

Pb Free Plating Product

F12C20CT thru F12C60CT



12.0 Ampere Common Cathode Fast Recovery Rectifier Diode

**Feature**

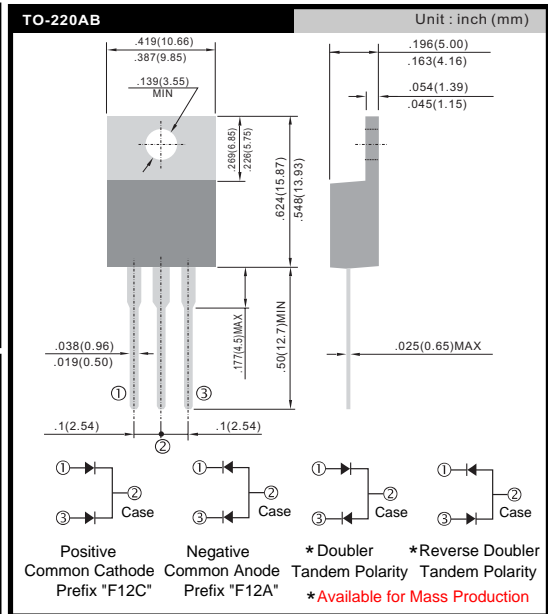
- ★ Fast switching for high efficiency
- ★ Low forward voltage drop
- ★ High current capability
- ★ Low reverse leakage current
- ★ High surge current capability

**Application**

- ★ Automotive Environment(Inverters/Converters)
- ★ Plating Power Supply,Adaptor,SMPS and UPS
- ★ Car Audio Amplifiers and Sound Device System

**Mechanical Data**

- ★ Case:TO-220AB Heatsink
- ★ 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: 2.2 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%.

|   | SYMBOL   | F12C20CT<br>F12A20CT | F12C40CT<br>F12A40CT | F12C60CT<br>F12A60CT | UNIT     |
|---|----------|----------------------|----------------------|----------------------|----------|
| Maximum Recurrent Peak Reverse Voltage  | VRRM     | 200                  | 400                  | 600                  | V        |
| Maximum RMS Voltage   | VRMS     | 140                  | 280                  | 420                  | V        |
| Maximum DC Blocking Voltage   | VDC      | 200                  | 400                  | 600                  | V        |
| Maximum Average Forward Rectified Current Tc=100°C  | IF(AV)   | 12.0                 |                      |                      | A        |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method) | IFSM     | 100                  |                      |                      | A        |
| Maximum Instantaneous Forward Voltage @ 6.0 A   | VF       | 0.98                 | 1.3                  | 1.7                  | V        |
| Maximum DC Reverse Current @Tj=25°C At Rated DC Blocking Voltage @Tj=125°C                        | IR       | 10.0<br>250          |                      |                      | uA<br>uA |
| Maximum Reverse Recovery Time (Note 1)  | Trr      | 35                   |                      |                      | nS       |
| Typical junction Capacitance (Note 2)   | CJ       | 65                   |                      |                      | pF       |
| Typical Thermal Resistance (Note 3)   | RθJC     | 2.2                  |                      |                      | °C/W     |
| Operating Junction and Storage Temperature Range  | TJ, TSTG | -55 to +150          |                      |                      | °C       |

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.

FIG.1 - FORWARD CURRENT DERATING CURVE

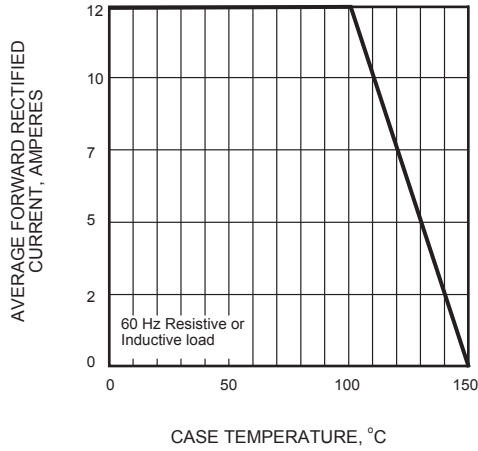


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

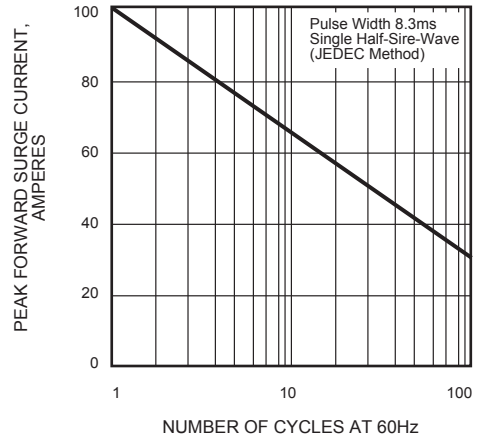


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

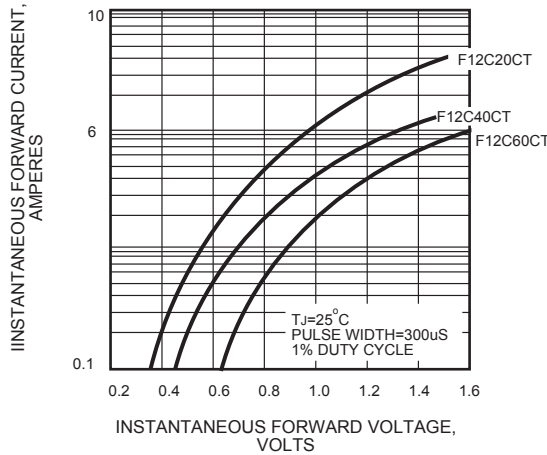


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

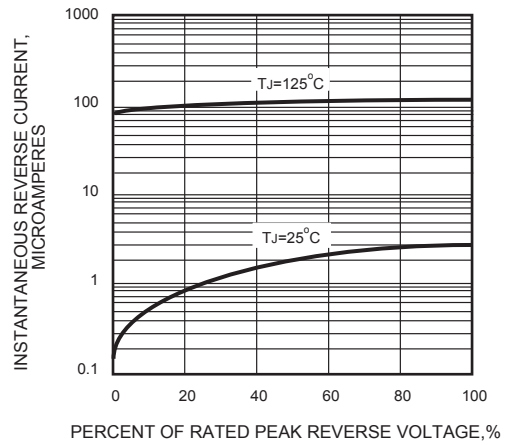


FIG.5 - TYPICAL JUNCTION CAPACITANCE

