

**Pb Free Plating Product**

## MBRS6040CT



2\*30Amperes/40Volts Dual Common Cathode Surface Mount Schottky Rectifiers

### Features

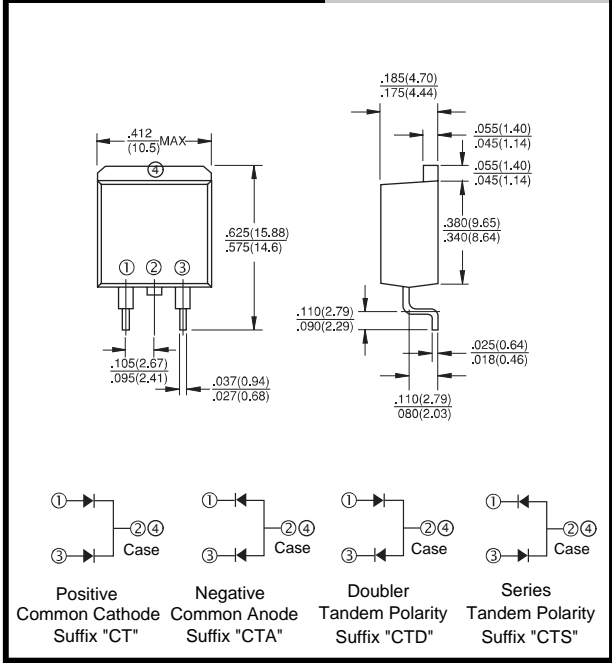
- ◇ For surface mounted application
- ◇ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ◇ Metal silicon junction, majority carrier conduction
- ◇ Low power loss, high efficiency
- ◇ High current capability, low forward voltage drop
- ◇ High surge capability
- ◇ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◇ Guardring for overvoltage protection
- ◇ High temperature soldering guaranteed: 260°C/10 seconds at terminals

### Mechanical Data

- ◇ Cases: JEDEC D<sup>2</sup>PAK /TO-263-2L molded plastic
- ◇ Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Mounting position: Any
- ◇ Mounting torque: 5 in. - lbs. max
- ◇ Weight: 0.06 ounce, 1.70 gram approximately

### D2PAK/TO-263AB

Unit:inch(mm)



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

| PARAMETER  | SYMBOL             | MBRS6040CT                   | UNIT |
|--|--------------------|------------------------------|------|
| Maximum repetitive peak reverse voltage  | V <sub>RRM</sub>   | 40                           | V    |
| Maximum RMS voltage  | V <sub>RMS</sub>   | 28                           | V    |
| Maximum DC blocking voltage  | V <sub>DC</sub>    | 40                           | V    |
| Maximum average forward rectified current  | I <sub>F(AV)</sub> | 60                           | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load  | I <sub>FSM</sub>   | 250                          | A    |
| Maximum instantaneous forward voltage (Note 1)<br>I <sub>F</sub> = 30A, T <sub>J</sub> =25°C<br>I <sub>F</sub> = 30A, T <sub>J</sub> =125°C<br>I <sub>F</sub> = 60A, T <sub>J</sub> =25°C<br>I <sub>F</sub> = 60A, T <sub>J</sub> =125°C | V <sub>F</sub>     | 0.75<br>0.70<br>1.05<br>0.98 | V    |
| Maximum reverse current @ rated V <sub>R</sub><br>T <sub>J</sub> =25°C<br>T <sub>J</sub> =125°C  | I <sub>R</sub>     | 0.1<br>40                    | mA   |
| Voltage rate of change (Rated V <sub>R</sub> )   | dV/dt              | 10000                        | V/μs |
| Typical thermal resistance   | R <sub>θJC</sub>   | 1                            | °C/W |
| Operating junction temperature range   | T <sub>J</sub>     | - 55 to +150                 | °C   |
| Storage temperature range  | T <sub>STG</sub>   | - 55 to +150                 | °C   |

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

## RATINGS AND CHARACTERISTICS CURVES

( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

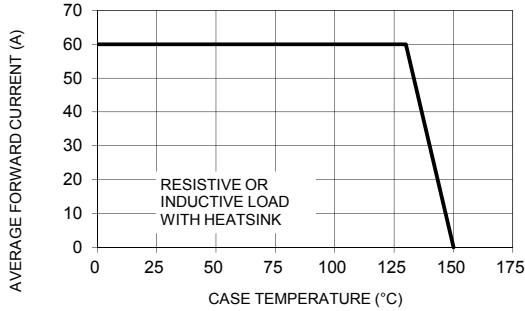


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

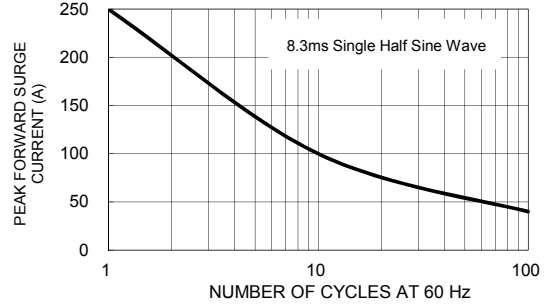


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

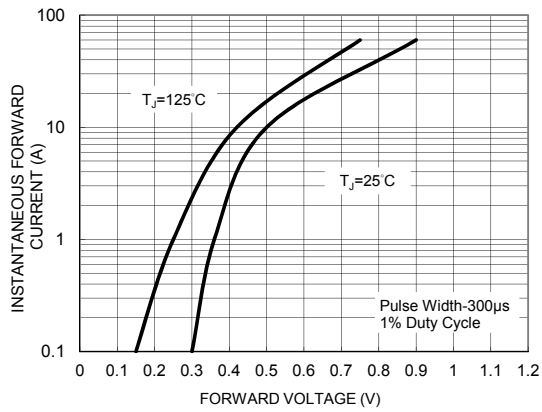


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

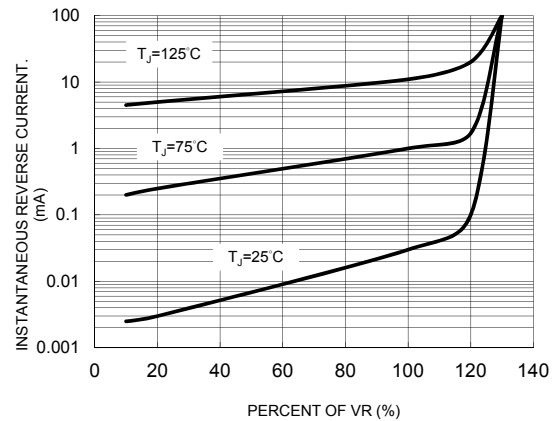


FIG. 5 TYPICAL JUNCTION CAPACITANCE

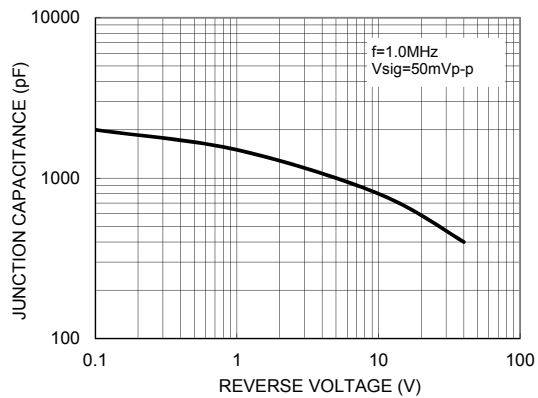


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

