SWITCHMODE™ Power Rectifiers

. . . using the Schottky Barrier principle with a platinum barrier metal. These state–of–the–art devices have the following features:

- Guardring for Stress Protection
- Low Forward Voltage
- 150°C Operating Junction Temperature
- Guaranteed Reverse Avalanche
- Epoxy Meets UL94, VO at 1/8″

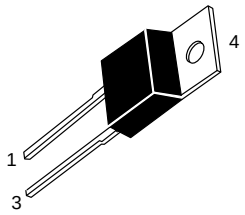
Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: B735, B745

MBR735
MBR745

MBR745 is a Motorola Preferred Device

SCHOTTKY BARRIER RECTIFIERS 7.5 AMPERES 35 and 45 VOLTS



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MAXIMUM RATINGS

Rating	Symbol	MBR735	MBR745	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	35	45	Volts
Average Rectified Forward Current (Rated V_R) T_C = 105°C	$I_{F(AV)}$	7.5	7.5	Amps
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20 kHz) T_C = 105°C	I_{FRM}	15	15	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	150	150	Amps
Peak Repetitive Reverse Surge Current (2.0 μs, 1.0 kHz)	I_{RRM}	1.0	1.0	Amp
Operating Junction Temperature	T_J	– 65 to +150	– 65 to +150	°C
Storage Temperature	T_{stg}	– 65 to +175	– 65 to +175	°C
Voltage Rate of Change (Rated V_R)	dv/dt	1000	10000	V/μs

THERMAL CHARACTERISTICS

Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.0	3.0	°C/W
Maximum Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	60	60	°C/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1) (i_F = 7.5 Amps, T_C = 125°C) (i_F = 15 Amps, T_C = 125°C) (i_F = 15 Amps, T_C = 25°C)	v_F	 0.57 0.72 0.84	 0.57 0.72 0.84	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, T_C = 125°C) (Rated dc Voltage, T_C = 25°C)	i_R	 15 0.1	 15 0.1	mA

(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

SWITCHMODE is a trademark of Motorola, Inc.
Preferred devices are Motorola recommended choices for future use and best overall value.

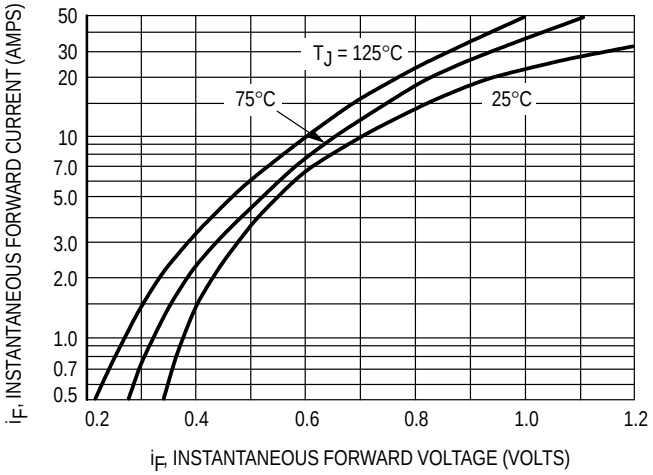


Figure 1. Typical Forward Voltage

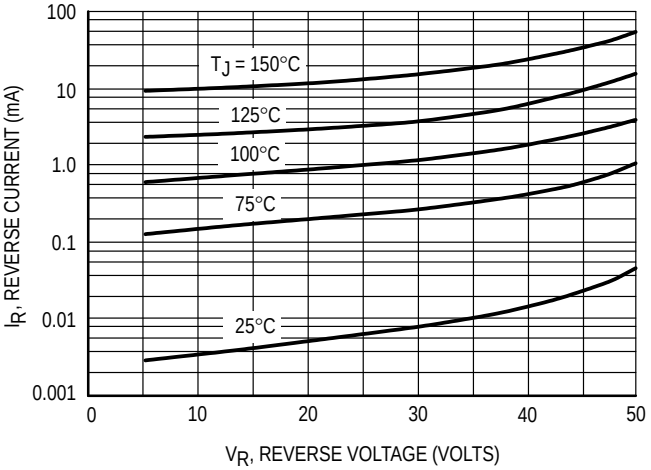


Figure 2. Typical Reverse Current

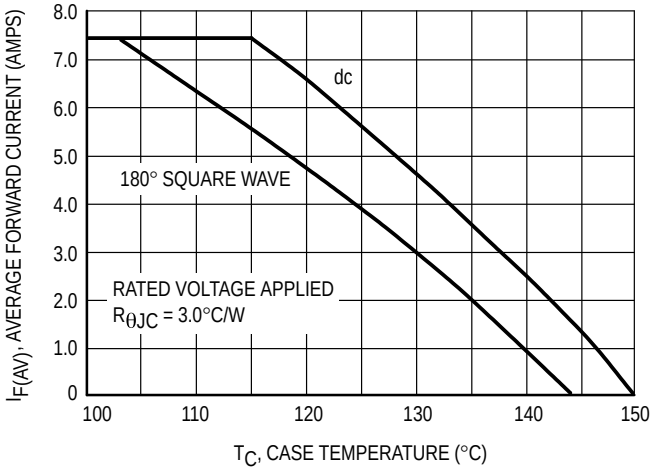


Figure 3. Current Derating, Case

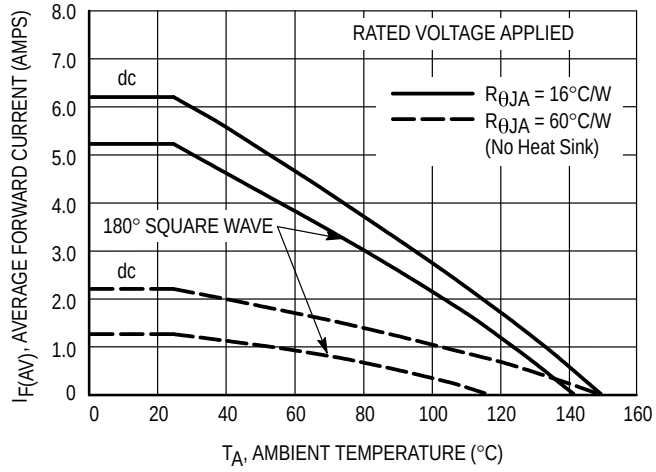


Figure 4. Current Derating, Ambient

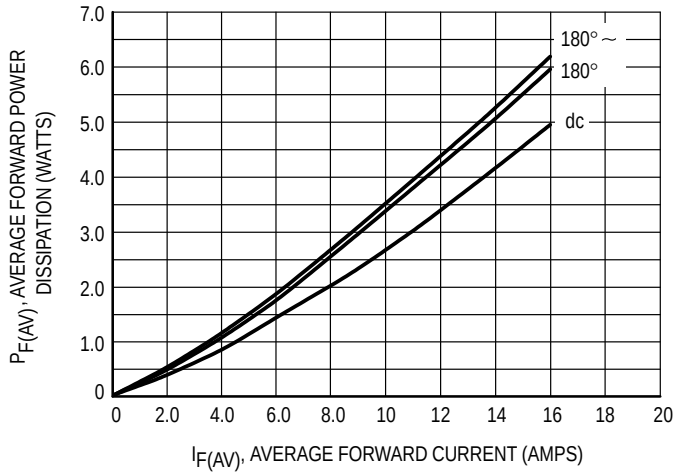
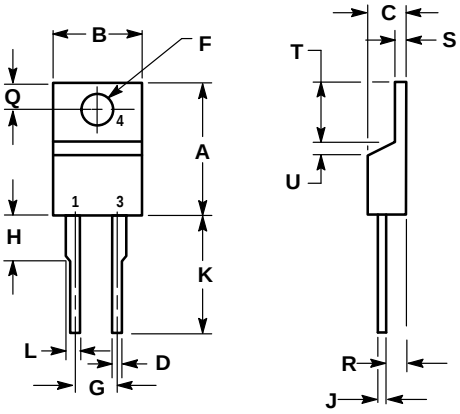


Figure 5. Power Dissipation

PACKAGE DIMENSIONS



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.595	0.620	15.11	15.75
B	0.380	0.405	9.65	10.29
C	0.160	0.190	4.06	4.82
D	0.025	0.035	0.64	0.89
F	0.142	0.147	3.61	3.73
G	0.190	0.210	4.83	5.33
H	0.110	0.130	2.79	3.30
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.14	1.52
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.14	1.39
T	0.235	0.255	5.97	6.48
U	0.000	0.050	0.000	1.27

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