



# MBR540 SERIES

## SCHOTTKY BARRIER RECTIFIERS

**VOLTAGE** 40 to 200 Volts **CURRENT** 5 Amperes

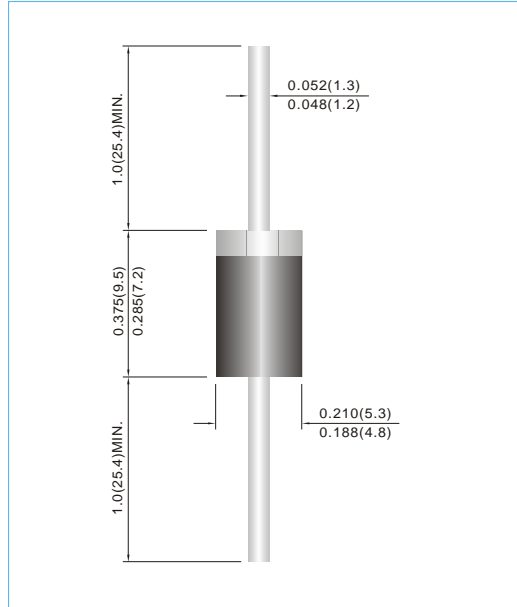
**DO-201AD** Unit : inch(mm)

### FEATURES

- Epitaxial Construction
- 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.
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

- Case: DO-201AD Molded plastic
- Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode
- Mounting Position: Any
- Weight: 0.0395 ounces, 1.122 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

PARAMETER	SYMBOL	MBR540	MBR545	MBR550	MBR560	MBR580	MBR590	MBR5100	MBR5150	MBR5200	UNITS	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	40	45	50	60	80	90	100	150	200	V	
Maximum RMS Voltage	$V_{RMS}$	28	31.5	35	42	56	63	70	105	140	V	
Maximum DC Blocking Voltage	$V_{DC}$	40	45	50	60	80	90	100	150	200	V	
Average Rectified Output Current (See Figure 1)	$I_{F(AV)}$	5.0									A	
Non-Repetitive Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	150									A	
Forward Voltage at 5.0A (Notes 3)	$V_F$	0.70		0.74			0.80		0.9		V	
Peak Reverse Current at Rated DC Blocking Voltage $T_J=25^{\circ}C$ $T_J=100^{\circ}C$	$I_R$						0.05				10	mA
Typical Thermal Resistance (Notes 2) (Notes 1) (Notes 1)	$R_{\theta JA}$ $R_{\theta JL}$ $R_{\theta JC}$						50				15	$^{\circ}C / W$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150									-65 to +150	$^{\circ}C$

### NOTES:

1. Measured at ambient temperature at a distance of 9.5mm from the case
2. Minimum Pad Area
3. Pulse test : 300μs pulse width, 1% duty cycle



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## RATING AND CHARACTERISTIC CURVES

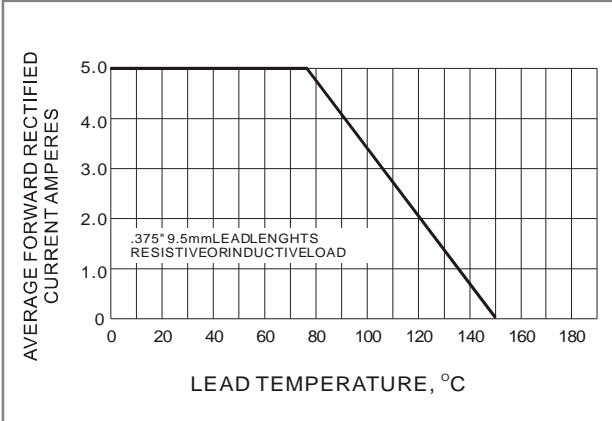


Fig.1- FORWARD CURRENT DERATING CURVE

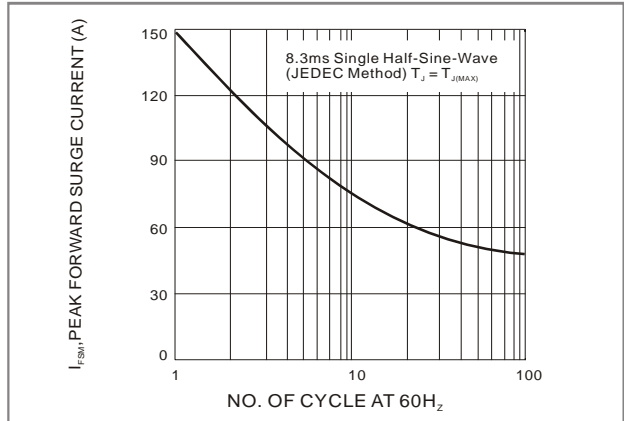


Fig.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

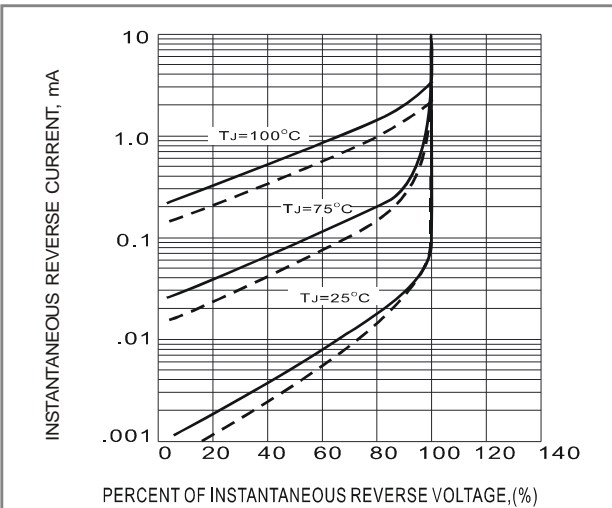


Fig.3-TYPICAL REVERSE CHARACTERISTIC

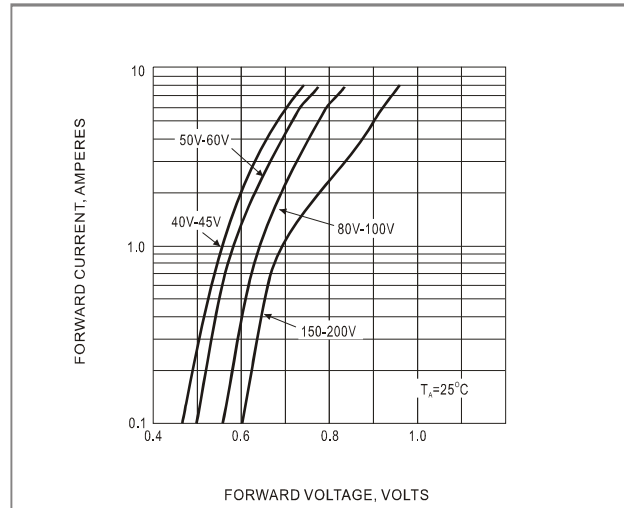


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

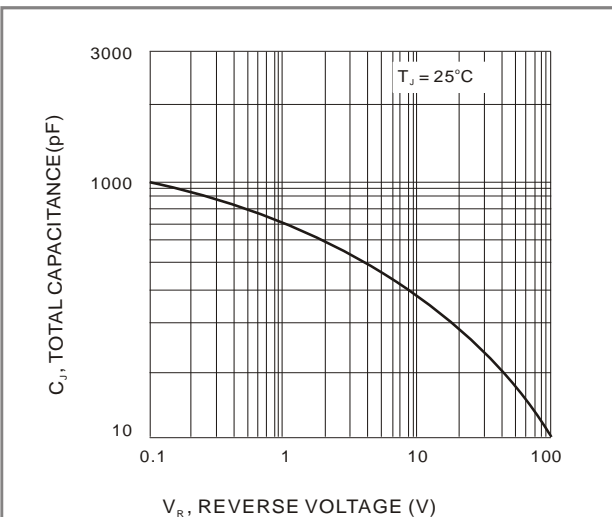


Fig.5-TYPICAL TOTAL CAPACITANCE