

Pb Free Plating Product

MBRD2045CT/MBRD2060CT/MBRD20100CT/MBRD20200CT



20.0 Amperes Surface Mount Common Cathode Schottky Barrier Half Bridge Rectifiers

Features

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

Application

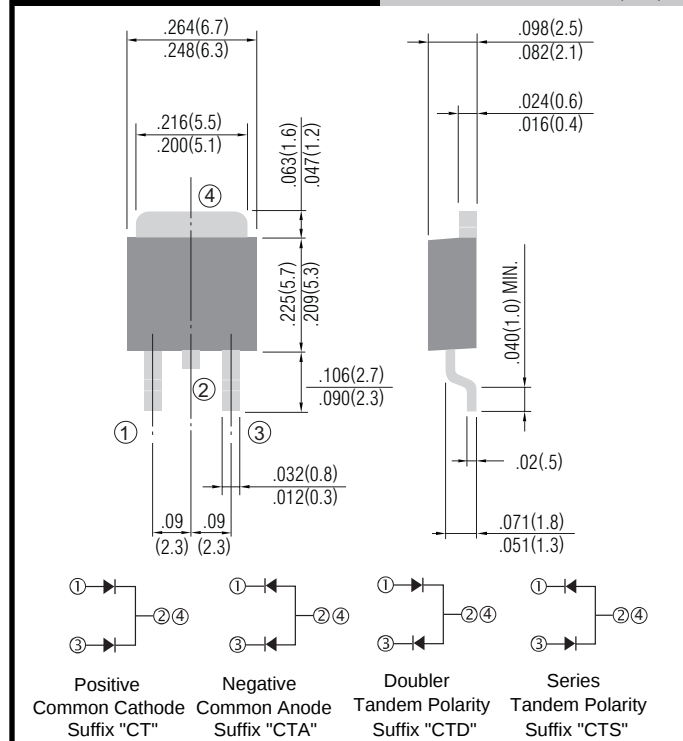
- ★ Automotive Inverters/Solar Inverters
- ★ Plating Power Supply, SMPS and UPS
- ★ Car Audio Amplifiers and Sound Device Systems

Mechanical Data

- ★ Case: DPAK/TO-252-2L outline
- ★ 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: 0.35 gram approximately

TO-252/DPAK

Unit : inch (mm)

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

PARAMETER	SYMBOL	MBRD2045CT	MBRD2060CT	MBRD20100CT	MBRD20200CT	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)}	20				A
Peak repetitive forward current (Rated VR, Square Wave, 20KHz)	I _{FRM}	20				A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	150				A
Peak repetitive reverse surge current (Note 1)	I _{RRM}	1	0.5			A
Maximum instantaneous forward voltage (Note 2) I _F =10A, T _J =25°C I _F =10A, T _J =125°C I _F =20A, T _J =25°C I _F =20A, T _J =125°C	V _F	- 0.57 0.84 0.72	0.80 0.70 0.95 0.85	0.85 0.75 0.95 0.85	0.99 0.87 1.23 1.10	V
Maximum reverse current @ rated VR T _J =25 °C T _J =125 °C	I _R	0.1				mA
		15	10	5	0.15	
Voltage rate of change (Rated V _R)	dV/dt	10000				V/μs
Typical thermal resistance	R _{θJC}	5.5		6.0		°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

(TA=25°C unless otherwise noted)

FIG. 1- FORWARD CURRENT DERATING CURVE

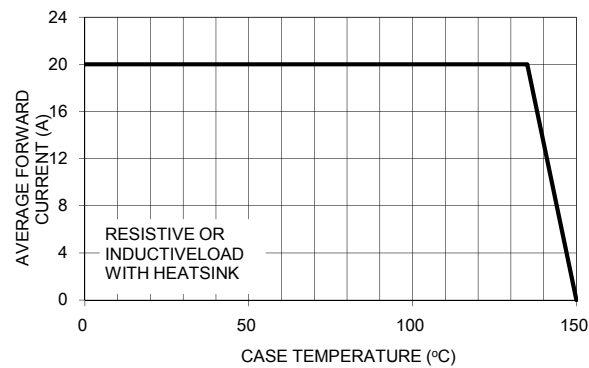


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

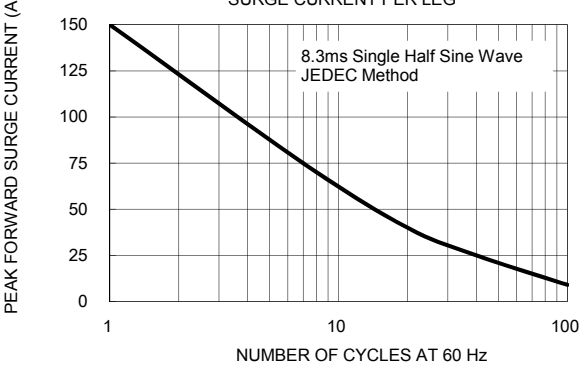


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

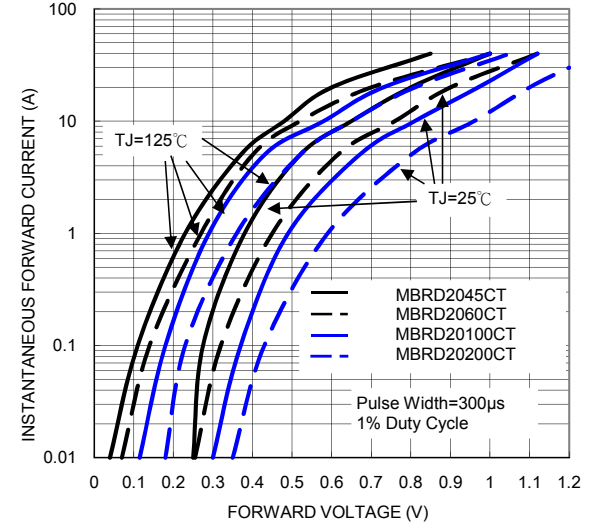


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

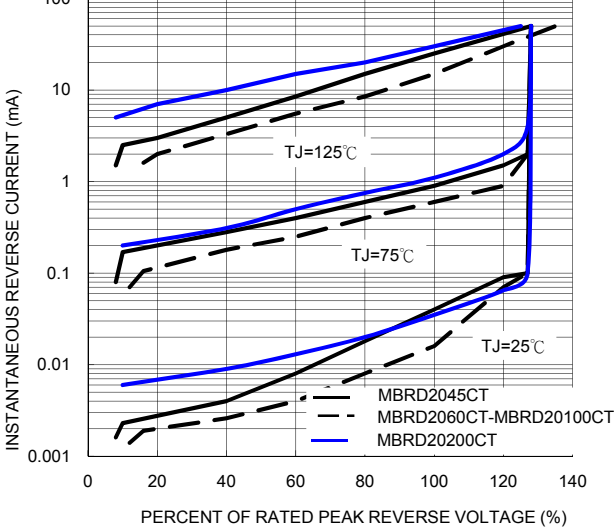


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

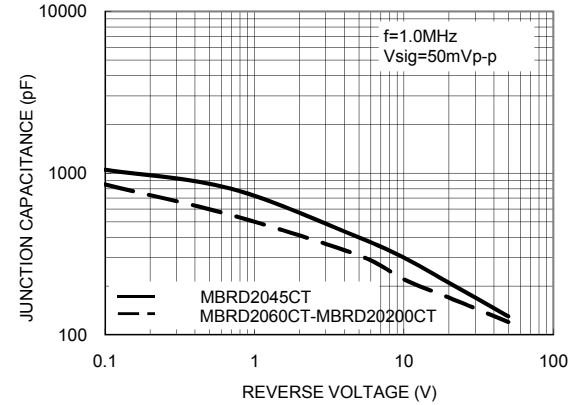


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

