



MBR1635 THRU MBR16100

16.0 AMPS. Schottky Barrier Rectifiers



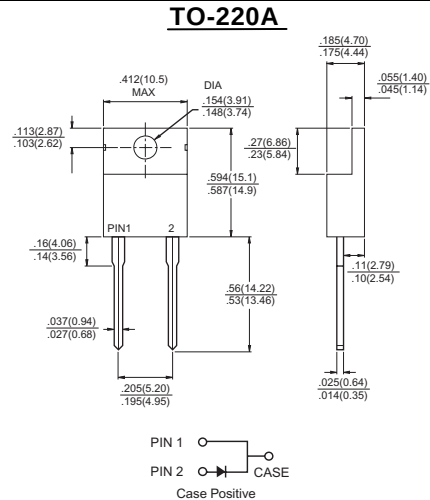
Voltage Range
35 to 100 Volts
Current
16.0 Amperes

Features

- Plastic material used carries Underwriters Laboratory Classifications 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Guardring for overvoltage protection
- High temperature soldering guaranteed:
260°C/10 seconds, 0.25" (6.35mm) from case

Mechanical Data

- Cases: JEDEC TO-220A molded plastic body
- Terminals: Lead solderable per MIL-STD-750, Method 2026
- Polarity: As marked
- Mounting position: Any
- Mounting torque: 5 in. - lbs. max
- Weight: 0.08 ounce, 2.24 grams



Maximum Ratings and Electrical Characteristics

Rating 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%

Type Number	Symbol	MBR 1635	MBR 1645	MBR 1650	MBR 1660	MBR 1690	MBR 16100	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	35	45	50	60	90	100	V
Maximum RMS Voltage	V _{RMS}	24	31	35	42	63	70	V
Maximum DC Blocking Voltage	V _{DC}	35	45	50	60	90	100	V
Maximum Average Forward Rectified Current at Tc=125OC	I _(AV)	16						A
Peak Repetitive Forward Current (Rated VR, Square Wave, 20KHz) at Tc=125oC	I _{FRM}	32.0						A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	150				250		A
Peak Repetitive Reverse Surge Current (Note 1)	I _R RM	1.0		0.5				A
Maximum Instantaneous Forward Voltage at: (Note 2) I _F =16A, T _C =25°C I _F =16A, T _C =125°C	V _F	0.63 0.57		0.75 0.65		0.85 0.75		V
Maximum Instantaneous Reverse Current @ Tc =25°C at Rated DC Blocking Voltage (Note 2) @ Tc=125°C	I _R	0.2 40.0		1.0 50.0		0.2 -		mA mA
Voltage Rate of Change (Rated V _R)	dV/dt	10,000						V/uS
Maximum Typical Thermal Resistance(Note 3)	RθJC	3.0						°C/W
Typical Junction Capacitance	C _J	500						pF
Operating Junction Temperature Range	T _J	-65 to +150						°C
Storage Temperature Range	T _{STG}	-65 to +175						°C

Notes: 1. 2.0us Pulse Width, f=1.0 KHz

2. Pulse Test: 300us Pulse Width, 1% Duty Cycle

3. Thermal Resistance from Junction to Case Per Leg with heatsink size of 2" x 3" x 0.25" AL-plate

RATINGS AND CHARACTERISTIC CURVES (MBR1635 THRU MBR16100)

FIG.1- FORWARD CURRENT DERATING CURVE

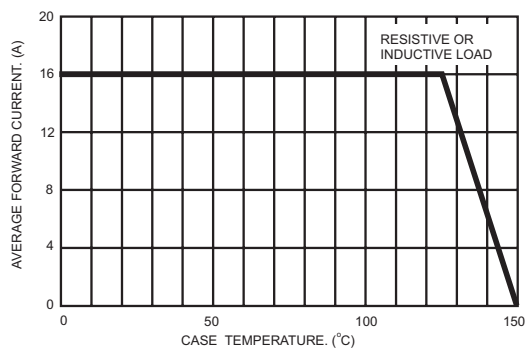


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

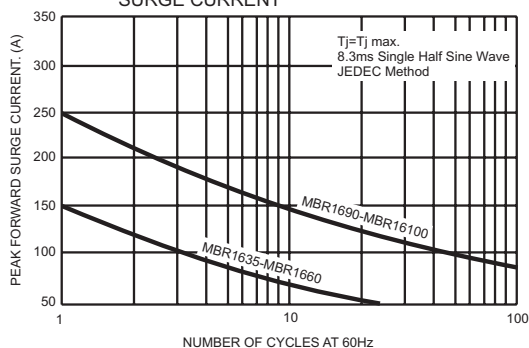


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

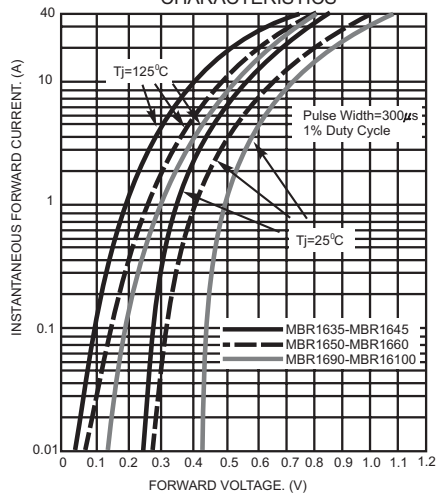


FIG.4- TYPICAL REVERSE CHARACTERISTICS

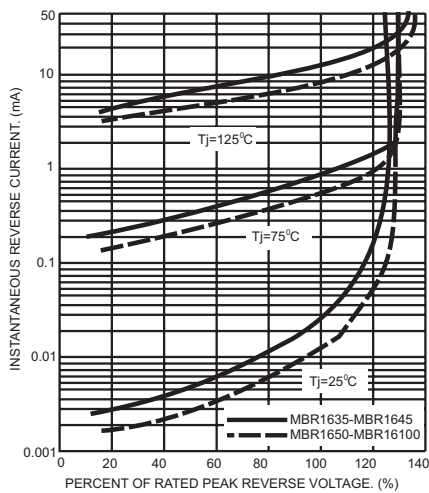


FIG.5- TYPICAL JUNCTION CAPACITANCE

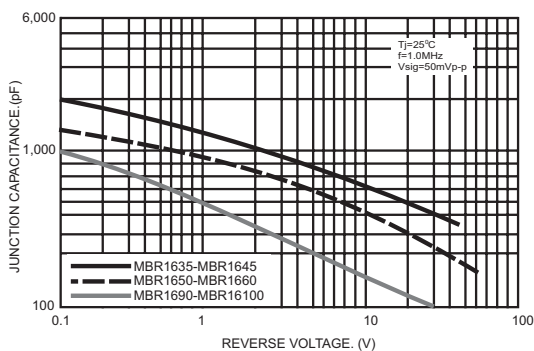


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

