

MBRS1035 - MBR10150

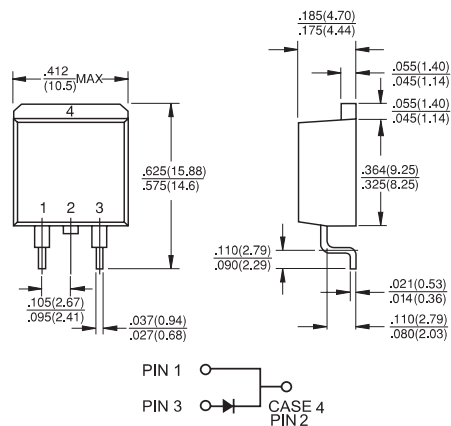
10.0 AMPS. Surface Mount Schottky Barrier Rectifiers

D²PAK



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 D²PAK molded plastic body
- ✦ Terminals: Pure tin plated, lead free. 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

Dimensions in inches and (millimeters)

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	MBRS 1035	MBRS 1045	MBRS 1050	MBRS 1060	MBRS 1090	MBRS 10100	MBRS 10150	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	150	V
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	105	V
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	150	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	10							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	120							A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1.0		0.5					A
Maximum Instantaneous Forward Voltage at (Note 2) $I_F=10A, T_C=25^{\circ}C$ $I_F=10A, T_C=125^{\circ}C$ $I_F=20A, T_C=25^{\circ}C$ $I_F=20A, T_C=125^{\circ}C$	V_F	—	0.80	0.85	1.05	—	—	—	V
Maximum Instantaneous Reverse Current @ $T_J=25^{\circ}C$ at Rated DC Blocking Voltage (Note 2) @ $T_J=100^{\circ}C$	I_R	0.1			0.1		5.0		mA mA
Typical Junction capacitance	C_J	390		300			220		pF
Maximum Thermal Resistance, Junction to Case	$R_{\theta JA}$ $R_{\theta JC}$	60 2.0							°C/W
Operating Junction Temperature Range	T_J	-65 to +175							°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.

RATINGS AND CHARACTERISTIC CURVES (MBRS1035 THRU MBRS10150)

FIG.1- FORWARD CURRENT DERATING CURVE

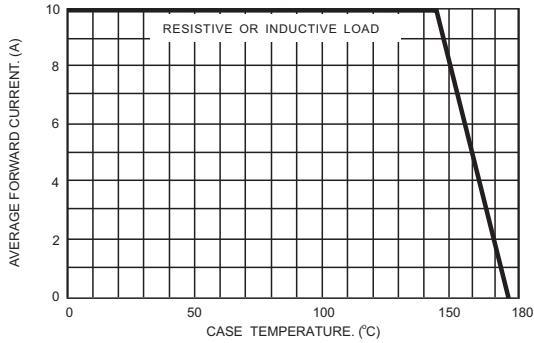


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

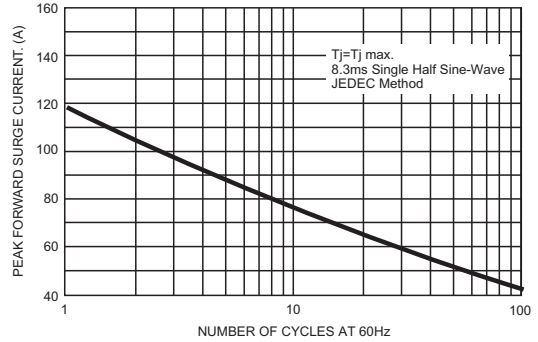


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

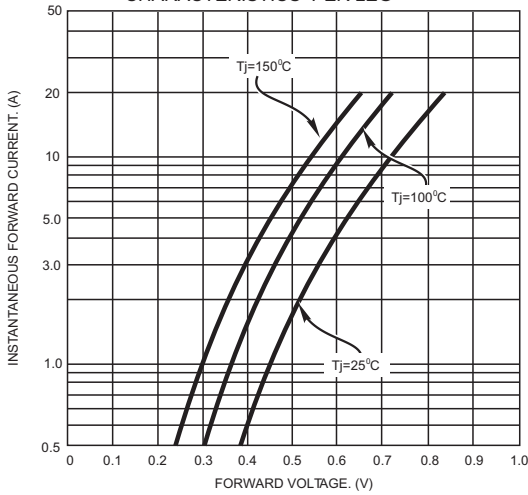


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

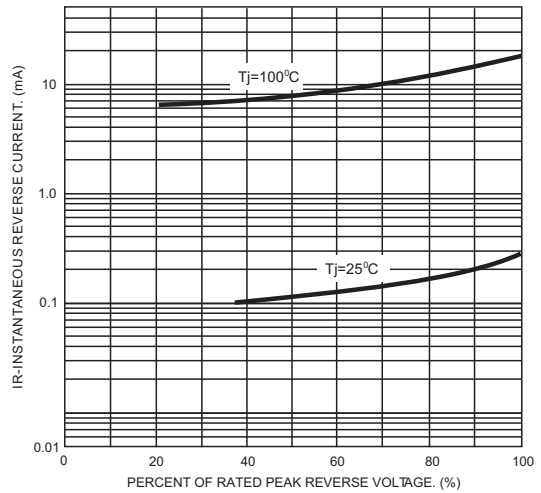


FIG.5- TYPICAL JUNCTION CAPACITANCE

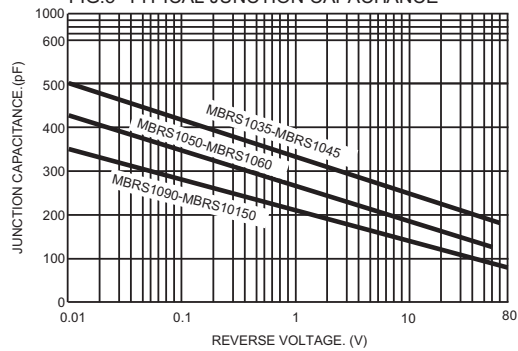


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

