



FAST RECOVER RECTIFIER

FR601S THRU FR607S

VOLTAGE RANGE
CURRENT

50 to 1000 Volts
6.0Ampere

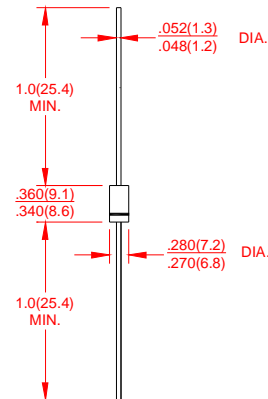
R-6S

FEATURES

- Low coat construction
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
260°C/10 secods/.375”(9.5mm)lead length at 5 lbs(2.3kg) tension

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.07ounce, 2.0 grams



Dimensions in inches and (millimeters)

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 | FR 601S | FR 602S | FR 603S | FR 604S | FR 605S | FR 606S | FR 607S | 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 0.375”(9.5mm) lead length at $T_A=75^\circ\text{C}$ | $I_{(AV)}$ | 6.0 | | | | | | | Amp |
| Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method) | I_{FSM} | 250 | | | | | | | Amps |
| Maximum Instantaneous Forward Voltage @ 6.0A | V_F | 1.3 | | | | | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | $T_A = 25^\circ\text{C}$ | 10 | | | | | | | μA |
| | $T_A = 100^\circ\text{C}$ | 500 | | | | | | | |
| Maximum Reverse Recovery Time (Note 3) $T_J=25^\circ\text{C}$ | t_{rr} | 150 | | | | 250 | 500 | | ns |
| Typical Junction Capacitance (Note 1) | C_J | 150 | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 10 | | | | | | | $^\circ\text{C}/\text{W}$ |
| Operating Junction Temperature Range | T_J | (-55 to +150) | | | | | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | (-55 to +150) | | | | | | | $^\circ\text{C}$ |

Notes:

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



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RATING AND CHARACTERISTIC CURVES FR601S THRU FR607S

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

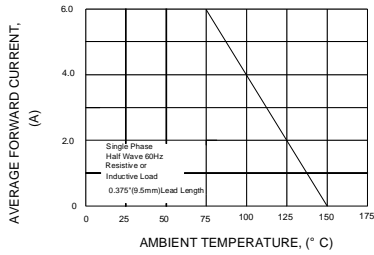


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

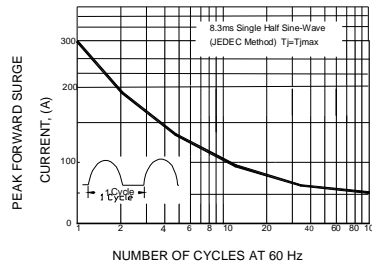


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

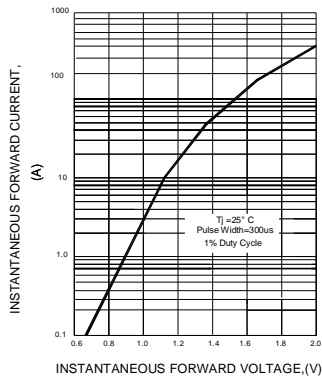


FIG.4-TYPICAL REVERSE CHARACTERISTICS

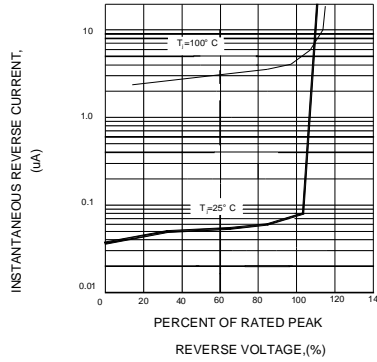


FIG.5-TYPICAL JUNCTION CAPACITANCE

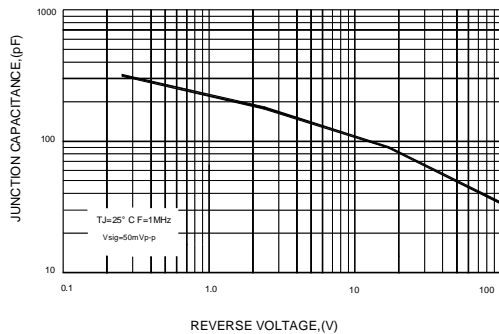


FIG.6-TYPICAL THERMAL RESISTANCE VS LEAD LENGTH

