

CURRENT 5.0 Ampere
 VOLTAGE RANG 50 to 1000 Volts

FR501 THRU FR507

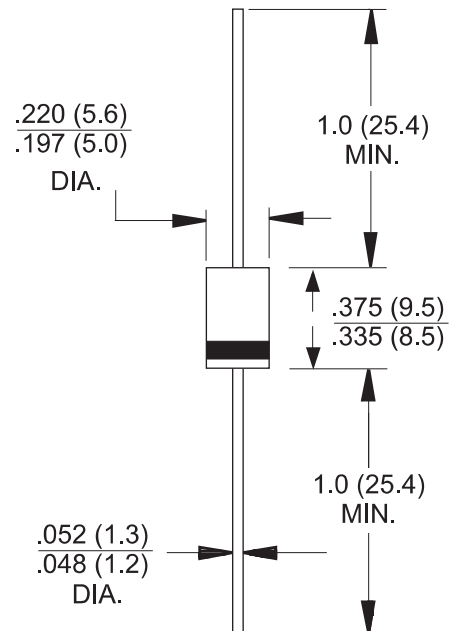
FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon,Alcohol,Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

- ◇ Case:JEDEC DO-27,molded plastic
- ◇ Terminals: Axial lead ,solderable per MIL- STD-202,Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight:0.041 unces,1.15 grams
- ◇ Mounting position: Any

DO-27 / DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase,half wave,60 Hz,resistive or inductive load. For capacitive load,derate by 20%.

| | | FR 501 | FR 502 | FR 503 | FR 504 | FR 505 | FR 506 | FR 507 | UNITS |
|---|-----------------|-----------------|--------|--------|--------|--------|--------|--------|--------------|
| Maximum recurrent peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$ | $I_{F(AV)}$ | 5.0 | | | | | | | A |
| Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$ | I_{FSM} | 200.0 | | | | | | | A |
| Maximum instantaneous forward voltage @ 5.0 A | V_F | 1.3 | | | | | | | V |
| Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$ | I_R | 10.0 200.0 | | | | | | | μA |
| Maximum reverse recovery time (Note1) | t_{rr} | 150 | | | 250 | 500 | | ns | |
| Typical junction capacitance (Note2) | C_J | 28 | | | | | | | pF |
| Typical thermal resistance (Note3) | $R_{\theta JA}$ | 22 | | | | | | | $^\circ C/W$ |
| Operating junction temperature range | T_J | - 55----- +150 | | | | | | | $^\circ C$ |
| Storage temperature range | T_{STG} | - 55----- + 150 | | | | | | | $^\circ C$ |

NOTE:1. Measured with $I_F=0.5A$, $I_R=1A$, $I_{rr}=0.25A$.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. Thermal resistance from junction to ambient.

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RATING AND CHARACTERISTIC CURVES FR501 Thru FR507

FIG.1 – FORWARD DERATING CURVE

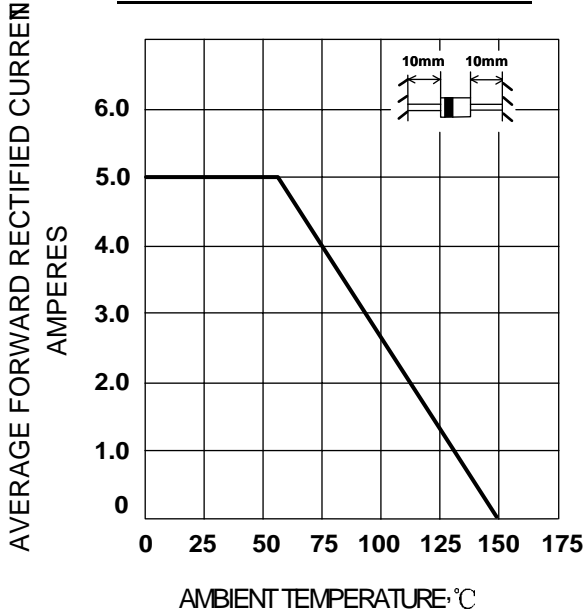


FIG.2-PEAK FORWARD SURGE CURRENT

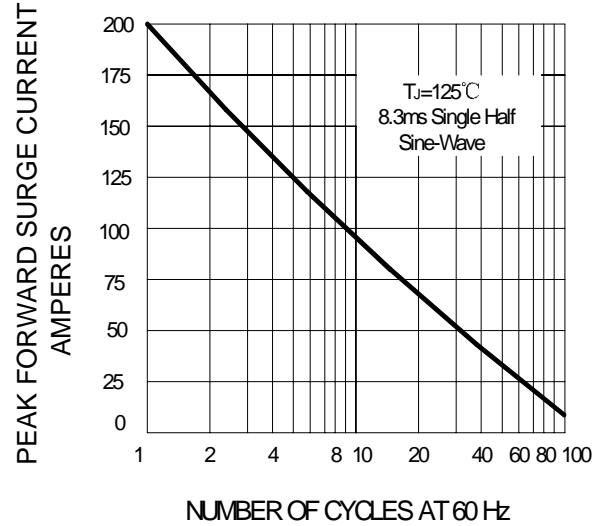


FIG.3-TYPICAL JUNCTION CAPACITANCE

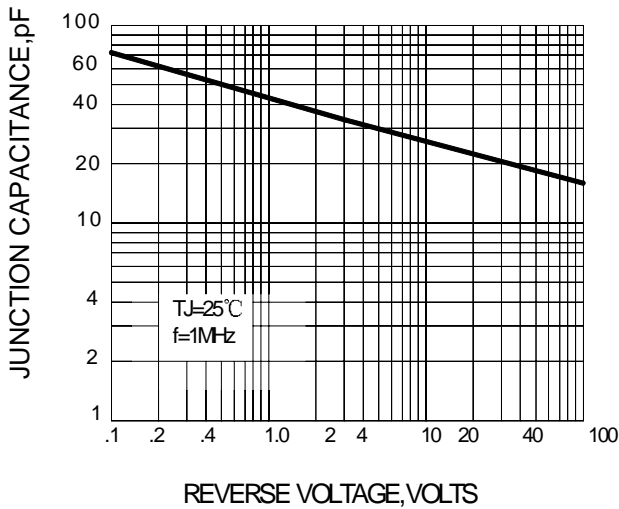


FIG.4 – TYPICAL FORWARD CHARACTERISTIC

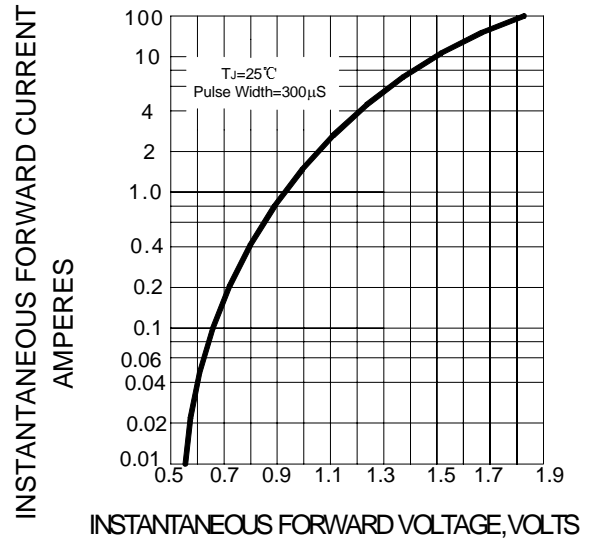
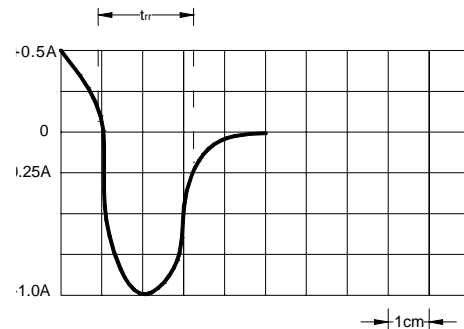
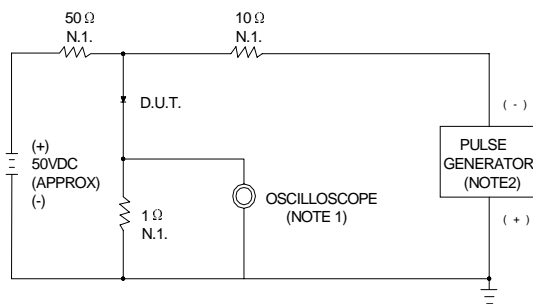


FIG5 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES:1.RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ,22pF
 2.RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω

SET TIME BASE FOR 50/100 ns/cm