THINKI SEMICONDUCTOR®

Pb Free Plating Product

MBR1045CTR/MBR1060CTR/MBR10100CTR/MBR10200CTR RoHS Pb

10 Ampere Heat Sink Dual Common Anode Schottky Half Bridge Rectifiers

Features

- Standard MBR matured technology with high reliablity
- Low forward voltage drop
- High current capability
- Low reverse leakage current
- High surge current capability

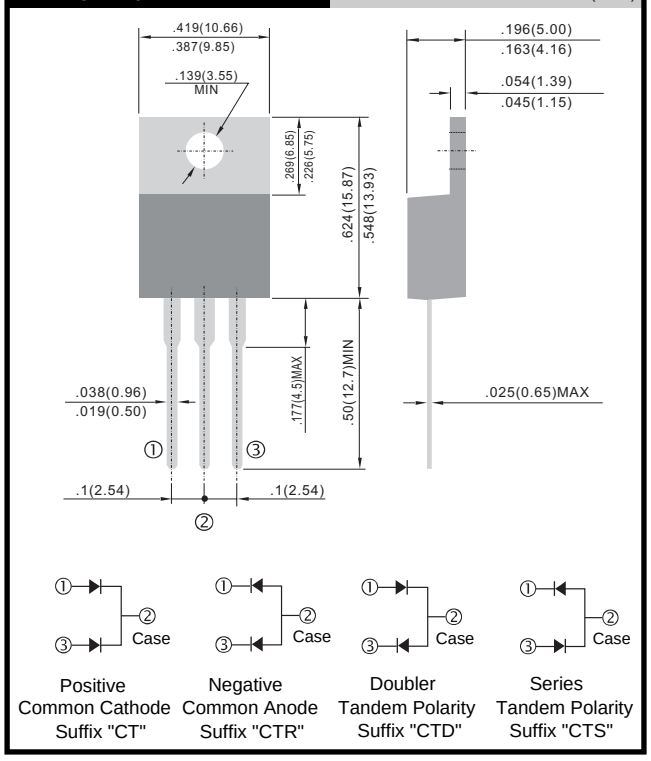
Application

- Automotive Inverters/Solar Inverters
- Plating Power Supply,SMPS and UPS
- Car Audio Amplifiers and Sound Device Systems

Mechanical Data

- Case: Heatsink TO-220AB
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: Solderable per MIL-STD-202 method 208
- Polarity: As marked on diode body
- Mounting position: Any
- Weight: 2.0 gram approximately

TO-220AB Unit : inch (mm)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)						
PARAMETER	SYMBOL	MBR1045CTR	MBR1060CTR	MBR10100CTR	MBR10200CTR	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	45	60	100	200	V
Maximum RMS voltage	V_{RMS}	31	42	70	140	V
Maximum DC blocking voltage	V_{DC}	45	60	100	200	V
Maximum average forward rectified current	$I_{F(AV)}$	10				A
Peak repetitive forward current (Rated V_R, Square Wave, 20KHz)	I_{FRM}	10				A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	120				A
Peak repetitive reverse surge current (Note 1)	I_{RRM}	1	0.5			A
Maximum instantaneous forward voltage (Note 2)	V_F					V
I_F= 5 A, T_J=25°C		0.70	0.80	0.85	0.88	
I_F= 5 A, T_J=125°C		0.57	0.65	0.75	0.78	
I_F= 10 A, T_J=25°C		0.80	0.90	0.95	0.98	
I_F= 10 A, T_J=125°C		0.67	0.75	0.85	0.88	
Maximum reverse current @ rated V_R T_J=25°C	I_R	0.1				mA
T_J=125°C		15	10	2	5	
Voltage rate of change (Rated V_R)	dV/dt	10000				V/μs
Typical thermal resistance	$R_{\theta JC}$	1.5				°C/W
Operating junction temperature range	T_J	- 55 to +150				°C
Storage temperature range	T_{STG}	- 55 to +150				°C

Note 1: tp = 2.0 μs, 1.0KHz

Note 2: Pulse test with PW=300μs, 1% duty cycle

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

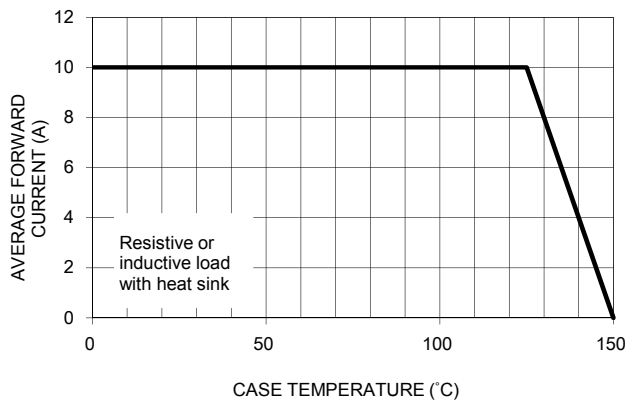


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

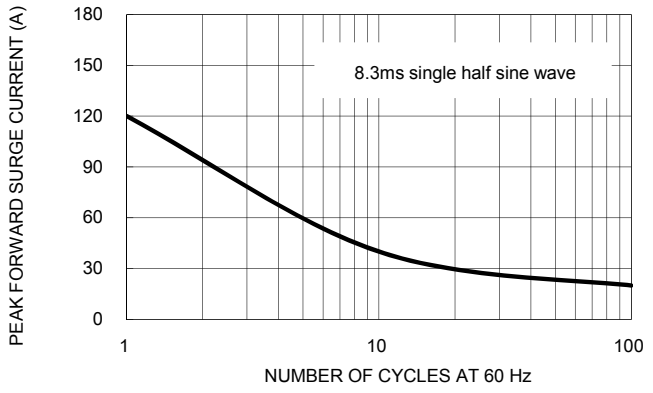


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

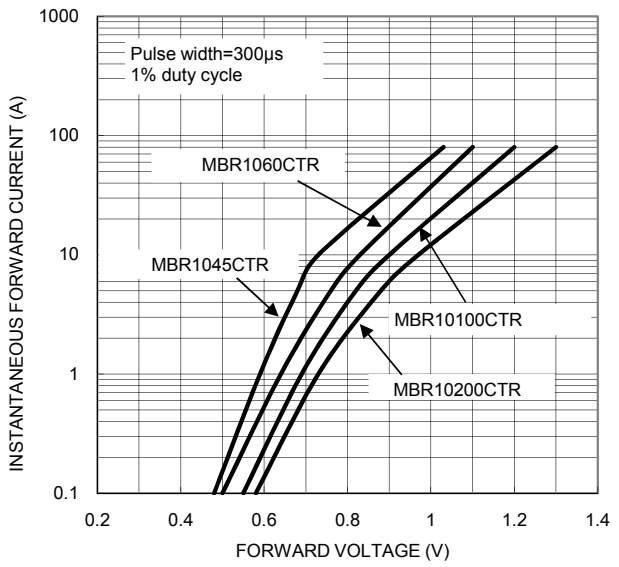


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

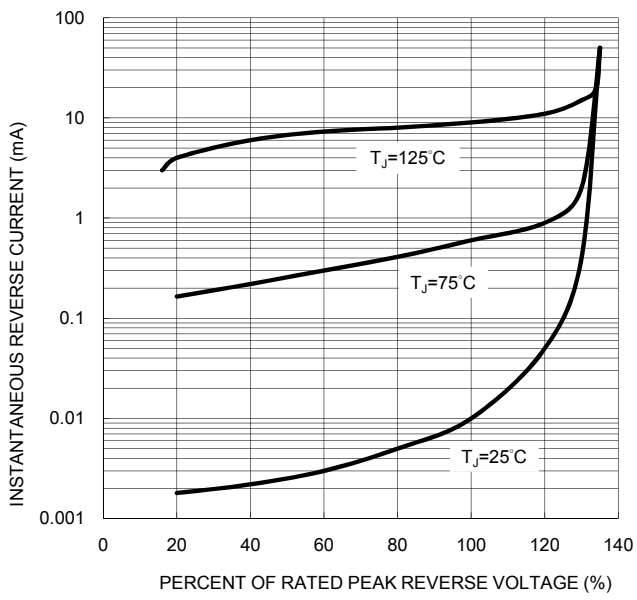


FIG. 5 TYPICAL JUNCTION CAPACITANCE

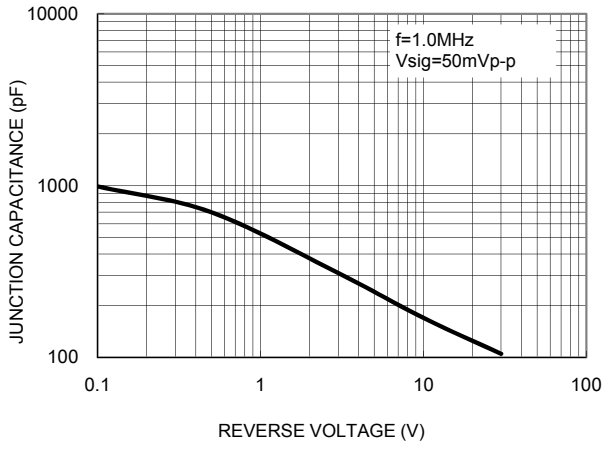


FIG. 6 TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG