

MBR735-MBR745

7.5 AMP SCHOTTKY RECTIFIERS

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	MBR		Unit
		735	745	
Peak repetitive reverse voltage	V_{RRM}			
Working peak reverse voltage	V_{RWM}	35	45	V
DC blocking voltage	V_R			
Average rectified forward current (Rated V_R)	$I_{F(AV)}$	7.5 @ $T_C = 105^\circ\text{C}$		A
Peak repetitive forward current (Rated V_R , square wave, 20kHz)	I_{FRM}	15 @ $T_C = 105^\circ\text{C}$		A
Non-repetitive peak surge current (surge applied at rated load conditions, halfwave, single phase, 60Hz)	I_{FSM}	150		A
Peak repetitive reverse surge current (20 μs , 1.0 kHz)	I_{RRM}	1.0		A
Operating junction temperature range	T_J	-65 to +150		$^\circ\text{C}$
Storage temperature range	T_{stg}	-65 to +175		$^\circ\text{C}$
Voltage rate of change (Rated V_R)	dv/dt	1000		V/ μs
Maximum thermal resistance, Junction to case	$R_{\theta JC}$	3.0		$^\circ\text{C/W}$
Maximum thermal resistance, Junction to ambient	$R_{\theta JA}$	60		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

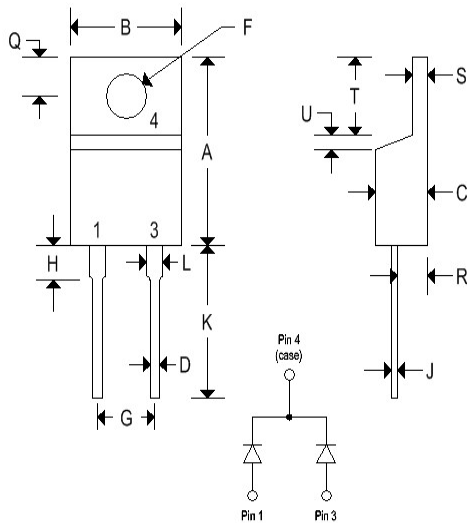
Parameter	Symbol	MBR		Unit
		735	745	
Maximum instantaneous forward voltage ⁽¹⁾ ($I_F = 7.5\text{A}$, $T_C = 125^\circ\text{C}$) ($I_F = 15\text{A}$, $T_C = 125^\circ\text{C}$) ($I_F = 15\text{A}$, $T_C = 25^\circ\text{C}$)	V_F	0.57 0.72 0.84		V
Maximum instantaneous reverse current ⁽¹⁾ (Rated dc voltage, $T_C = 125^\circ\text{C}$) (Rated dc voltage, $T_C = 25^\circ\text{C}$)	I_R	15 0.1		mA

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MECHANICAL CHARACTERISTICS

Case	TO-220AC
Marking	Alpha-numeric
Pin out	Cathode band



	TO-220AC			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.595	0.620	15.110	15.750
B	0.380	0.405	9.650	10.290
C	0.160	0.190	4.060	4.820
D	0.142	0.147	3.610	3.730
F	0.142	0.147	3.610	3.730
G	0.190	0.210	4.830	5.330
H	0.110	0.130	2.790	3.300
J	0.018	0.025	0.460	0.640
K	0.500	0.562	12.700	14.270
L	0.045	0.050	1.140	1.270
Q	0.100	0.120	2.540	3.040
R	0.080	0.110	2.040	2.790
S	0.045	0.055	1.140	1.390
T	0.235	0.255	5.970	6.480
U	0.030	0.050	0.760	1.270

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FIGURE 1 — TYPICAL FORWARD VOLTAGE

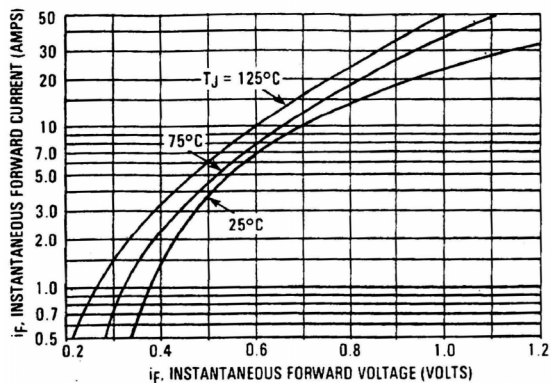


FIGURE 2 — TYPICAL REVERSE CURRENT

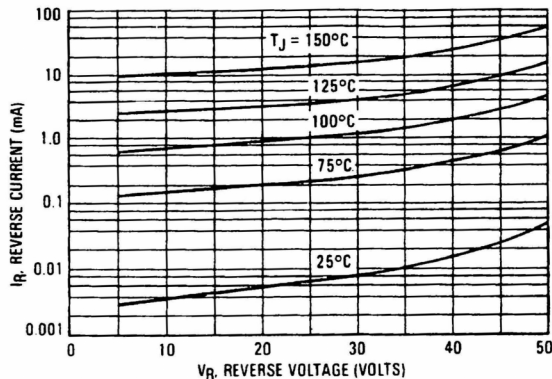


FIGURE 3 — CURRENT DERATING, CASE

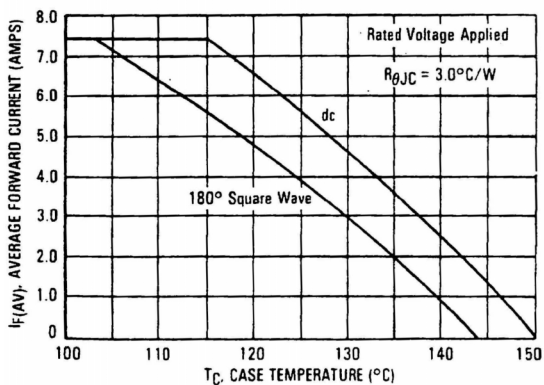


FIGURE 4 — CURRENT DERATING, AMBIENT

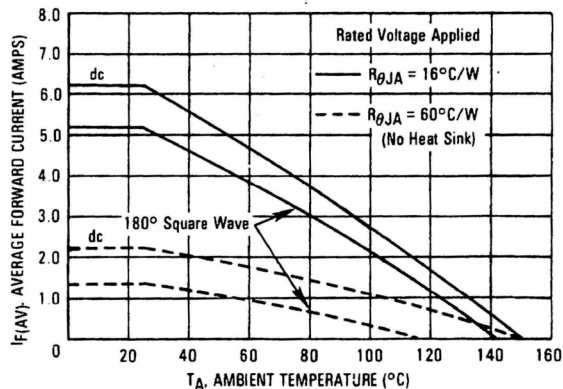


FIGURE 5 — POWER DISSIPATION

