

Pb Free Plating Product

MBR10100CTR/MBR10150CTR/MBR10200CTR



10 Ampere Heat Sink Dual Common Anode Schottky Half Bridge Rectifiers

Features

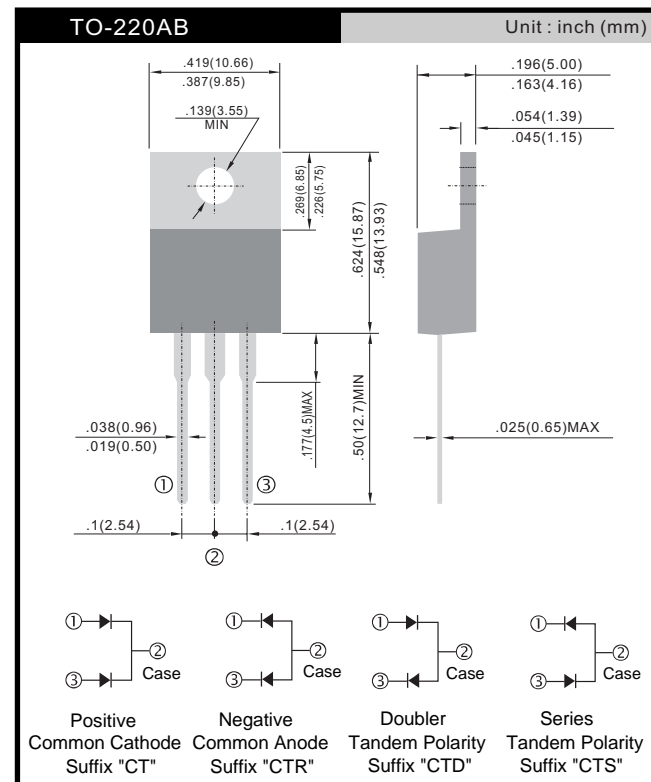
- ★ HMBR matured technology with high reliability
- ★ Low forward voltage drop
- ★ High current capability
- ★ Low reverse leakage current
- ★ High surge current capability

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



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	MBR10100CTR	MBR10150CTR	MBR10200CTR	UNIT	
Maximum repetitive peak reverse voltage	V _{RRM}	100	150	200	V	
Maximum RMS voltage	V _{RMS}	70	105	140	V	
Maximum DC blocking voltage	V _{DC}	100	150	200	V	
Maximum average forward rectified current	I _{F(AV)}	10			A	
Peak repetitive forward current (Rated VR, 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		0.5	A	
Maximum instantaneous forward voltage (Note 2)	V _F	I _F = 5A, T _J =25°C	0.85	0.88	V	
		I _F = 5A, T _J =125°C	0.75	0.75		
		I _F =10A, T _J =25°C	0.95	0.97		
		I _F =10A, T _J =125°C	0.85	0.85		
Maximum reverse current @ rated VR	I _R				T _J =25 °C	μA
					T _J =125 °C	mA
Voltage rate of change (Rated V _R)	dV/dt	10000			V/μs	
Typical thermal resistance	R _{θJC}	1.5			°C/W	
Operating junction temperature range	T _J	- 55 to +175			°C	
Storage temperature range	T _{STG}	- 55 to +175			°C	

Note 1: t_p = 2.0 μs, 1.0KHz

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

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1- FORWARD CURRENT DERATING CURVE

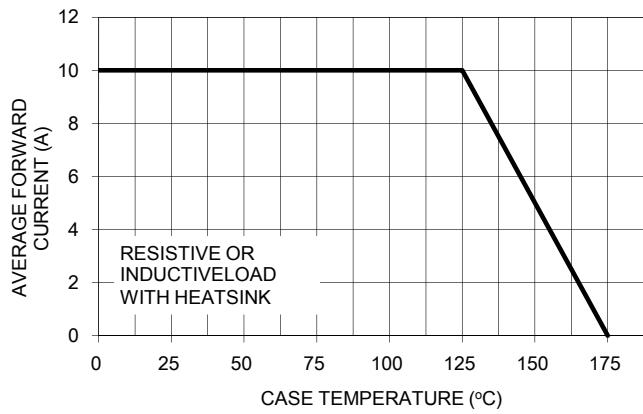


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

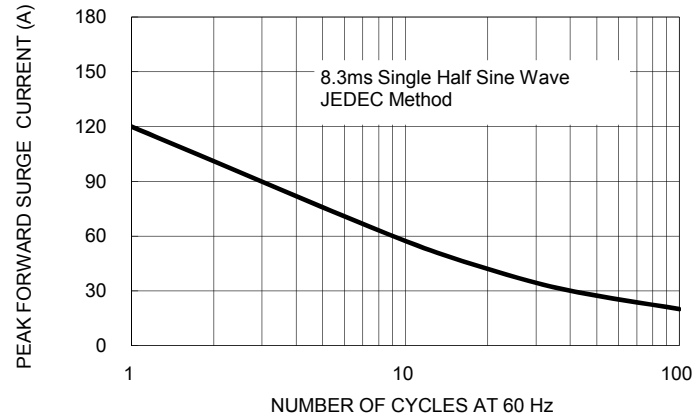


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

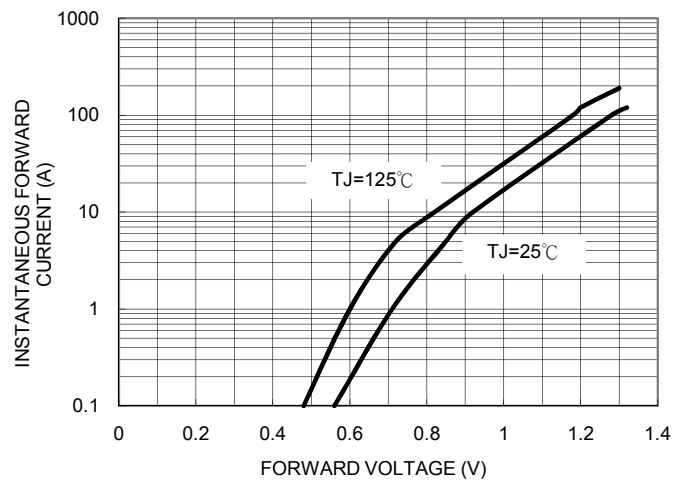


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

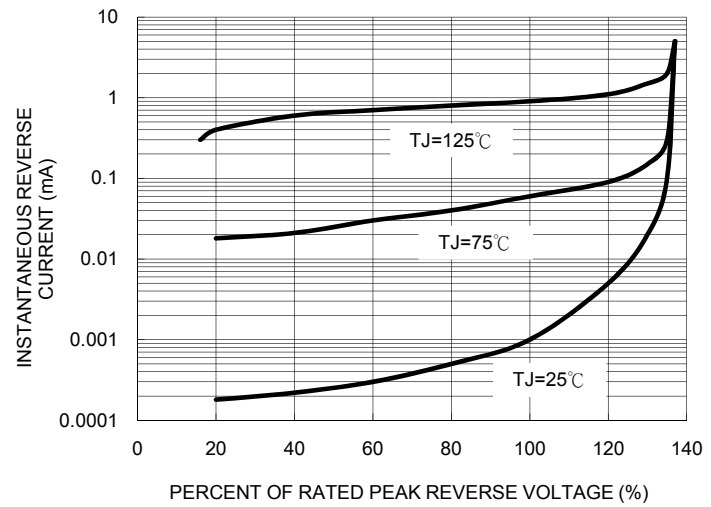


FIG. 5- TYPICAL JUNCTION CAPACITANCE

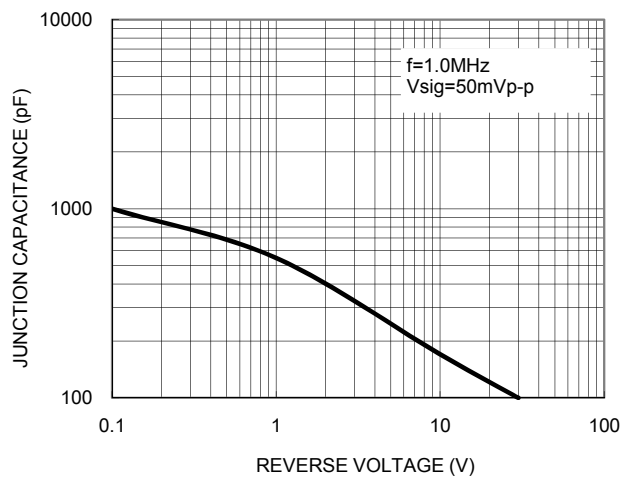


FIG. 6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

