THINKI SEMICONDUCTOR ®

Pb Free Plating Product

# MUR2080FCT/MUR20100FCT/MUR20120FCT

RoHS Pb

20.0 Ampere Insulated Common Cathode Ultra Fast Recovery Rectifiers

**Features**

- ✶ Fast switching for high efficiency
- ✶ Low forward voltage drop
- ✶ High current capability
- ✶ Low reverse leakage current
- ✶ High surge current capability

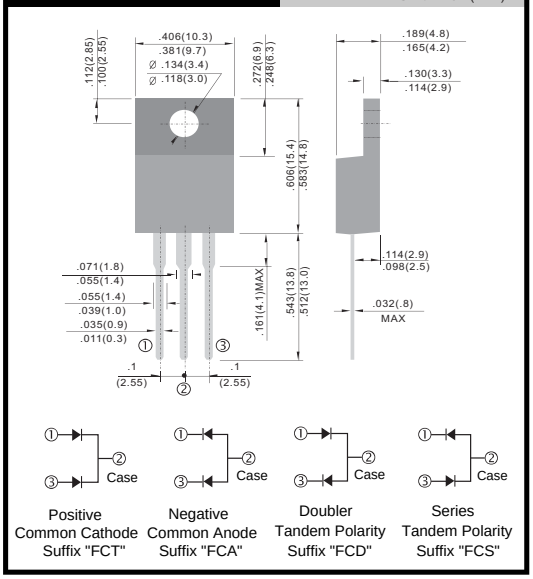
Application

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

**Mechanical Data**

- ✶ Case: Insulated ITO-220AB fully plastic isolated 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

ITO-220AB/TO-220F-3L Unit : inch (mm)




## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| | SYMBOL | MUR2080FCT | MUR20100FCT | MUR20120FCT | UNIT |
|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 800 | 1000 | 1200 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 560 | 700 | 840 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 800 | 1000 | 1200 | V |
| Maximum Average Forward Rectified Current $T_C$=125℃ (Total Device 2x10A=20A) | $I_{F(AV)}$ | 20.0 | | | A |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$ | 200 | | | A |
| Maximum Instantaneous Forward Voltage @ 10.0 A (Per Diode/Per Leg) | $V_F$ | 1.7 | | | V |
| Maximum DC Reverse Current @$T_J$=25℃<br>At Rated DC Blocking Voltage @$T_J$=125℃ | $I_R$ | 5.0<br>100 | | | μA<br>μA |
| Maximum Reverse Recovery Time (Note 1) | Trr | 75 | | | nS |
| Typical junction Capacitance (Note 2) | $C_J$ | 90 | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JC}$ | 3.0 | | | ℃/W |
| Operating Junction and Storage Temperature Range | $T_J$, $T_{STG}$ | -55 to + 150 | | | ℃ |

NOTES : (1) Reverse recovery test conditions IF= 0.5A, IR= 1.0A, Irr = 0.25A.
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.
(3) Thermal Resistance junction to case.



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FIG.1 - FORWARD CURRENT DERATING CURVE

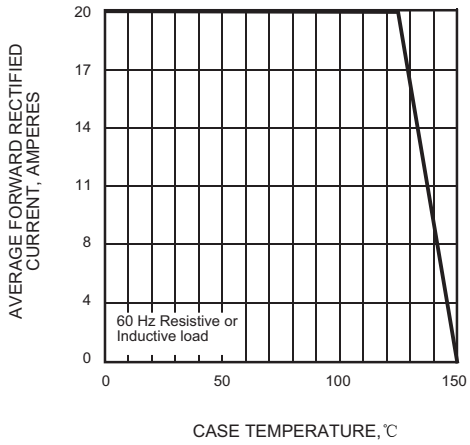



FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

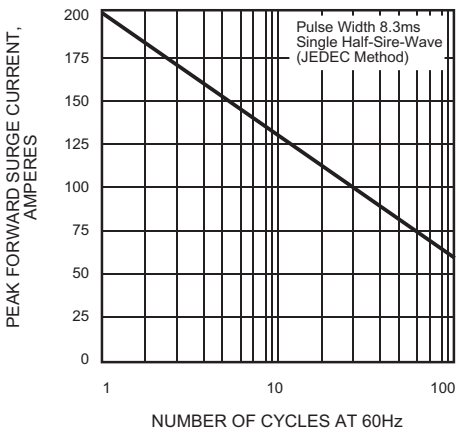



FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

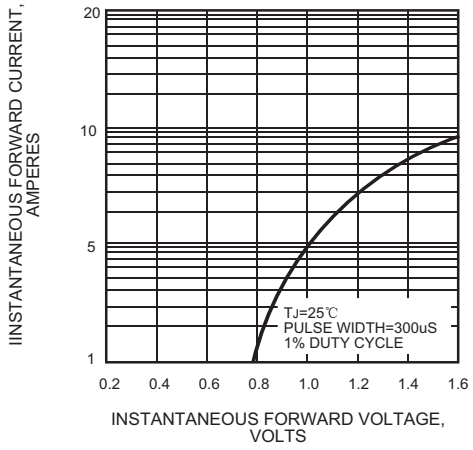



FIG.4 - TYPICAL REVERSE CHARACTERISTICS

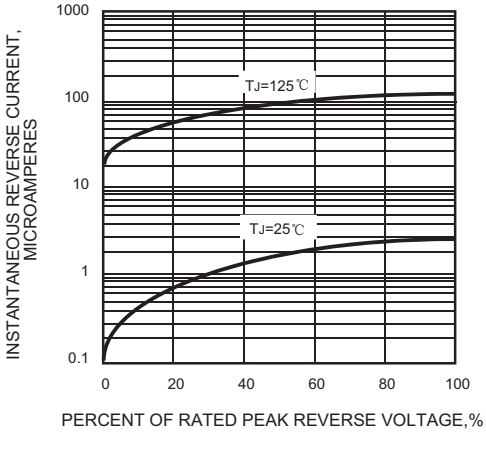
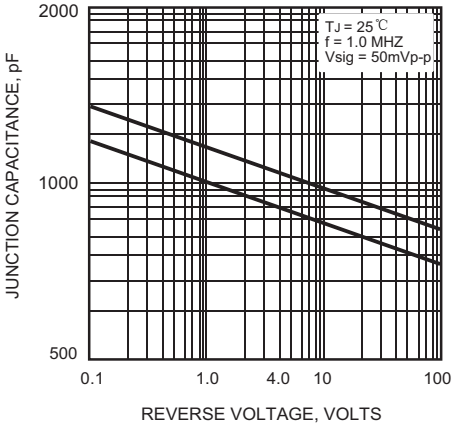



FIG.5 - TYPICAL JUNCTION CAPACITANCE






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