



Schottky Barrier Rectifiers

Reverse Voltage: 40V to 200V

Forward Current: 5 Amp

Features

- Low power loss, high efficiency
- Guardring for overvoltage protection
- High forward surge capability
- Halogen-free according to IEC 61249-2-21 definition
- Compliant to RoHS Directive 2011/65/EU

Mechanical Data

- **Package:** TO-220AC

Molding compound meets UL 94 V-0 flammability rating

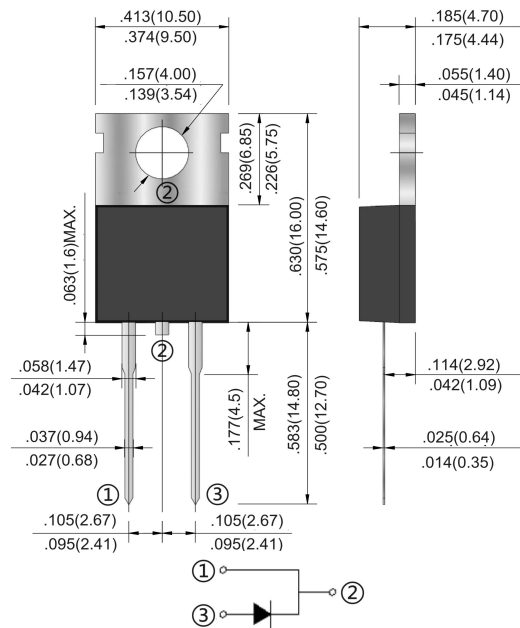
- **Terminals:** Matte tin plated leads,
solderable per JESD22-B102

- **Polarity:** As marked

Typical Applications

- Switching mode power supply (SMPS)
- Adapters
- DC to DC converters

TO-220AC



Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter&Test Conditions	SYM.	MBR 540	MBR 545	MBR 550	MBR 560	MBR 580	MBR 5100	MBR 5150	MBR 5200	Unit
Device marking code		MBR 540	MBR 545	MBR 550	MBR 560	MBR 580	MBR 5100	MBR 5150	MBR 5200	
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	40	45	50	60	80	100	150	200	V
Maximum RMS Voltage	V _{RMS}	28	31.5	35	47	56	70	105	140	V
Maximum DC Blocking Voltage	V _{DC}	40	45	50	60	80	100	150	200	V
Average rectified output current @60Hz sine wave, Resistance load(FIG.1)	I _{O(AV)}	5.0								A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load	I _{FSM}	100				120				A
Maximum Thermal Resistance, Junction To Ambient	R _{θJA}	60								℃/W
Operating junction range	T _j	-55 to+125		-55 to+150						℃
Storage temperature range	T _{STG}	-55 to+175								℃

Electrical Characteristics (Ta=25°C Unless otherwise specified)

Parameter&Test Conditions		SYM.	MBR 540	MBR 545	MBR 550	MBR 560	MBR 580	MBR 5100	MBR 5150	MBR 5200	Unit
Maximum Instantaneous Forward Voltage(Note1)	IF=5A, TJ=25℃	V _{FM}	0.65		0.75		0.80		0.85	0.92	V
Maximum DC reverse current at rated DC blocking voltage	TA = 25℃	I _R	0.2				0.05				mA
	TA = 100℃		20								

Notes:

1. Pulse test with PW=300μs, 2% duty cycle.
2. The typical data above is for reference only.

Rating and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED

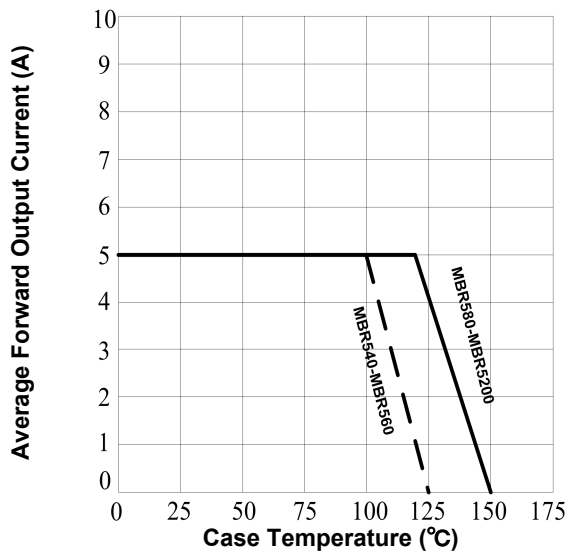


FIG. 2- -MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

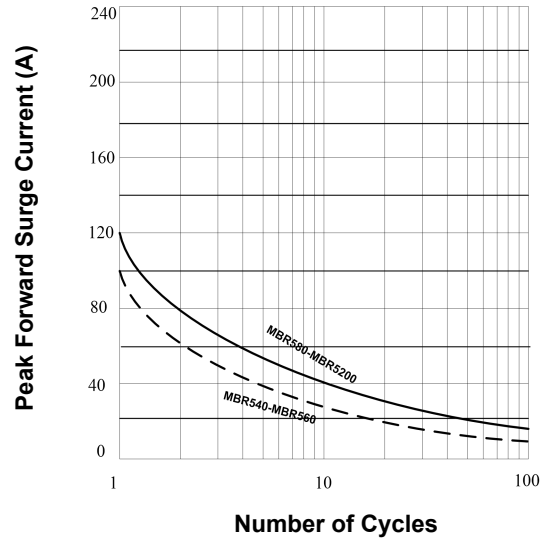


FIG. 3- TYPICAL FORWARD VOLTAGE

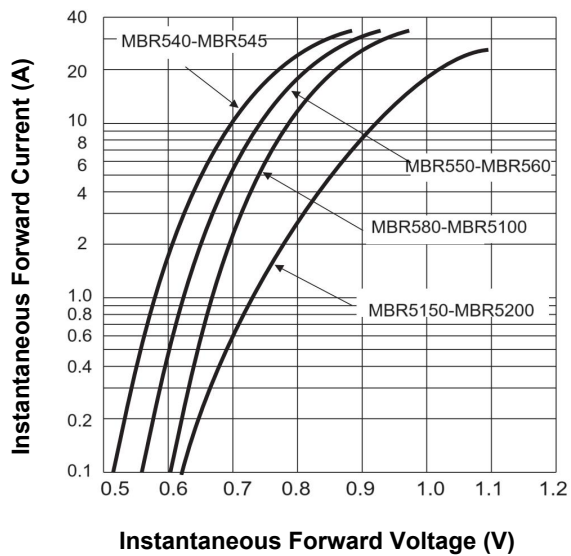
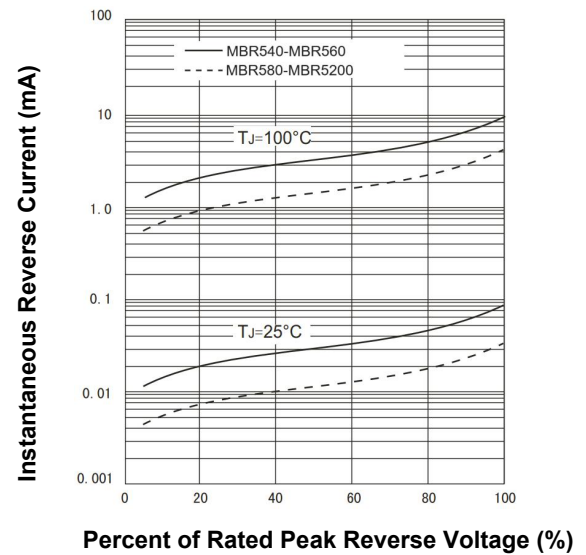


FIG. 4- TYPICAL REVERSE LEAKAGE



The curve above is for reference only.

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