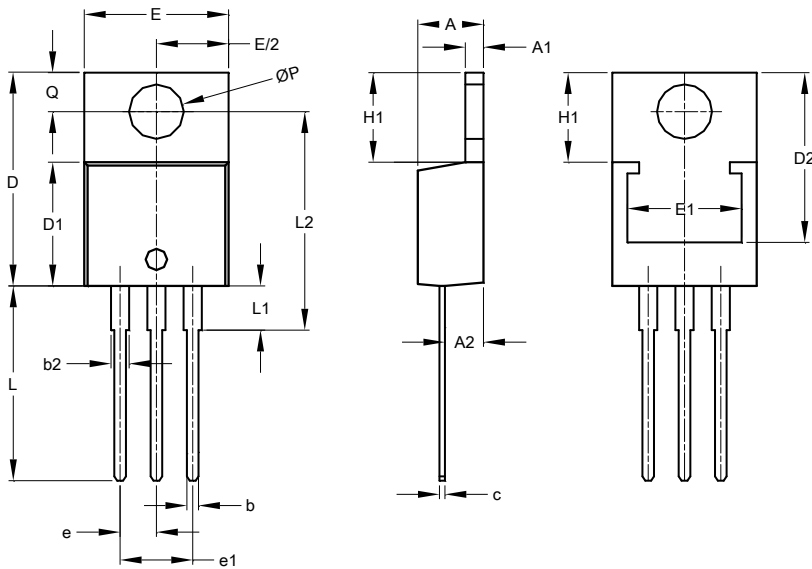


Fig. 5 Typical Reverse Characteristics, (per Element)

**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	—
<b>All Dimensions in mm</b>			

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