

Pb Free Plating Product

F12C20D/F12C40D/F12C60D



12.0 Ampere Dual Doubler Polarity Ultra Fast Recovery Rectifiers

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| <p>Features</p> <ul style="list-style-type: none"> ※ Fast switching for high efficiency ※ Low forward voltage drop ※ High current capability ※ Low reverse leakage current ※ High surge current capability <p>Application</p> <ul style="list-style-type: none"> ※ Automotive Inverters and Solar Inverters ※ Car Audio Amplifiers and Sound Device Systems ※ Plating Power Supply, Motor Control, UPS and SMPS etc. <p>Mechanical Data</p> <ul style="list-style-type: none"> ※ Case: Heatsink TO-220AB ※ 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 | <p>TO-220AB(TO-220-3L) Unit:inch(mm)</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p>Positive Common Cathode Suffix "C"</p> </div> <div style="text-align: center;"> <p>Negative Common Anode Suffix "A"</p> </div> <div style="text-align: center;"> <p>Doubler Tandem Polarity Suffix "D"</p> </div> <div style="text-align: center;"> <p>Series Tandem Polarity Suffix "S"</p> </div> </div> |
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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 | F12C20C F12C20A F12C20D F12C20S | F12C40C F12C40A F12C40D F12C40S | F12C60C F12C60A F12C60D F12C60S | 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 (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) | IFSM | 100 | | | A |
| Maximum Instantaneous Forward Voltage @5.0A (Per Diode/Per Leg) | VF | 0.98 | 1.3 | 1.7 | V |
| Maximum DC Reverse Current @TJ=25°C At Rated DC Blocking Voltage @TJ=125°C | IR | 5.0 100 | | | μA μA |
| Maximum Reverse Recovery Time (Note1) | Trr | 35 | | | nS |
| Typical Junction Capacitance (Note 2) | CJ | 65 | | | pF |
| Typical Thermal Resistance (Note 3) | RθJC | 1.5 | | | °C/W |
| Operating Junction and Storage Temperature Range | TJ,TSTG | -55 to +150 | | | °C |

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

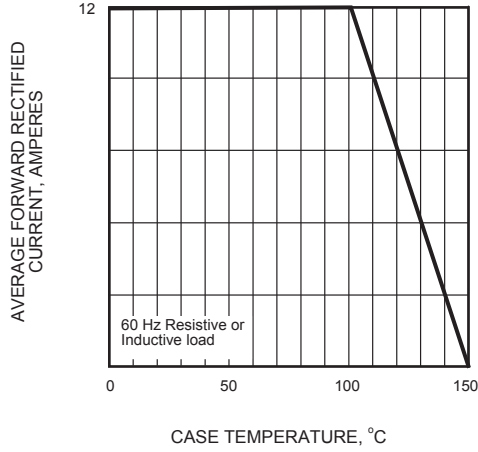


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

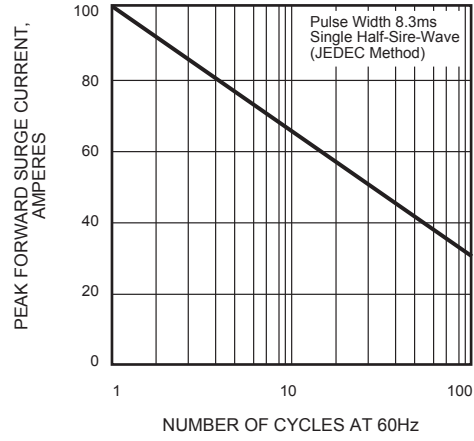


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

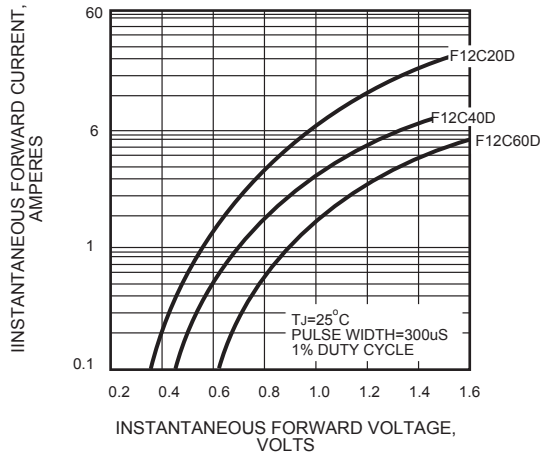


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

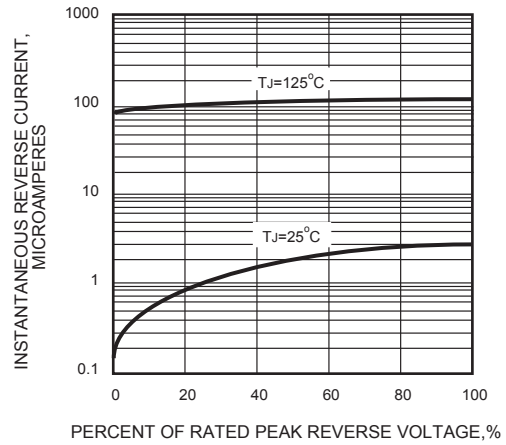


FIG.5 - TYPICAL JUNCTION CAPACITANCE

