

HIGH EFFICIENCY RECTIFIER

VOLTAGE RANGE: 70--- 1000 V

CURRENT: 2.0--- 3.5 A

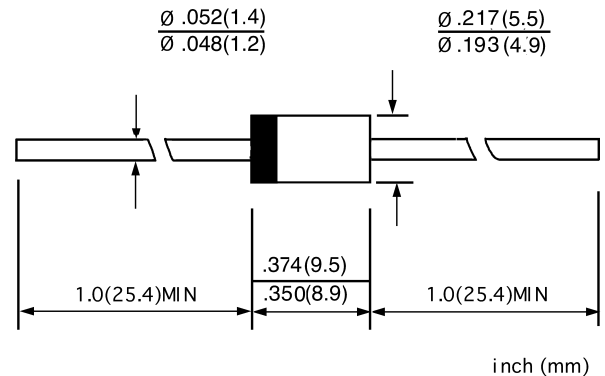
FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with freon, alcohol, Isopropand and similar solvents

MECHANICAL DATA

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

DO - 27



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%.

| | | RG4Y | RG4Z | RG4 | RG4A | RG4C | UNITS |
|--|-----------------|------------------|------|-----------------|------|------|--------------|
| Maximum peak repetitive reverse voltage | V_{RRM} | 70 | 200 | 400 | 600 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 49 | 140 | 280 | 420 | 700 | V |
| Maximum DC blocking voltage | V_{DC} | 70 | 200 | 400 | 600 | 1000 | V |
| Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$ | $I_{F(AV)}$ | 3.5 | 3.0 | | 2.0 | | A |
| Peak forward surge current 10ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$ | I_{FSM} | 100.0 | 80.0 | | 50.0 | 60.0 | A |
| Maximum instantaneous forward voltage @ $I_F=I_{F(AV)}$ | V_F | 1.3 | 1.7 | 1.8 | 2.0 | 3.0 | V |
| Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$ | I_R | 1000.0 5000.0 | | 500.0 2500.0 | | | μA |
| Maximum reverse recovery time (Note1) | t_{rr} | 50 | | | | | ns |
| Typical junction capacitance (Note2) | C_J | 70 | | | 50 | | pF |
| Typical thermal resistance (Note3) | $R_{\theta JL}$ | 8 | | | | | $^\circ C/W$ |
| Operating junction temperature range | T_J | - 55 ----- + 150 | | | | | $^\circ C$ |
| Storage temperature range | T_{STG} | - 55 ----- + 150 | | | | | $^\circ C$ |

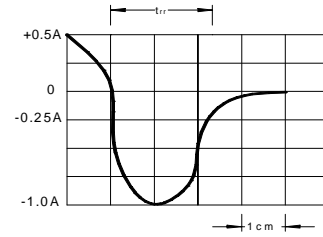
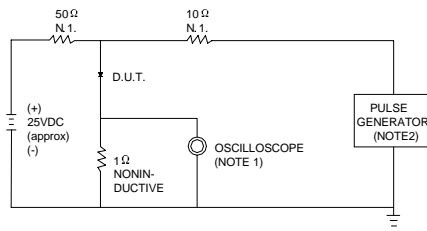
NOTE:1. Measured with $I_F=0.5A$, $I_R=1A$, $I_{rr}=0.25A$.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance junction to ambient.

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FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

SET TIME BASE FOR 10/20 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

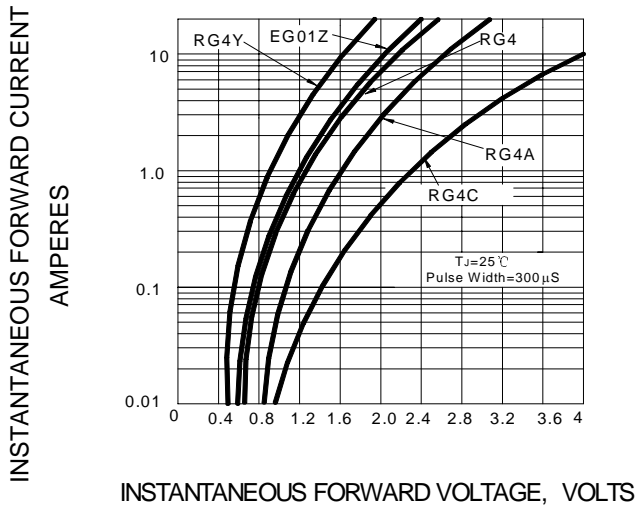


FIG.3 – FORWARD DERATING CURVE

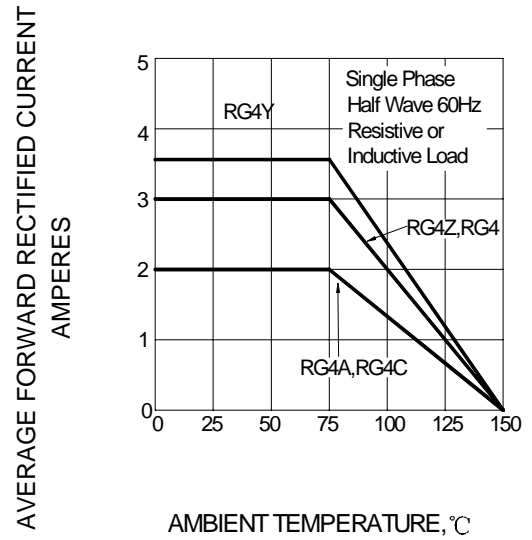


FIG.4 – PEAK FORWARD SURGE CURRENT

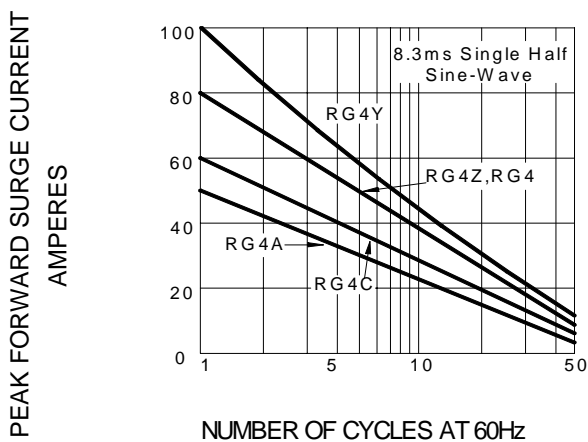


FIG.5 – TYPICAL JUNCTION CAPACITANCE

