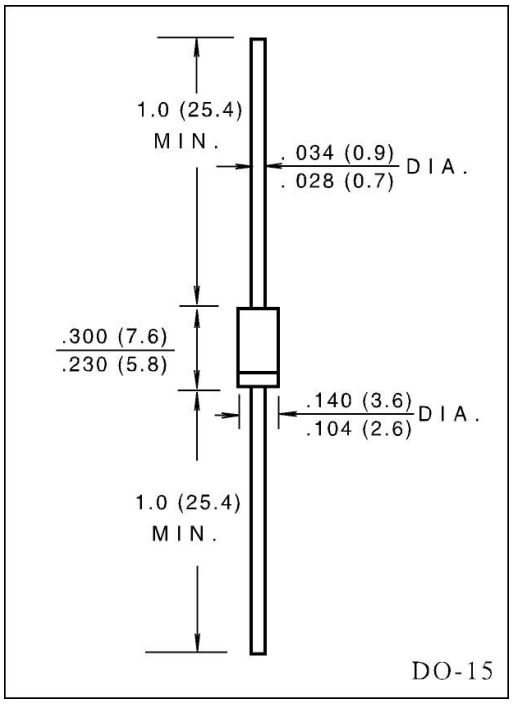
# FAST RECOVERY RECTIFIER

FR201 THRU FR207

**VOLTAGE RANGE** 50 **to** 1000 **Volts**
**CURRENT** 2.0 **Ampere**

### FEATURES

- Low cost construction.
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability.
- High temperature soldering guaranteed: 260℃/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
- Weight: 0.014 ounce, 0.39grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25℃ 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 | FR26 | FR207 | UNIT |
|---|---|---|---|---|---|---|---|---|---|
| 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, 0.375" (9.5mm) lead length at $T_A$ =75℃ | $I_{(AV)}$ | 2.0 | | | | | | | Amps |
| Peak Forward Surge Current 8.3ms single half sine - wave superimposed on rated load (JEDEC method ) | $I_{FSM}$ | 70 | | | | | | | 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℃ | $I_R$ | 5.0 | | | | | | | μA |
| $T_A$ = 100℃ | | 200 | | | | | | | |
| Maximum Reverse Recovery Time (Note 3) $T_j$ = 25℃ | $t_{rr}$ | 150 | | | | 250 | | 500 | nS |
| Typical Junction Capacitance (Note 1) | $C_J$ | 25 | | | | | | | pF |
| Typical Thermal Resistance (Note2) | $R_{\theta JA}$ | 40 | | | | | | | ℃/W |
| Operating and Storage Temperature Range | $T_J$ | (-65 to +150) | | | | | | | ℃ |
| Storage Temperature Range | $T_{STG}$ | (-65 to +150) | | | | | | | ℃ |

### NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance from Junction to Ambient at 0.375" (9.5mm) lead length, P.C. board mounted.
3. Reverse Recovery Test Condition: $I_F$ =0.5A, $I_R$ = 1.0A, $I_{RR}$ = 0.25A

# RATINGS AND CHARACTERISTIC CURVES FR201 THRU FR207

FIG.1-TYPICAL FORWARD CURRENT

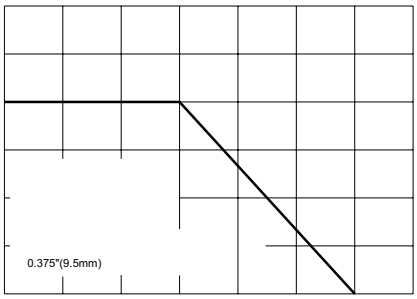
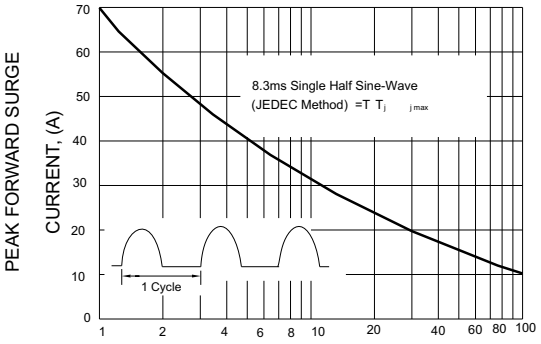
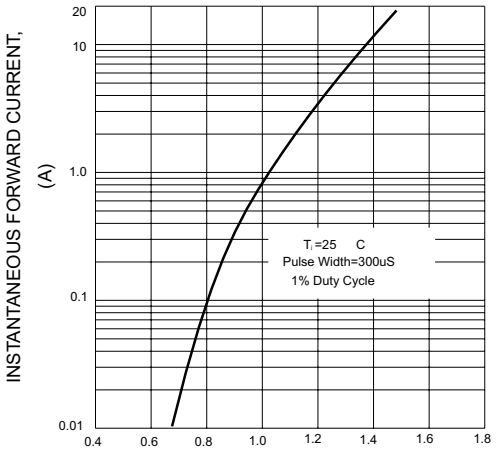



FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



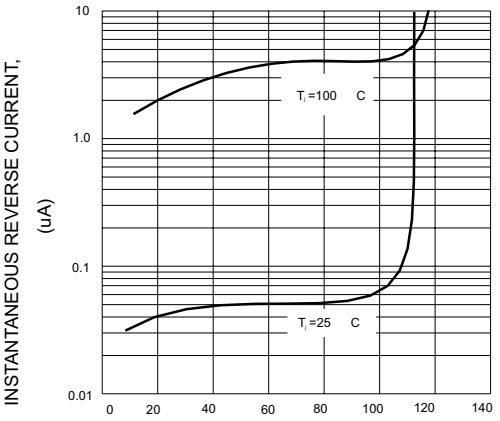

NUMBER OF CYCLES AT 60 Hz

FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



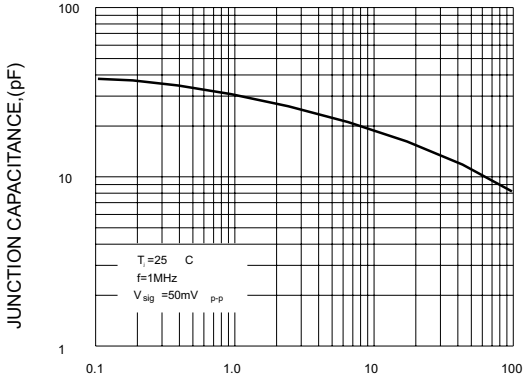

INSTANTANEOUS FORWARD VOLTAGE,(V)

FIG.4-TYPICAL REVERSE CHARACTERISTICS



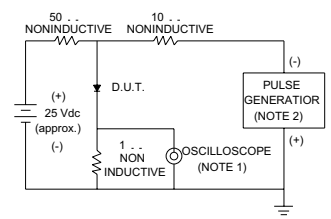

PERCENT OF RATED PEAK REVERSE VOLTAGE,(%)

FIG.5-TYPICAL JUNCTION CAPACITANCE




REVRESE VOLTAGE,(V)

FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC




NOTES: 1.Rise Time =7ns max. Input Impedance= 1 megohm. 22pF

2.Rise time=10ns max. Source Impedance= 50 ohms