



MBR540 SERIES

SCHOTTKY BARRIER RECTIFIERS

VOLTAGE 40 to 200 Volt **CURRENT** 5 Ampere

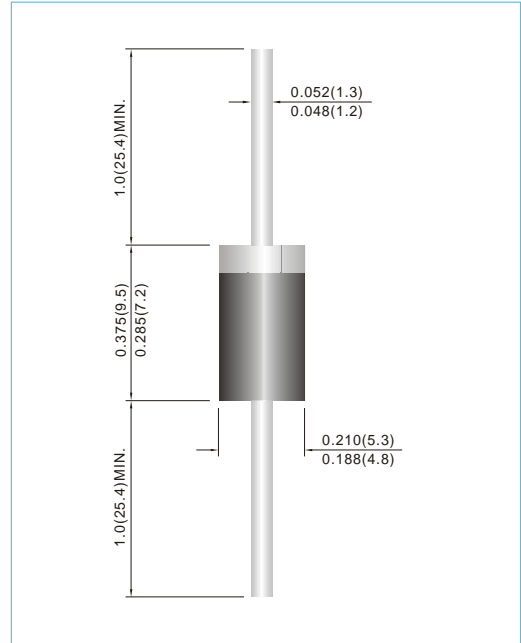
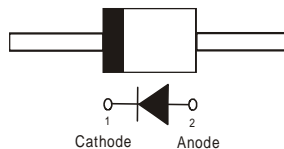
DO-201AD Unit : inch(mm)

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
- Lead free in compliance with EU RoHS 2011/65/EU directive

MECHANICAL DATA

- Case: DO-201AD Molded plastic
- Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode
- Weight: 0.0402 ounces, 1.142 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									A	
Non-Repetitive Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150									A	
Power Dissipation	P_D	2.5									W	
Forward Voltage at 5A (Notes 3)	V_F	0.7	0.74		0.8			0.9		V		
Maximum DC Reverse Current at Rated DC Blocking Voltage (Notes 4)	$T_j=25^\circ\text{C}$	0.05									mA	
	$T_j=100^\circ\text{C}$	10			-						mA	
	$T_j=125^\circ\text{C}$	-			5			1		mA		
Typical Thermal Resistance (Notes 2) (Notes 1) (Notes 1)	$R_{\theta JA}$	50										°C / W
	$R_{\theta JL}$	15										
	$R_{\theta JC}$	12										
Typical Junction Capacitance ($V_R=4V, f=1\text{MHz}$)	C_j	250				150				pF		
Operating Junction and Storage Temperature Range	T_j, T_{STG}	-55 to +150		-65 to +150							°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
4. Short duration pulse test used to minimize self-heating effect.



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TYPICAL CHARACTERISTIC CURVES

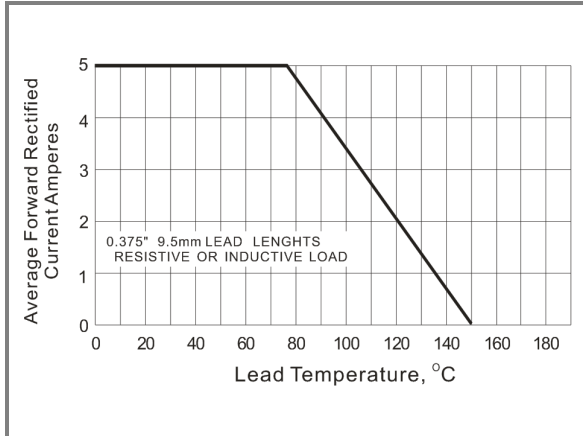


Fig.1 Forward Current Derating Curve

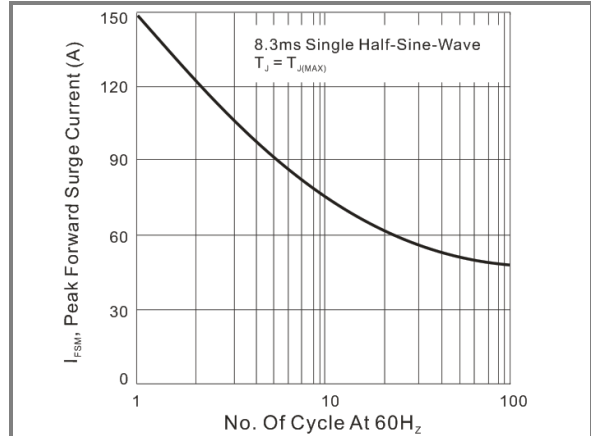


Fig. 2 Maximum Non-Repetitive Surge Current

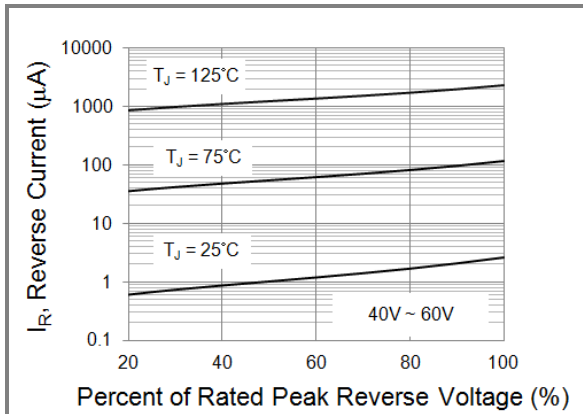


Fig.3 Typical Reverse Characteristics

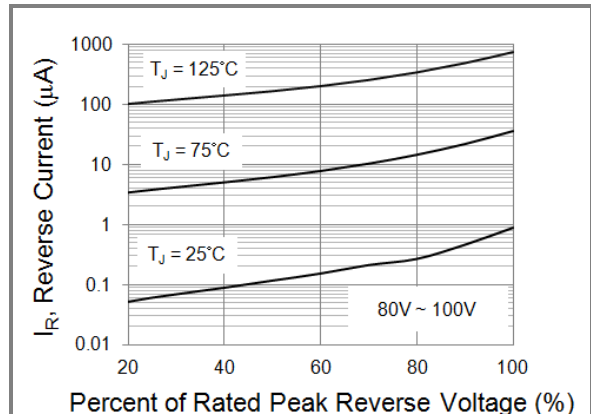


Fig.4 Typical Reverse Characteristics

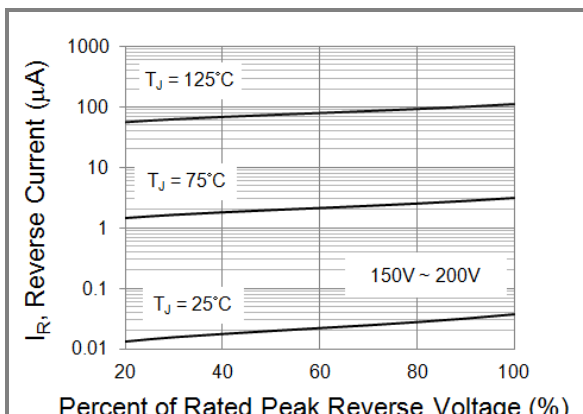


Fig.5 Typical Reverse Characteristics

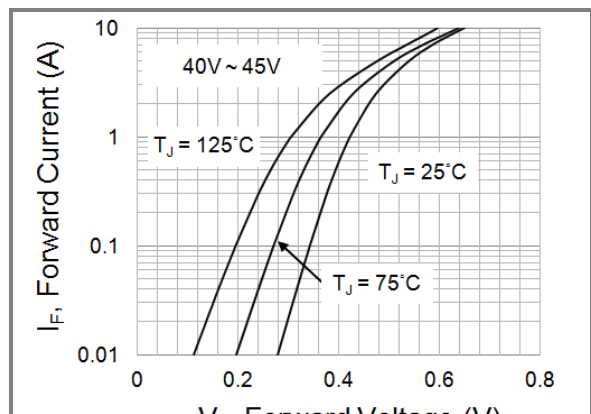


Fig.6 Typical Forward Characteristics



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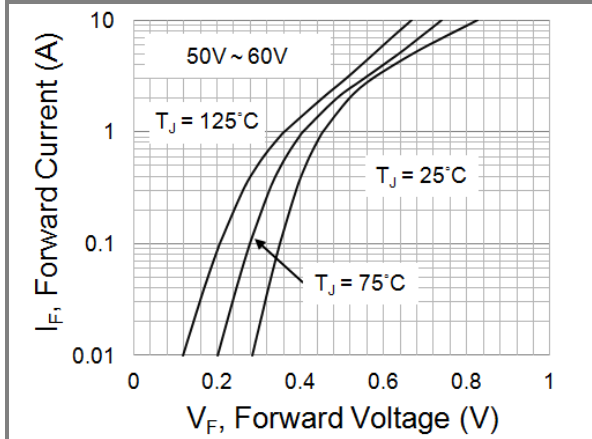


Fig.7 Typical Forward Characteristics

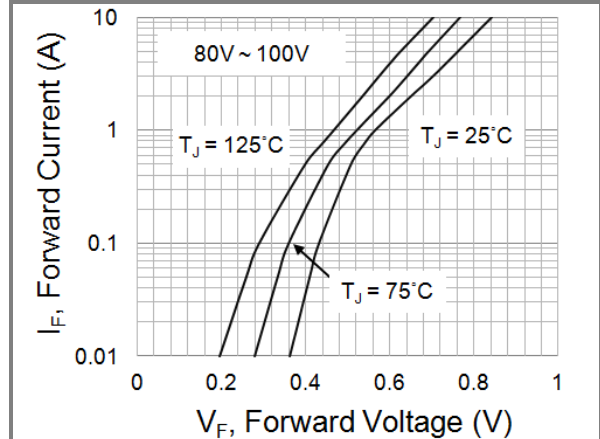


Fig.8 Typical Forward Characteristics

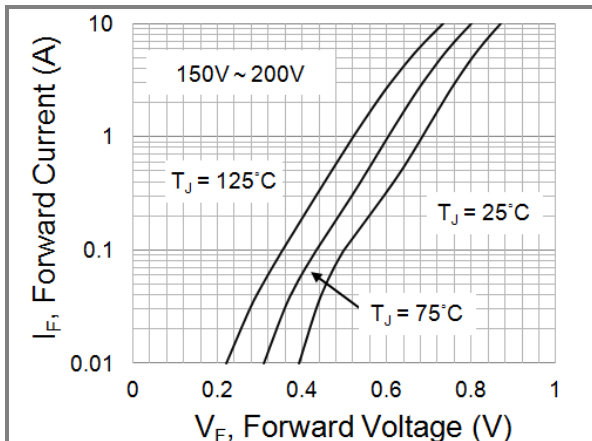


Fig.9 Typical Forward Characteristics

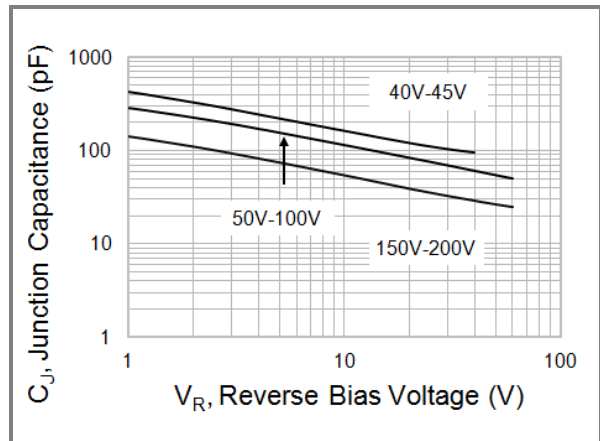


Fig.10 Typical Junction Capacitance

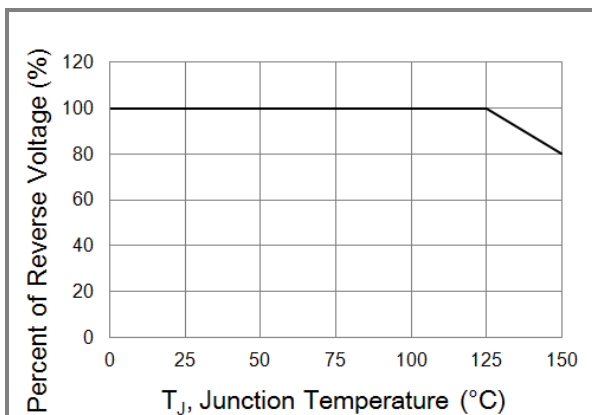


Fig.11 Operating Temperature Derating Curve



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Part No_packing code_Version

MBR540_AY_00001
 MBR540_AY_10001
 MBR540_B0_00001
 MBR540_B0_10001
 MBR540_R2_00001
 MBR540_R2_10001

For example :

RB500V-40 **R2** **00001**



Packing Code XX				Version Code XXXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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