

MBR1645-MBRF1645

Schottky Barrier Rectifier
 Reverse Voltage 45 V Forward Current 16 A

Features

- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Single rectifier construction, positive center tap
- Metal of silicon rectifier, majority carrier conduction
- Low forward voltage, high efficiency
- Guarding for over voltage protection



MBR1645
 Package: TO-220-AC

MBRF1645
 Package: ITO-220-AC

Mechanical Data

- Case: Epoxy Molded
- Weight: 1.9grams(approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 50 units per plastic tube



Schematic Diagram

Maximum Ratings & Electrical Characteristics

($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Test Conditions		Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage			V_{RRM}	45	V
Working Peak Reverse Voltage			V_{RWM}	45	V
Maximum DC Blocking Voltage			V_{DC}	45	V
Maximum Average Forward Rectified Current @ $T_c=105^\circ\text{C}$			$I_F(AV)$	16	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load per Diode			I_{FSM}	150	A
Peak repetitive Reverse Current Per Leg at $t_p=2.0\mu\text{s}$, 1KHz			I_{RRM}	1.0	A
Voltage Rate of Change (rated V_R)			DV/dt	10000	V/us
Operating Junction Temperature Range			T_J	-55 to+150	$^\circ\text{C}$
Storage Temperature Range			T_{STG}	-55 to+150	$^\circ\text{C}$
Isolation Voltage (ITO-220-AC only) from Terminal to Heatsink $t = 1 \text{ sec}$			V_{AC}	1500	V
Maximum Instantaneous Forward Voltage per Leg	$I_F=16\text{A}$	$T_C=25^\circ\text{C}$	V_F	0.60	V
	$I_F=16\text{A}$	$T_C=125^\circ\text{C}$		0.53	
Maximum Reverse Current per Leg at Working Peak Reverse Voltage		$T_J=25^\circ\text{C}$	I_R	200	μA
		$T_J=100^\circ\text{C}$		15	mA
Thermal Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)					
Symbol	Parameter		Typ.(TO-220-AC)	Typ.(ITO-220-AC)	Unit
$R_{\theta JC}$	Thermal Resistance, Junction to Case per Leg		2.0	4.0	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient per Leg		62.5	62.5	$^\circ\text{C}/\text{W}$

Note: Pulse test:300us pulse width, duty cycle=2%

Ratings and Characteristics Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

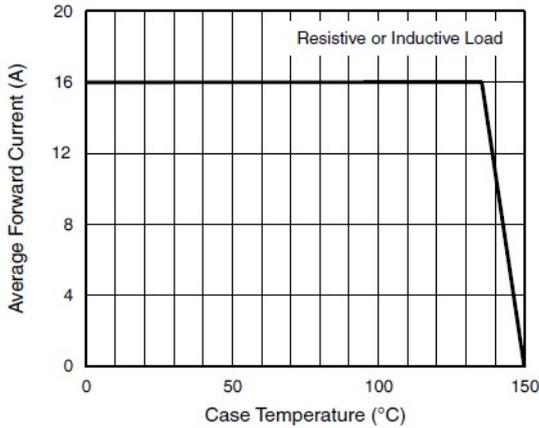


Figure 1. Forward Current Derating Curve

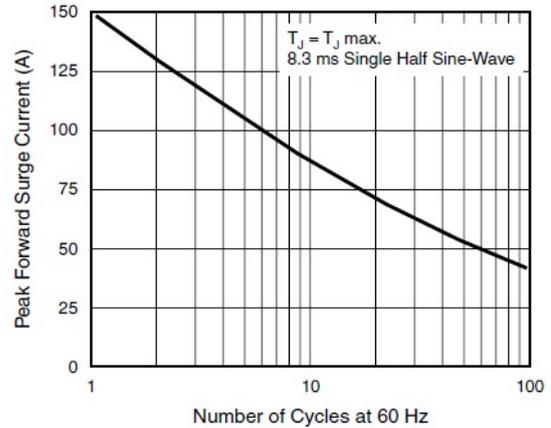


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

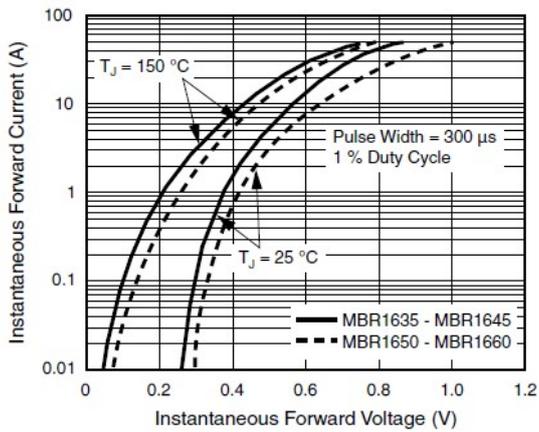


Figure 3. Typical Instantaneous Forward Characteristics

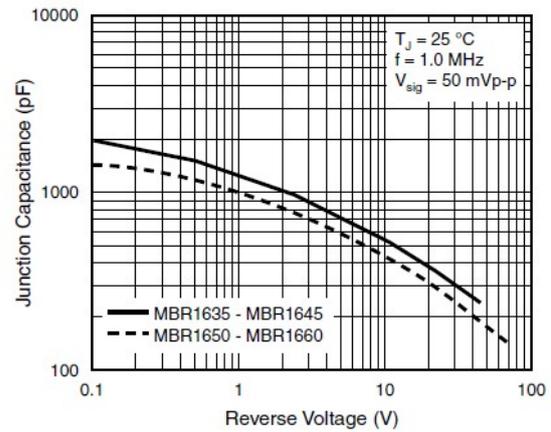


Figure 5. Typical Junction Capacitance

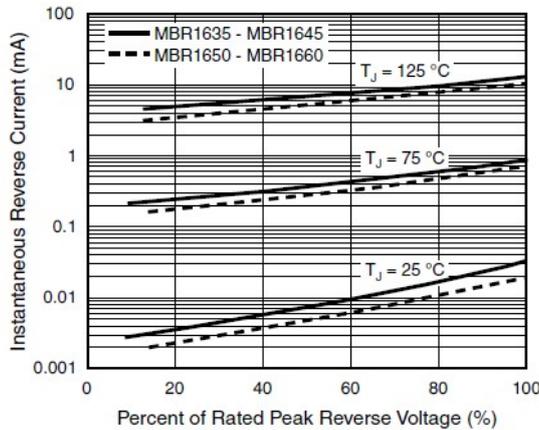


Figure 4. Typical Reverse Characteristics

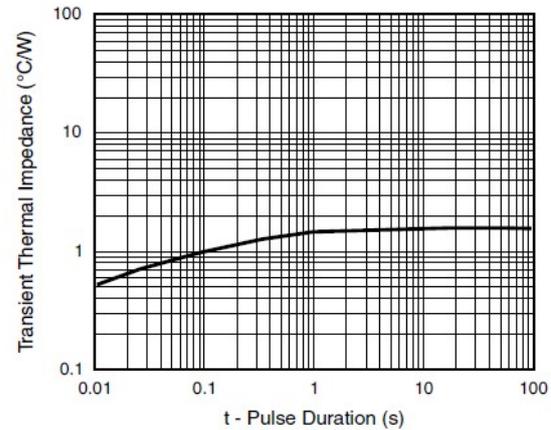
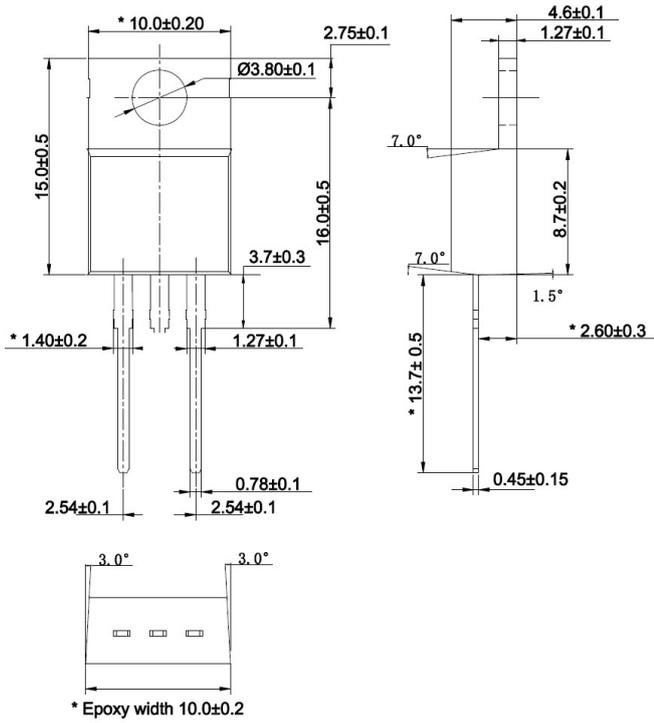


Figure 6. Typical Transient Thermal Impedance

Package Outline Dimensions

in millimeters

TO-220-AC



ITO-220-AC

