

III. Fast / Ultra Fast / Super Fast Recovery Rectifier

6.0A Fast Recovery Rectifier

FR601~FR607

(Package: R-6)

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| <p>FEATURES</p> <ul style="list-style-type: none"> • The plastic package carries Underwriters Laboratory Flammability Classification 94V-0 • Fast switching for high efficiency • Low reverse leakage • High forward surge current capability • High temperature soldering guaranteed : 250 /10 seconds, 0.375"(9.5mm) lead length, 5 lbs. (2.3 kg) tension <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case : R-6 molded plastic body • Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026 • Polarity : Color band denotes cathode end • Mounting Position : Any • Weight : 0.072 ounce, 2.05 grams | <p>Case: R-6 Dimensions in inches and (millimeters)</p> |
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Ratings & Electrical Characteristics

| Characteristic | Symbol | FR601 | FR602 | FR603 | FR604 | FR605 | FR606 | FR607 | 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 $T_a = 75$ | I_o | 6.0 | | | | | | | Amps |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 300.0 | | | | | | | Amps |
| Maximum instantaneous forward voltage at 6.0A | V_F | 1.3 | | | | | | | Volts |
| Maximum DC reverse current $T_a = 25$ at rated DC blocking voltage $T_a = 100$ | I_R | 10.0 200.0 | | | | | | | μA |
| Maximum reverse recovery time (Note 1) | T_{rr} | 150 | | | | 250 | 500 | | ns |
| Typical junction capacitance (Note 2) | C_j | 150.0 | | | | | | | PF |
| Typical thermal resistance (Note 3) | R_{th-JA} | 10.0 | | | | | | | / W |
| Operating junction and storage temperature range | T_j, T_{stg} | -65 to +150 | | | | | | | |

Note :

1. Reverse recovery condition $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$
2. Measured at 1MHz and applied reverse voltage of 4.0 volts D.C.
3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length P.C.B. mounted

Ratings and Characteristic Curves of FR601~FR607

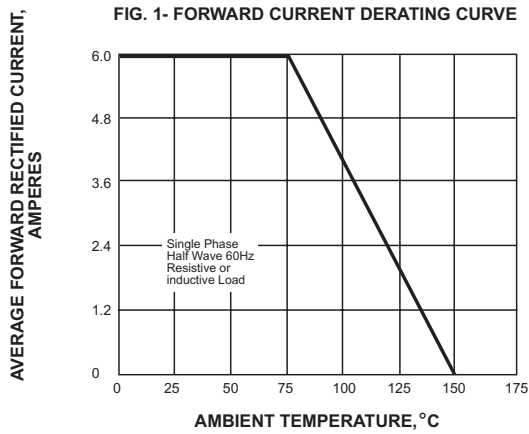


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

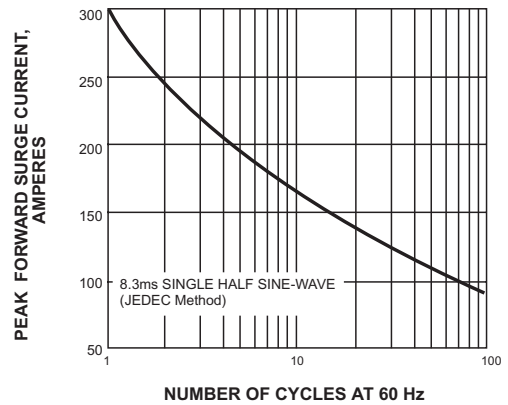


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

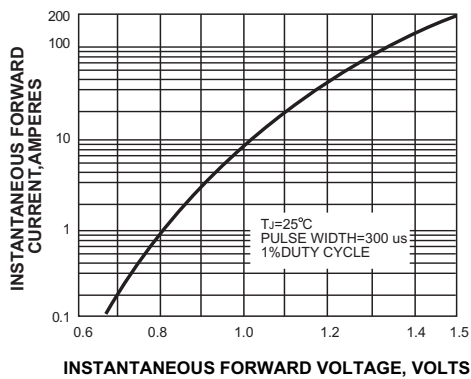


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

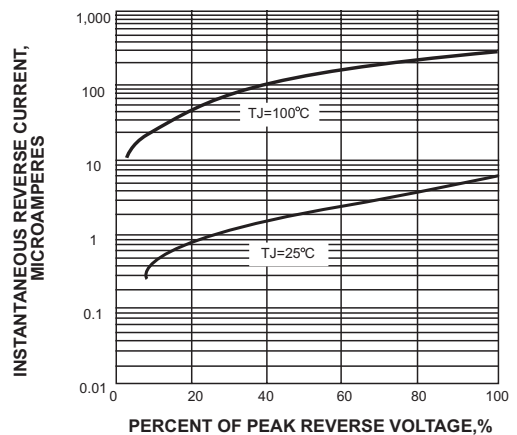


FIG. 5-TYPICAL JUNCTION CAPACITANCE

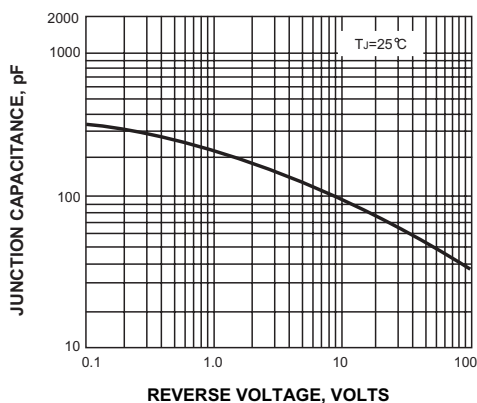


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

