

SUPER FAST RECTIFIERS

VOLTAGE RANGE: 100 --- 600 V
CURRENT: 5.0 A

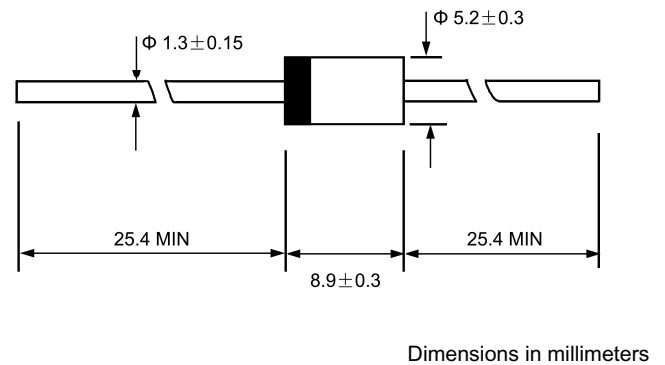
FEATURES

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with 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 ounces, 1.15 grams
- ◇ Mounting position: 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%.

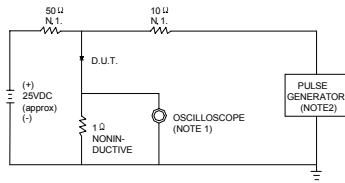
| | | ER501 | ER502 | ER503 | ER504 | ER506 | UNITS |
|---|-----------------|-------|-------|------------------|-------|-------|--------------|
| Maximum recurrent peak reverse voltage | V_{RRM} | 100 | 200 | 300 | 400 | 600 | V |
| Maximum RMS voltage | V_{RMS} | 70 | 140 | 210 | 280 | 420 | V |
| Maximum DC blocking voltage | V_{DC} | 100 | 200 | 300 | 400 | 600 | V |
| Maximum average forward rectified current 9.5mm lead length, @ $T_A=55^\circ C$ | $I_{F(AV)}$ | 5.0 | | | | | A |
| Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$ | I_{FSM} | 150.0 | | | | | A |
| Maximum instantaneous forward voltage @ 5.0A | V_F | 0.95 | | 1.25 | | 1.7 | V |
| Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$ | I_R | | | 5.0 | | 300.0 | μA |
| Maximum reverse recovery time (Note 1) | t_{rr} | | | 35 | | | ns |
| Typical junction capacitance (Note 2) | C_J | | | 45 | | | pF |
| Typical thermal resistance (Note 3) | $R_{\theta JA}$ | | | 25 | | | $^\circ C/W$ |
| Operating junction temperature range | T_J | | | - 55 ----- + 150 | | | $^\circ C$ |
| Storage temperature range | T_{STG} | | | - 55 ----- + 150 | | | $^\circ C$ |

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

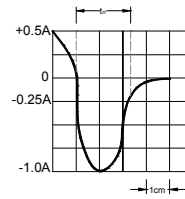
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance junction to ambient.

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 15 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

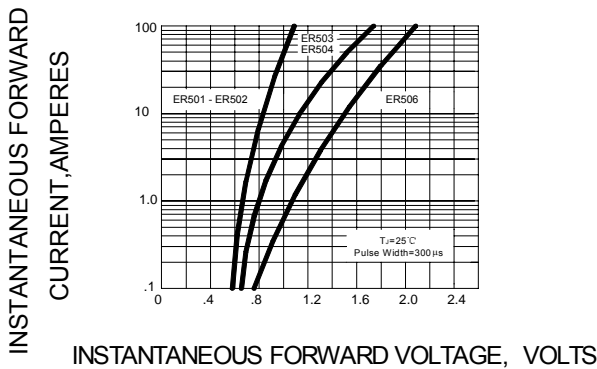


FIG.3 – FORWARD DERATING CURVE

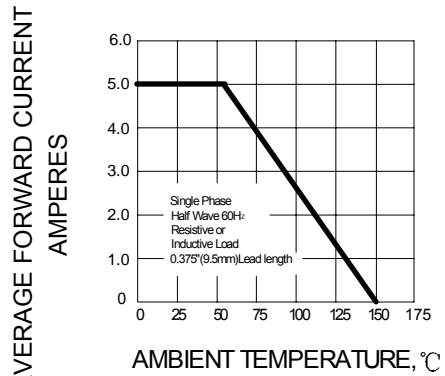


FIG.4 – TYPICAL JUNCTION CAPACITANCE

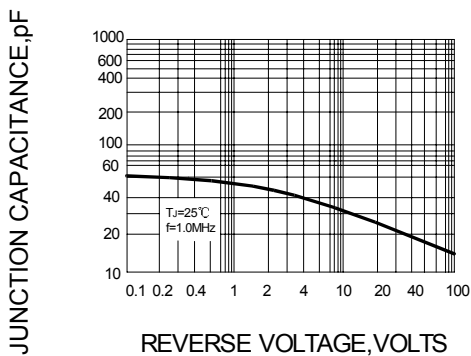


FIG.5 – PEAK FORWARD SURGE CURRENT

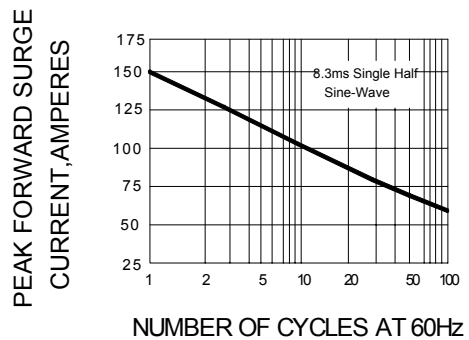


FIG.6 – TYPICAL REVERSE CHARACTERISTICS

