

### PLASTIC SILICON RECTIFIERS

**VOLTAGE RANGE: 50 --- 1000 V**  
**CURRENT: 1.0 A**

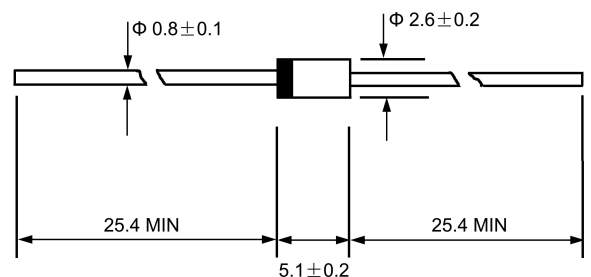
#### FEATURES

- ◇ 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--41, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL- STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.012 ounces, 0.34 grams
- ◇ Mounting position: Any

#### DO - 41



Dimensions in 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%.

|                                                                                                                   |                 | ERB12<br>-01   | ERB12<br>-02 | ERA12<br>-04 | ERB12<br>-06 | ERB12<br>-10 | UNITS              |
|-------------------------------------------------------------------------------------------------------------------|-----------------|----------------|--------------|--------------|--------------|--------------|--------------------|
| Maximum recurrent peak reverse voltage                                                                            | $V_{RRM}$       | 100            | 200          | 400          | 600          | 1000         | V                  |
| Maximum RMS voltage                                                                                               | $V_{RMS}$       | 70             | 140          | 280          | 420          | 700          | V                  |
| Maximum DC blocking voltage                                                                                       | $V_{DC}$        | 100            | 200          | 400          | 600          | 1000         | V                  |
| Maximum average forward rectified current<br>9.5mm lead length, @ $T_A=75^\circ\text{C}$                          | $I_{F(AV)}$     | 1.0            |              |              |              |              | A                  |
| Peak forward surge current<br>8.3ms single half-sine-wave<br>superimposed on rated load @ $T_J=125^\circ\text{C}$ | $I_{FSM}$       | 60.0           |              |              |              |              | A                  |
| Maximum instantaneous forward voltage<br>@ 1.0 A                                                                  | $V_F$           | 1.1            |              |              |              |              | V                  |
| Maximum reverse current @ $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage @ $T_A=100^\circ\text{C}$        | $I_R$           | 5.0<br>50.0    |              |              |              |              | $\mu\text{A}$      |
| Typical junction capacitance (Note1)                                                                              | $C_J$           | 15             |              |              |              |              | pF                 |
| Typical thermal resistance (Note2)                                                                                | $R_{\theta JA}$ | 50             |              |              |              |              | $^\circ\text{C/W}$ |
| Operating junction temperature range                                                                              | $T_J$           | - 55 --- + 150 |              |              |              |              | $^\circ\text{C}$   |
| Storage temperature range                                                                                         | $T_{STG}$       | - 55 --- +150  |              |              |              |              | $^\circ\text{C}$   |

NOTE: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

2. Thermal resistance from junction to ambient.

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FIG.1 – TYPICAL FORWARD CHARACTERISTIC

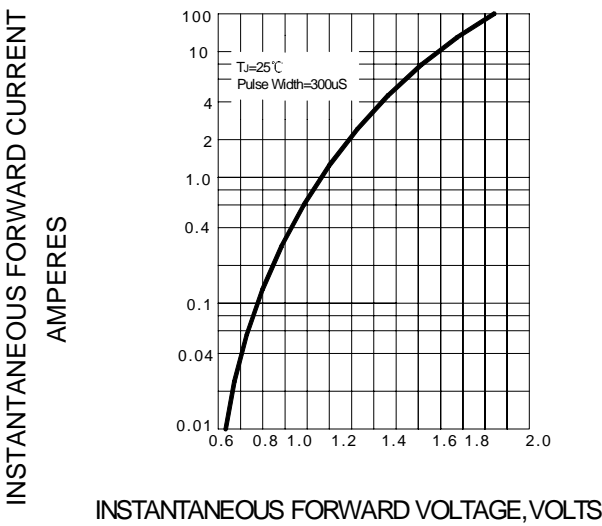


FIG.2 – TYPICAL JUNCTION CAPACITANCE

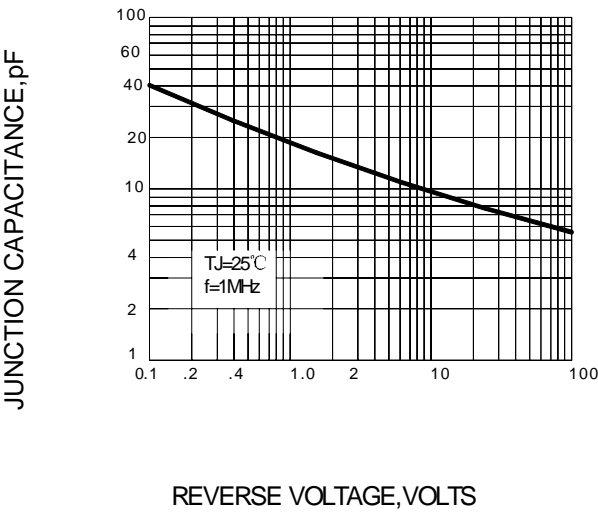


FIG.3 – PEAK FORWARD SURGE CURRENT

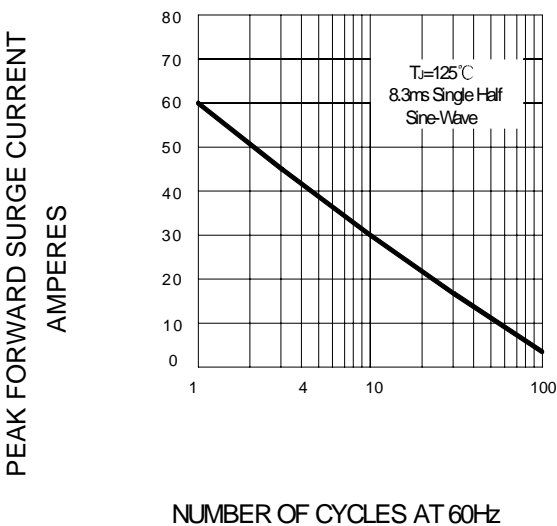


FIG.4 – FORWARD DERATING CURVE

