



FR301 THRU FR307

3.0 AMP FAST RECOVERY RECTIFIERS



FEATURES

- * Low forward voltage drop
- * High current capability
- * High reliability
- * High surge current capability

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: Axial leads, solderable per MIL-STD-202, method 208 guranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 1.10 grams

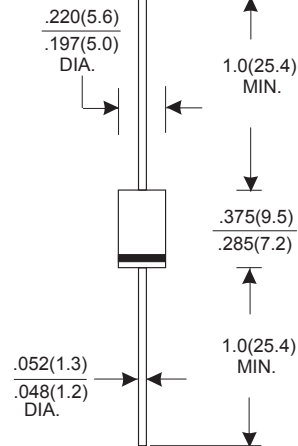
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

3.0 Amperes

DO-27



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unieess otherwies specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| TYPE NUMBER | FR301 | FR302 | FR303 | FR304 | FR305 | FR306 | FR307 | UNITS |
|--|------------|-------|-------|-------|-------|-------|-------|-------|
| Maximum Recurrent Peak Reverse Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current | | | | | | | | |
| .375"(9.5mm) Lead Length at Ta=75°C | 3.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | 200 | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 3.0A | 1.3 | | | | | | | V |
| Maximum DC Reverse Current Ta=25°C | 5.0 | | | | | | | μA |
| at Rated DC Blocking Voltage Ta=100°C | 150 | | | | | | | μA |
| Maximum Reverse Recovery Time (Note 1) | 150 | | | 250 | | 500 | | nS |
| Typical Junction Capacitance (Note 2) | 60 | | | | | | | pF |
| Operating and Storage Temperature Range Tj, Tstg | -65 — +150 | | | | | | | °C |

NOTES:

- Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
- Measured at 1MHz and applied reverse voltage of 4.0V D.C.

RATING AND CHARACTERISTIC CURVES (FR301 THRU FR307)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

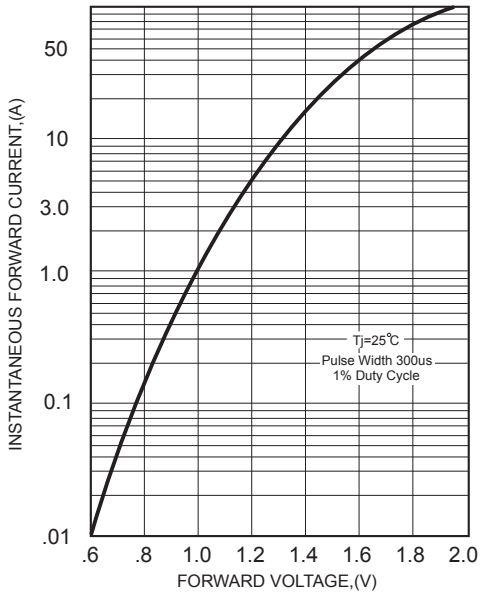


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

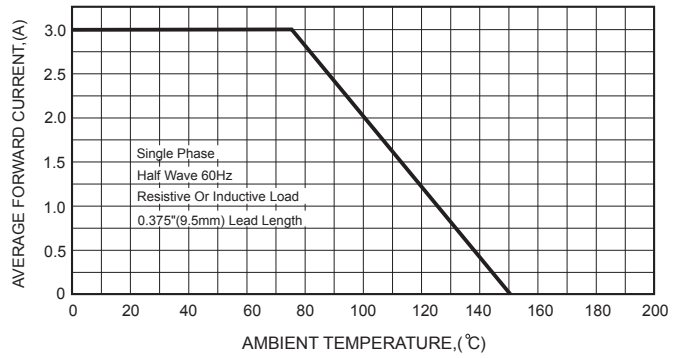
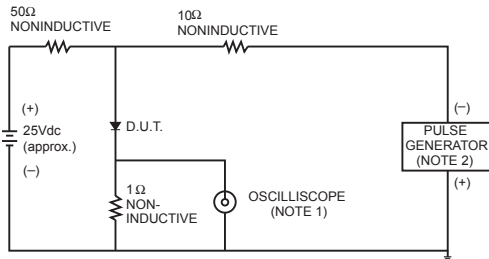


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



- NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

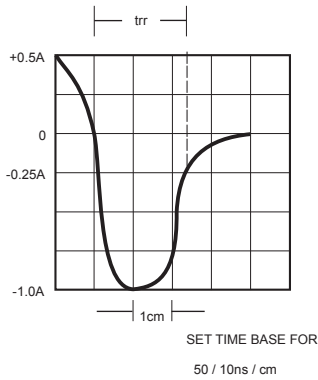


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

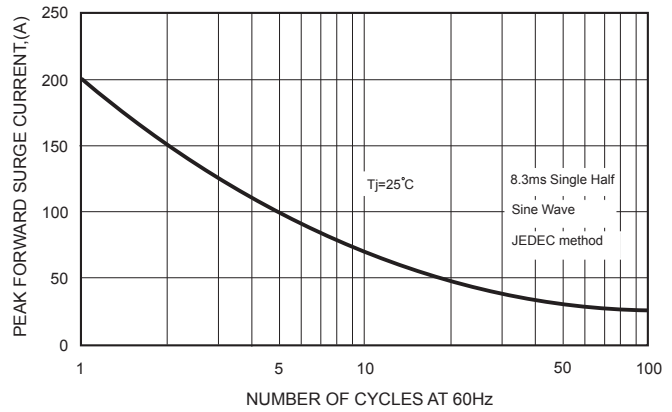


FIG.5-TYPICAL JUNCTION CAPACITANCE

