



# SHENZHEN FAITH TECHNOLOGY CO.,LTD

## FAST RECOVERY RECTIFIER

**FR201 THRU FR207**

**VOLTAGE RANGE**

**50 to 1000 Volts**

**CURRENT**

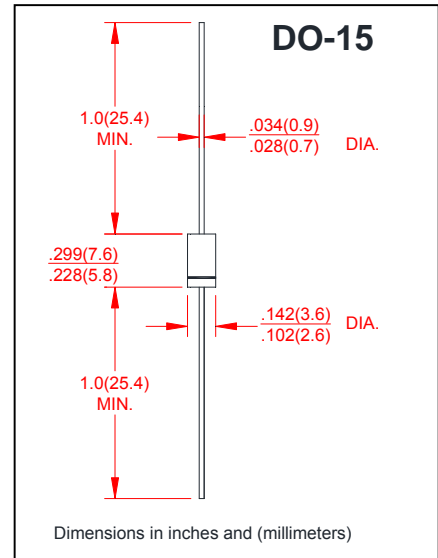
**2.0 Ampere**

### FEATURES

- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High reliability
- High temperature soldering guaranteed  
260°C/10 seconds,0.375”(9.5mm)lead length at 5 lbs(2.3kg) tension

### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

|  | SYMBOLS                   | FR201       | FR202 | FR203 | FR204 | FR205 | FR206 | FR207 | UNITS                     |
|--|---------------------------|-------------|-------|-------|-------|-------|-------|-------|---------------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$                 | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | Volts                     |
| Maximum RMS Voltage  | $V_{RMS}$                 | 35          | 70    | 140   | 280   | 420   | 560   | 700   | Volts                     |
| Maximum DC Blocking Voltage  | $V_{DC}$                  | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | Volts                     |
| Maximum Average Forward Rectified Current at $T_A=55^\circ\text{C}$                              | $I_{(AV)}$                | 2.0         |       |       |       |       |       |       | Amps                      |
| Peak Forward Surge Current 8.3mS single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$                 | 60          |       |       |       |       |       |       | Amps                      |
| Maximum Instantaneous Forward Voltage at 2.0A  | $V_F$                     | 1.3         |       |       |       |       |       |       | Volts                     |
| Maximum DC Reverse Current at Rated DC Blocking Voltage  | $T_A = 25^\circ\text{C}$  | 5.0         |       |       |       |       |       |       | $\mu\text{A}$             |
|  | $T_A = 100^\circ\text{C}$ | 100         |       |       |       |       |       |       |                           |
| Maximum Reverse Recovery Time(NOTE1)   | $T_{RR}$                  | 150         |       |       |       | 250   | 500   |       | nS                        |
| Typical Junction Capacitance (NOTE 2)  | $C_J$                     | 40          |       |       |       |       |       |       | pF                        |
| Typical Thermal Resistance (NOTE 3)  | $R_{\theta JA}$           | 50          |       |       |       |       |       |       | $^\circ\text{C}/\text{W}$ |
| Operating and Storage Temperature Range  | $T_J, T_{STG}$            | -55 to +150 |       |       |       |       |       |       | $^\circ\text{C}$          |

**Notes:**

- 1.Reverse Recovery Test Conditions: $I_f=0.5\text{A}, I_r=1.0\text{A}, I_{rr}=0.25\text{A}$ .
- 2.Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
- 3.Thermal Resistance from Junction to Ambient at .375”(9.5mm)lead length, P.C. board mounted.



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FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

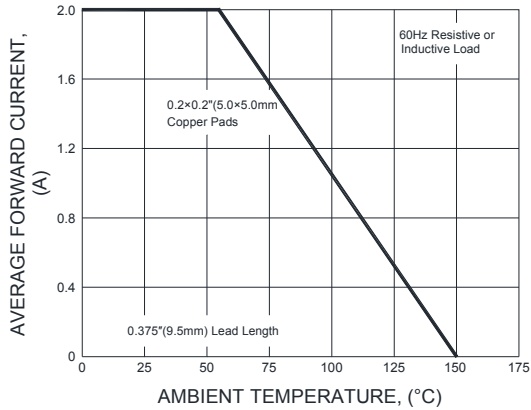


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

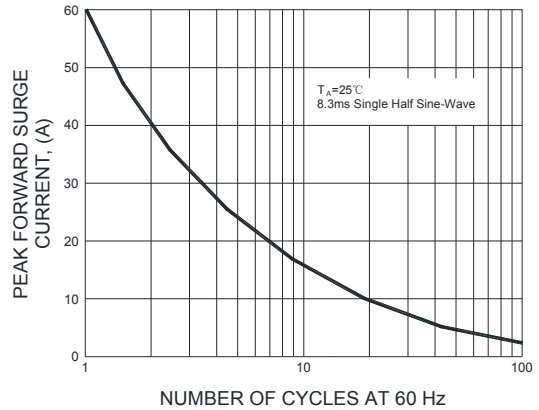


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

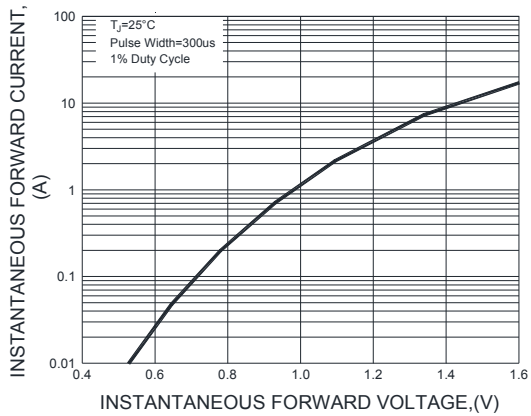


FIG.4-TYPICAL JUNCTION CAPACITANCE

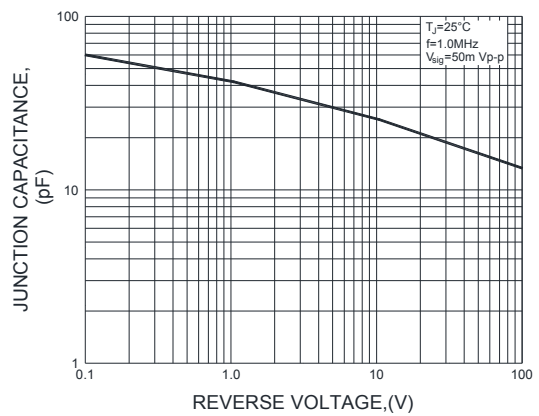


FIG.5-TEST CIRCUIT DIAGRAM AND FORWARD SURGE CURRENT

