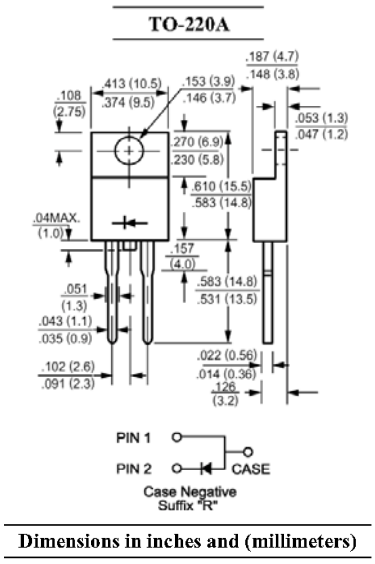
MBR1635R THRU MBR1660R

SCHOTTKY BARRIER RECTIFIER
Reverse Voltage - 35 to 60 V
Forward Current - 16 A

Features

- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- High current capability
- Low power loss, high efficiency
- Low forward voltage drop
- For use in low voltage, high frequency inverters, free whelling, and polarity protection applications



Dimensions in inches and (millimeters)

Mechanical Data

- Case: Molded plastic, TO-220A
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: Leads solderable per MIL-STD-202 Method 208 guaranteed
- Polarity: As marked
- Mounting position: Any

Maximum Ratings and Electrical Characteristics

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

Parameter	Symbols	MBR1635R	MBR1645R	MBR1650R	MBR1660R	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	V
Maximum RMS Voltage	V_{RMS}	24	31	35	42	V
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	V
Maximum Average Forward Rectified Current T_C = 125 °C	$I_{F(AV)}$	16				A
Peak Repetitive Forward Current at T_C = 125 °C (Rated V_R, Sq. Wave, 20 KHz)	I_{FRM}	32				A
Peak Forward Surge Current, 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	150				A
Peak Repetitive Reverse Current at tp = 2 µs, 1 KHz	I_{RRM}	1		0.5		A
Maximum Forward Voltage [1] at I_F = 16 A, T_C = 25 °C at I_F = 16 A, T_C = 125 °C	V_F	0.63 0.57		0.75 0.65		V
Maximum Reverse Current at Rated DC Blocking Voltage at T_C = 25 °C at T_C = 125 °C	I_R	0.2 40		1 50		mA
Voltage Rate of Change (Rated V_R)	dv/dt	10,000				V/µs
Typical Thermal Resistance	$R_{\theta JC}$	1.5				°C/W
Operating Temperature Range	T_J	- 55 to + 150				°C
Storage Temperature Range	T_S	- 55 to + 175				°C

[1] Pulse test: 300 µs pulse width, 1% duty cycle

Fig. 1 - Forward Current Derating Curve

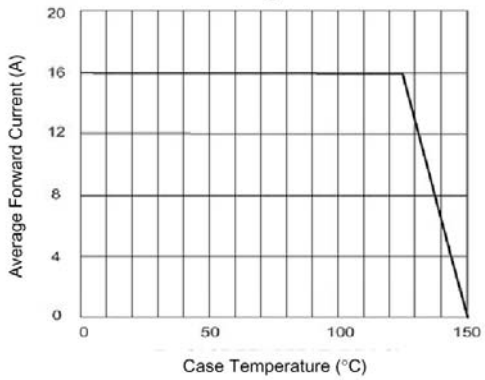


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

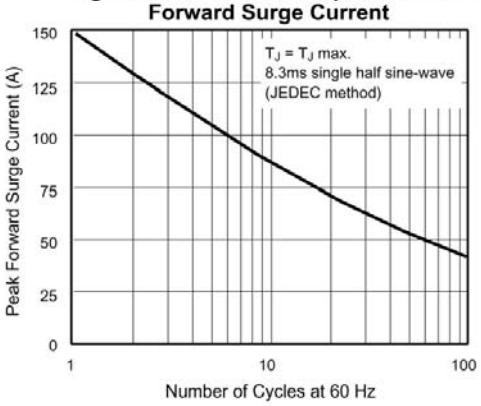


Fig. 3 - Typical Instantaneous Forward Characteristics

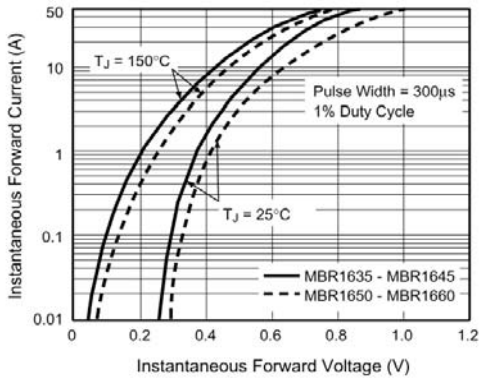


Fig. 4 - Typical Reverse Characteristics

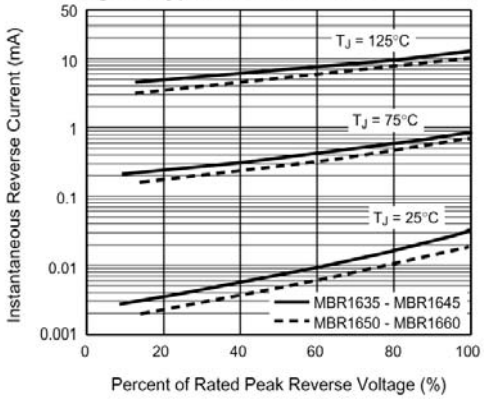


Fig. 5 - Typical Junction Capacitance

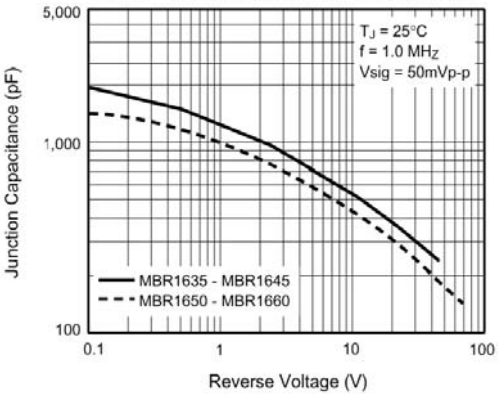


Fig. 6 - Typical Transient Thermal Impedance