

Pb Free Plating Product

## MURB1220CT thru MURB12120CT



12.0 Ampere Surface Mount Dual Common Cathode Ultra Fast Recovery Rectifiers

| Features                                                                                                                                                                                                                                                                      | TO-263AB/D2PAK | Unit:inch(mm) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------|
| ※ ThinkSemi latest&matured process FRD/FRED<br>※ Low forward voltage drop<br>※ High current capability<br>※ Low reverse leakage current<br>※ High surge current capability                                                                                                    |                |               |
| <b>Application</b><br>※ Automotive Inverters and Solar Inverters<br>※ Car Audio Amplifiers and Sound Device Systems<br>※ Plating Power Supply, Motor Control, UPS and SMPS etc.                                                                                               |                |               |
| <b>Mechanical Data</b><br>※ Case: Surface Mount TO-263AB/D2PAK package<br>※ Epoxy: UL 94V-0 rate flame retardant<br>※ Terminals: Solderable per MIL-STD-202 method 208<br>※ Polarity: As marked on diode body<br>※ Mounting position: Any<br>※ Weight: 1.8 gram approximately |                |               |

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| PARAMETER                                                                                                            | SYMBOL          | MURB1220CT  | MURB1230CT<br>MURB1240CT | MURB1260CT | MURB1280CT | MURB12100CT | MURB12120CT | UNIT     |
|----------------------------------------------------------------------------------------------------------------------|-----------------|-------------|--------------------------|------------|------------|-------------|-------------|----------|
| Maximum Recurrent Peak Reverse Voltage                                                                               | VRRM            | 200         | 400                      | 600        | 800        | 1000        | 1200        | V        |
| Maximum RMS Voltage                                                                                                  | VRMS            | 140         | 280                      | 420        | 560        | 700         | 840         | V        |
| Maximum DC Blocking Voltage                                                                                          | VDC             | 200         | 400                      | 600        | 800        | 1000        | 1200        | V        |
| Maximum Average Forward Rectified Current TC=125℃<br>(Total Device 2x6.0A=12.0A)                                     | IF(AV)          | 12.0        |                          |            |            |             |             | A        |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)(Per Diode/Per Leg) | IFSM            | 125         |                          |            |            |             |             | A        |
| Maximum Instantaneous Forward Voltage @6.0A(Per Diode/Per Leg)                                                       | VF<br>(Typical) | 0.90-1.10   | 1.10-1.40                | 1.40-1.80  | 1.40-1.80  |             |             | V        |
| Maximum DC Reverse Current @TJ=25℃<br>At Rated DC Blocking Voltage @TJ=125℃                                          | IR              | 5.0<br>500  |                          |            |            |             |             | μA<br>μA |
| Maximum Reverse Recovery Time (Note1)                                                                                | Trr             | 35-50       |                          |            | 50-75      |             |             | nS       |
| Typical Junction Capacitance (Note 2)                                                                                | CJ              | 65          |                          |            |            |             |             | pF       |
| Typical Thermal Resistance (Note 3)                                                                                  | RθJC            | 2.0         |                          |            |            |             |             | ℃/W      |
| Operating Junction and Storage Temperature Range                                                                     | TJ,TSTG         | -55 to +175 |                          |            |            |             |             | ℃        |

Note:(1)Reverse recovery test conditions IF = 0.5A, IR = 1.0A, Irr = 0.25A.

Note:(2)Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

Note:(3)Thermal Resistance junction to case.

FIG.1 - FORWARD CURRENT DERATING CURVE

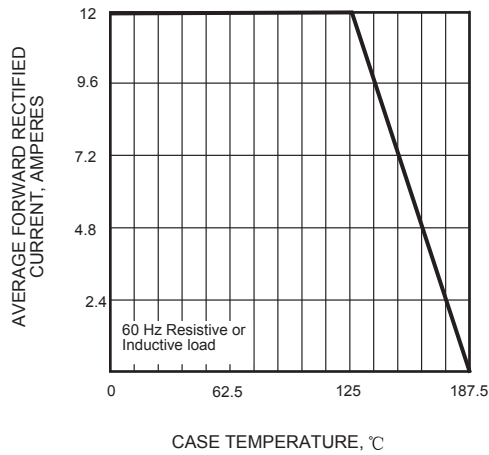


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

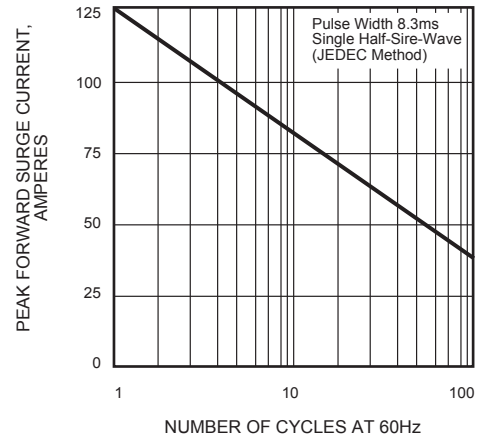


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

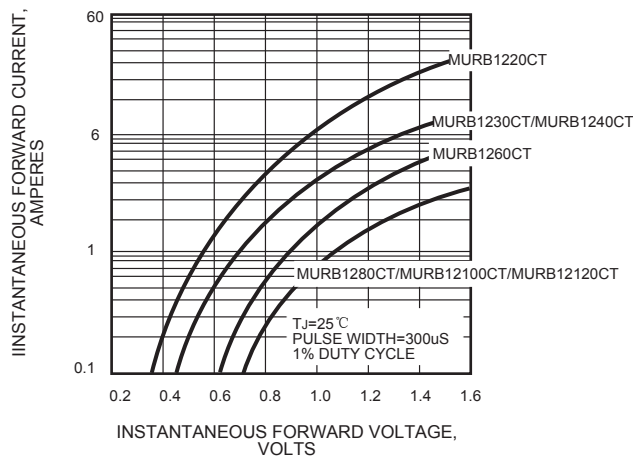


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

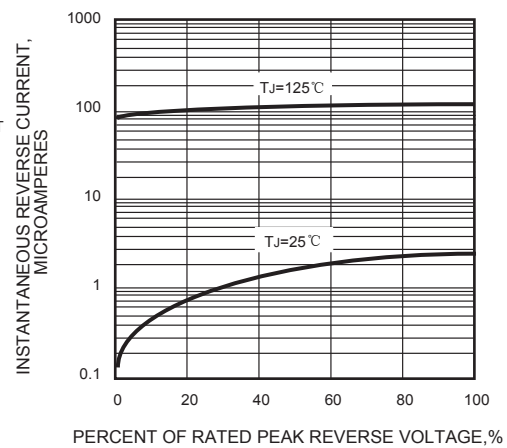


FIG.5 - TYPICAL JUNCTION CAPACITANCE

