



FAST RECOVERY RECTIFIER

FR601S THRU FR607S

VOLTAGE RANGE
CURRENT

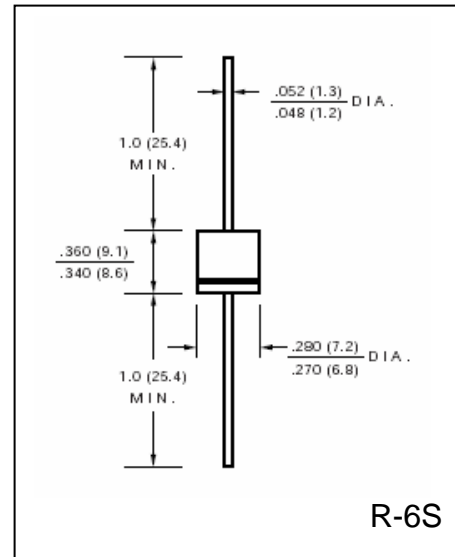
50 to 1000 Volts
6.0 Ampere

FEATURES

- Fast switching speed for high efficiency
- Low reverse leakage
- High forward surge current capacity
- High temperature soldering guaranteed:
260 /10 seconds, 0.375" (9.5mm) lead length

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: 0.06 ounce, 1.70 gram



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 | 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 $T_C = 75^\circ C$ | $I_{(AV)}$ | 6.0 | | | | | | | Amps |
| 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 per element | I_R | 10.0 | | | | | | | μA |
| $T_A = 25^\circ C$ | | 500 | | | | | | | |
| Maximum Reverse Recovery Time Test conditions $I_F = 0.5A$, $I_R = 1.0A$, $I_{RR} = 0.25A$ | t_{rr} | 150 | | | | 250 | 500 | | nS |
| Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V) | C_J | 100 | | | | | | | pF |
| Typical Thermal Resistance (Note 1) | $R_{\theta JA}$ | 10 | | | | | | | $^\circ C/W$ |
| Operating Junction Temperature Range | T_J | (-55 to +150) | | | | | | | $^\circ C$ |
| Storage Temperature Range | T_{STG} | (-55 to +150) | | | | | | | $^\circ C$ |

Notes:

1. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length, PCB mounted

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

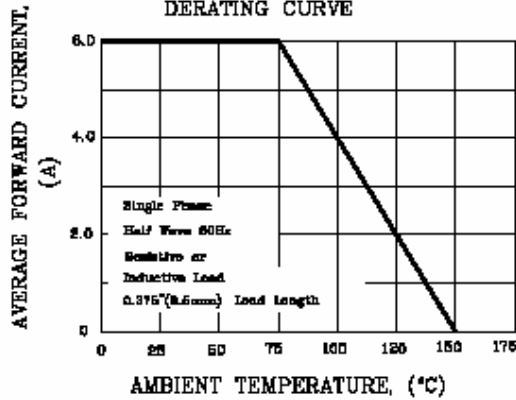


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

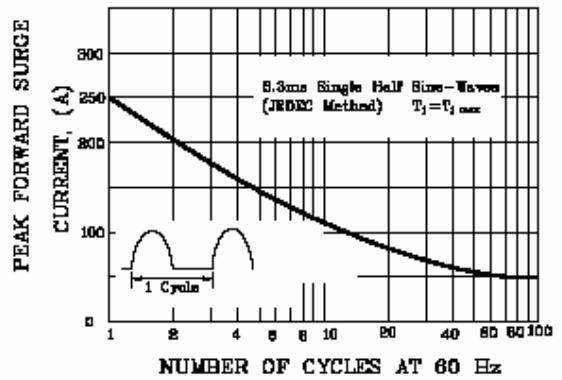


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

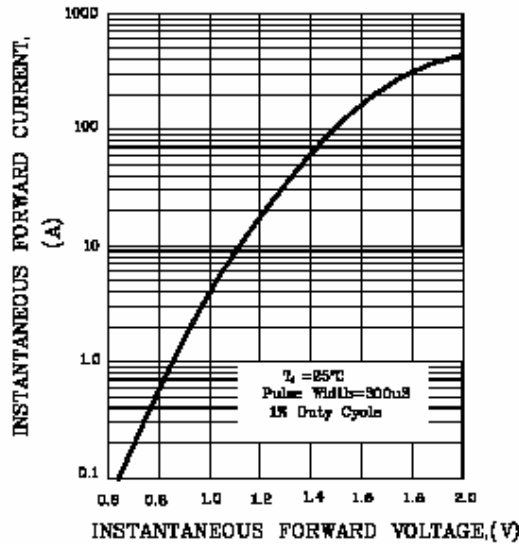


FIG.4-TYPICAL REVERSE CHARACTERISTICS

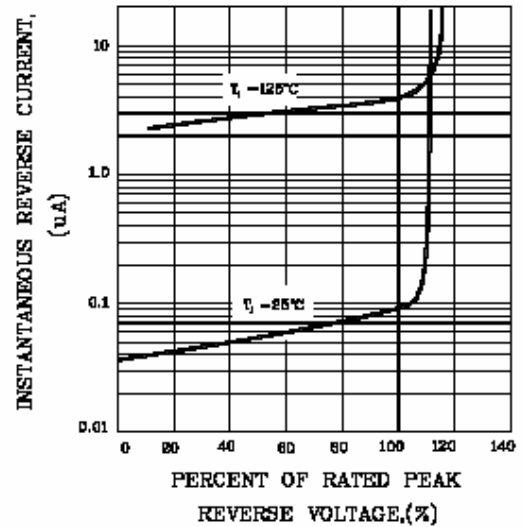


FIG.5-TYPICAL JUNCTION CAPACITANCE

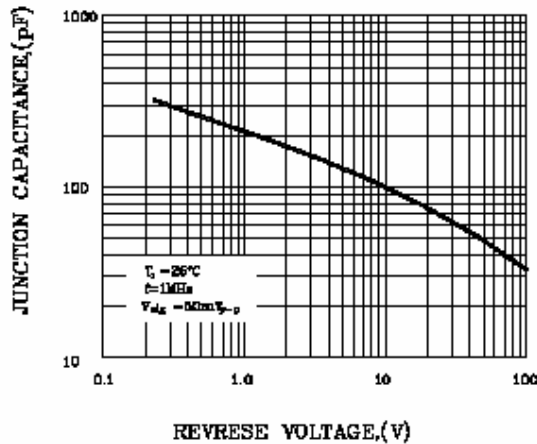


FIG.6-TYPICAL THERMAL RESISTANCE VS LEAD LENGTH

