

Pb Free Plating Product

MBR20100CT/MBR20150CT/MBR20200CT



20 Ampere Heatsink Dual Common Cathode Schottky Half Bridge Rectifiers

Features

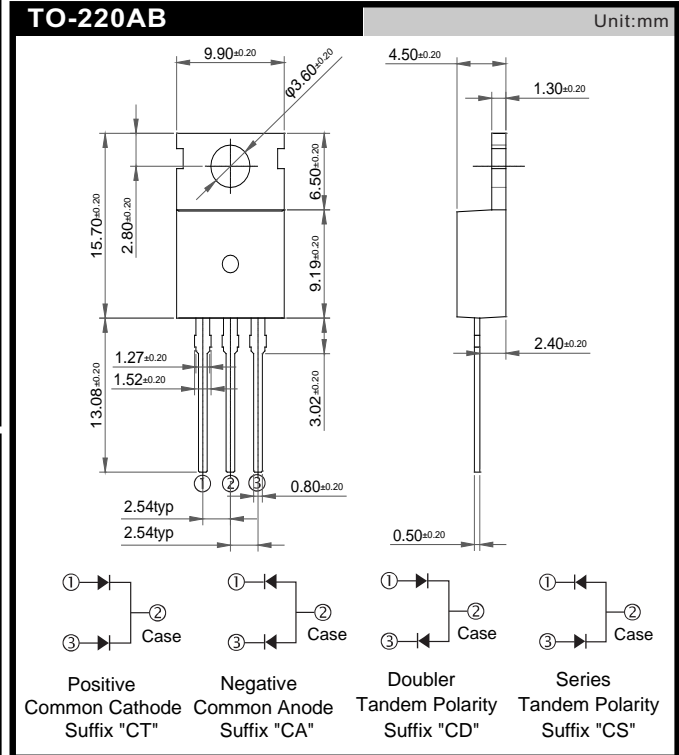
- ★ HMBR matured technology with high reliability
- ★ Low forward voltage drop
- ★ High current capability
- ★ Low reverse leakage current
- ★ High surge current capability

Application

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

Mechanical Data

- ★ Case: Heatsink TO-220CE package
- ★ 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 | MBR20100CT | MBR20150CT | MBR20200CT | 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)} | 20 | | | A |
| Peak repetitive forward current (Rated V _R , 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 _{RSM} | 1 | | 0.5 | A |
| Maximum instantaneous forward voltage (Note 2) I _F = 10 A, T _J =25°C I _F = 10 A, T _J =125°C I _F = 20 A, T _J =25°C I _F = 20 A, T _J =125°C | V _F | 0.85 0.75 0.95 0.85 | 0.88 0.75 0.97 0.85 | | V |
| Maximum reverse current @ rated V _R T _J =25 °C T _J =125 °C | I _R | 5 2 | | | μA mA |
| 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 +175 | | | °C |
| Storage temperature range | T _{STG} | - 55 to +175 | | | °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

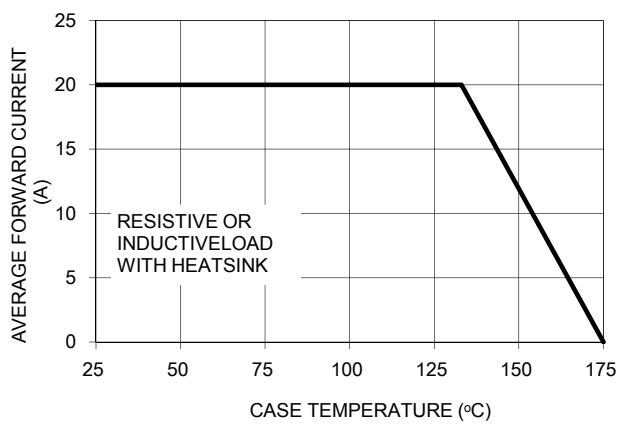


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

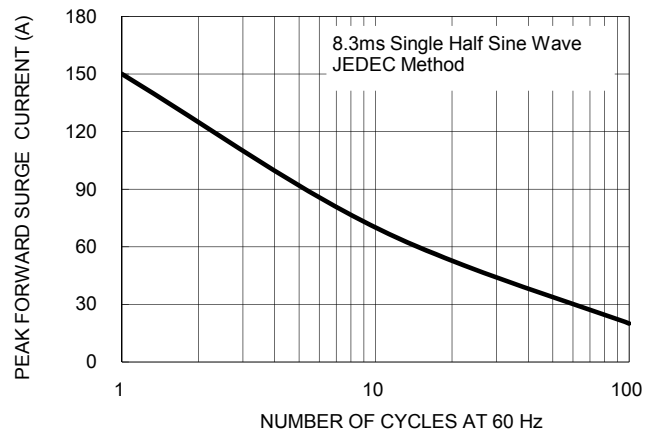


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

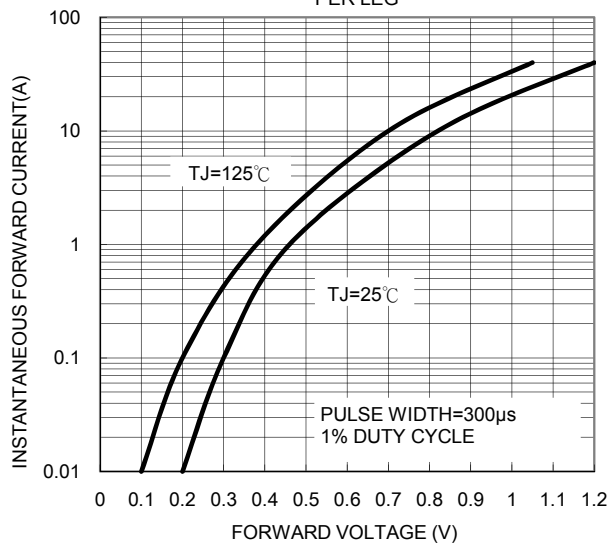


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

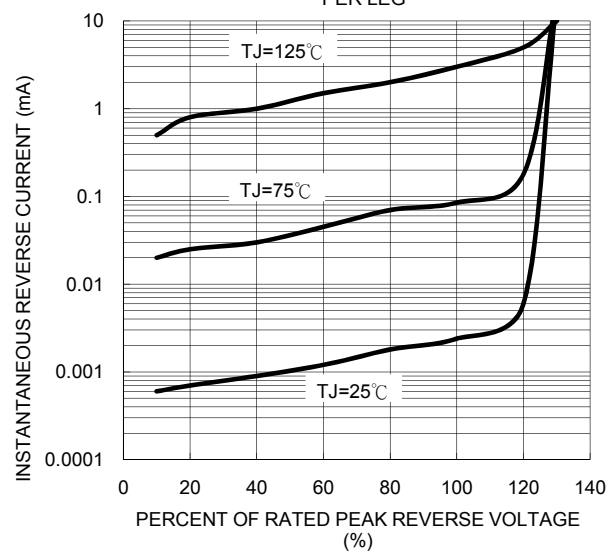


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

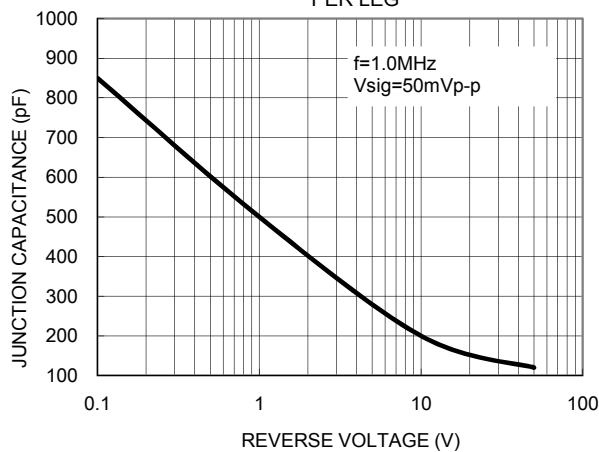


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

