

Pb Free Plating Product

MBRF1045CTR/MBRF1060CTR/MBRF10100CTR/MBRF10200CTR



10.0 Amperes Insulated Dual Common Anode Schottky Half Bridge Rectifiers

Features

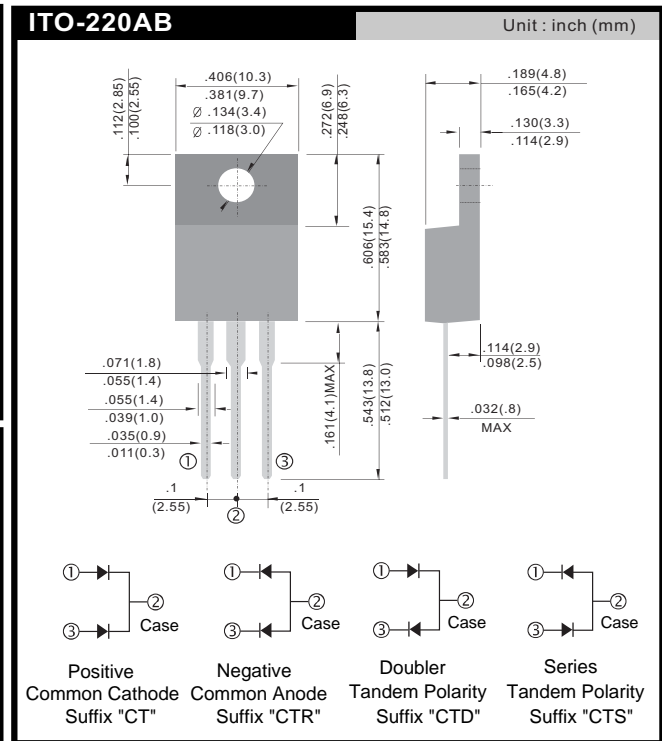
- ★ Standard MBR matured technology with high reliability
- ★ Low forward voltage drop
- ★ High current capability
- ★ Low reverse leakage current
- ★ High surge current capability

Application

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

Mechanical Data

- ★ Case: Fully Isolated Molding TO-220F Full Plastic Pak
- ★ 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	MBRF1045CTR	MBRF1060CTR	MBRF10100CTR	MBRF10200CTR	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 _R	1	0.5			A
Maximum instantaneous forward voltage (Note 2) I _F = 5 A, T _J =25°C I _F = 5 A, T _J =125°C I _F = 10 A, T _J =25°C I _F = 10 A, T _J =125°C	V _F	0.70 0.57 0.80 0.67	0.80 0.65 0.90 0.75	0.85 0.75 0.95 0.85	0.88 0.78 0.98 0.88	V
Maximum reverse current @ rated V _R T _J =25°C T _J =125°C	I _R	0.1				mA
		15	10	2	5	
Voltage rate of change (Rated V _R)	dV/dt	10000				V/μs
Typical thermal resistance	R _{θJC}	3.5				°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
($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

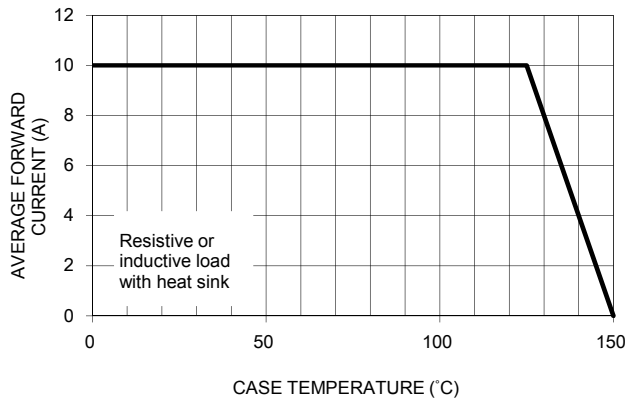


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

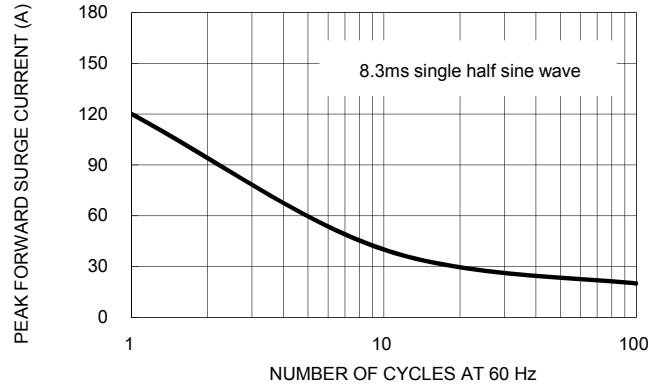


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

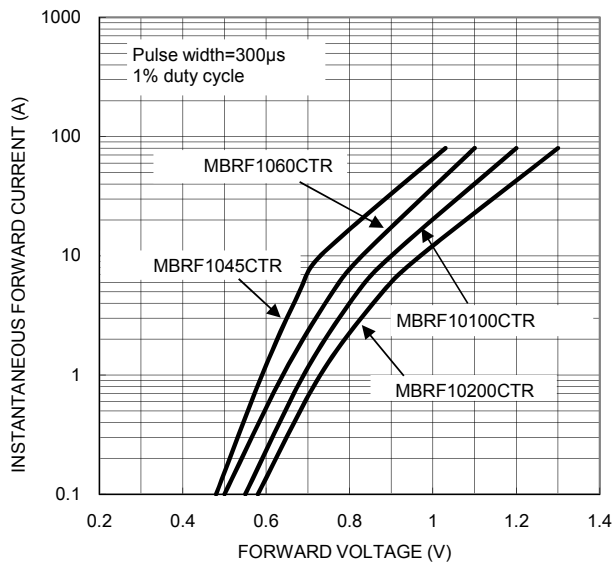


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

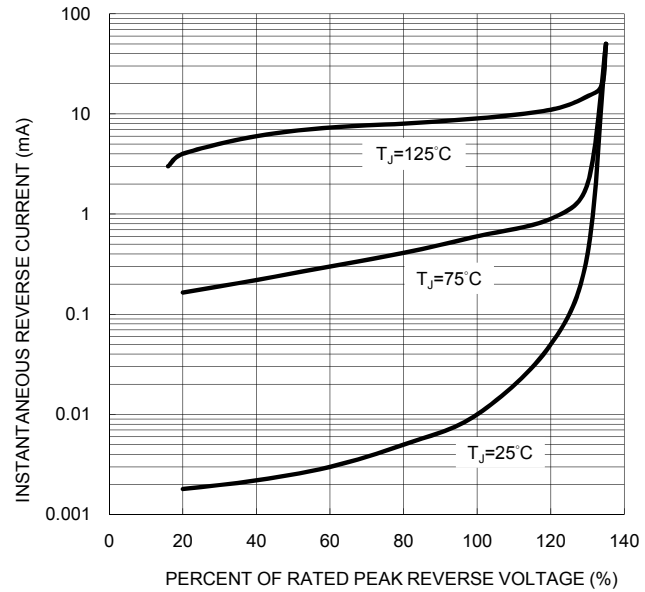


FIG. 5 TYPICAL JUNCTION CAPACITANCE

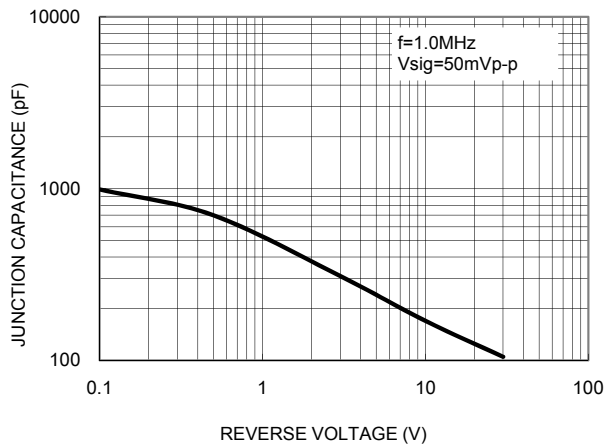


FIG. 6 TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

