DIGITRON™ Semiconductors

High-reliability discrete products and engineering services since 1977

MBR1035-MBR1060

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

Symbol	Parameter	Value				Units
		MBR1035	MBR1045	MBR1050	MBR1060	
V_{RRM}	Maximum repetitive reverse voltage	35	45	50	60	V
$I_{F(AV)}$	Average rectified forward current	10				A
I_{FSM}	Non-repetitive peak forward surge current 8.3 ms single half-sine wave	150				A
T_{stg}	Storage temperature range	-65 to +175				°C
T_J	Operating junction temperature	-65 to +150				°C

THERMAL CHARACTERISTICS

Symbol	Parameter	Value	Units
P_D	Power dissipation	2.0	W
$R_{\theta JA}$	Thermal resistance, junction to ambient	60	°C/W
$R_{\theta JL}$	Thermal resistance, junction to lead	2.0	°C/W

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Symbol	Parameter		Device				Units
			MBR1035	MBR1045	MBR1050	MBR1060	
V_F	Forward voltage	I_F = 10A, T_C = 25°C	0.57		0.80		V
		I_F = 10A, T_C = 125°C	0.84		0.70		
		I_F = 20A, T_C = 25°C	0.72		0.95		
		I_F = 20A, T_C = 125°C			0.85		
I_R	Reverse current @ rated V_R	T_A = 25°C	0.1				mA
		T_A = 125°C	15				
I_{RRM}	Peak repetitive reverse surge current 2.0 µs pulse width, f = 1.0 KHz		1.0		0.5		A

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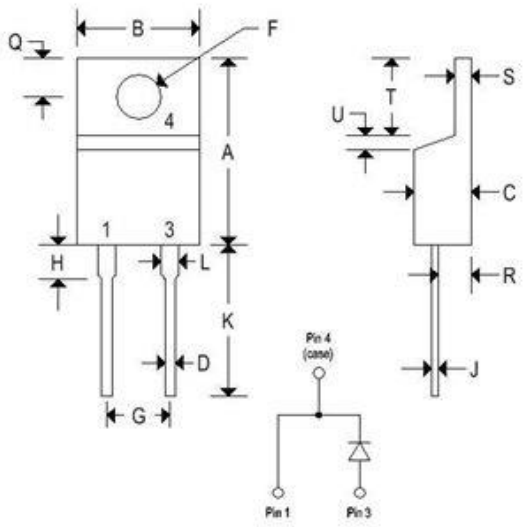
MECHANICAL CHARACTERISTICS

Case	TO-220AC
Marking	Alpha-numeric
Pin out	See below



	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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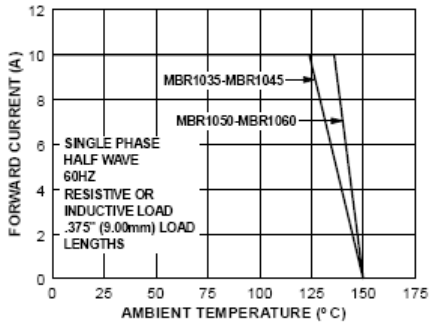
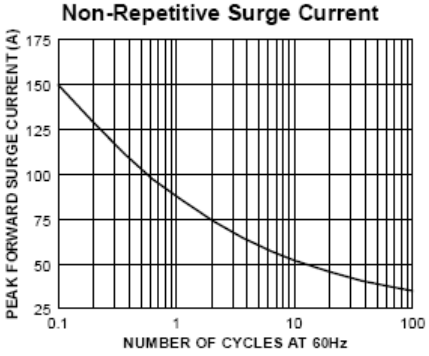
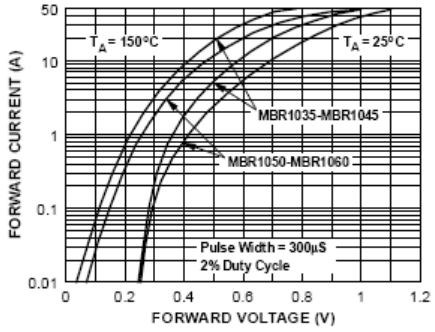
Forward Current Derating Curve



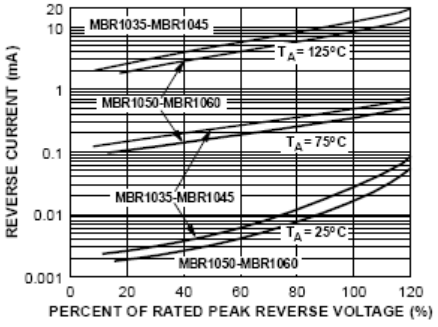
Non-Repetitive Surge Current



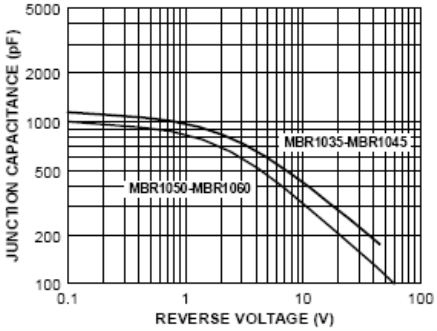
Forward Characteristics



Reverse Characteristics



Typical Junction Capacitance



Transient Thermal Impedance