

### HIGH VOLTAGE RECTIFIERS

VOLTAGE RANGE: 1200 --- 2000 V  
CURRENT: 0.2A to 0.5A

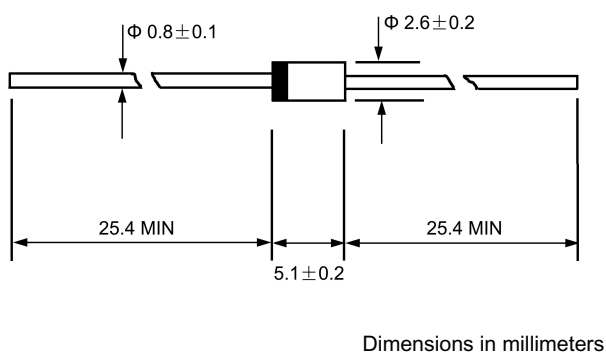
#### FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ 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-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



#### 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%.

|   |                 | R1200F          | R1500F | R1800F | R2000F | UNITS        |
|---|-----------------|-----------------|--------|--------|--------|--------------|
| Maximum recurrent peak reverse voltage  | $V_{RRM}$       | 1200            | 1500   | 1800   | 2000   | V            |
| Maximum RMS voltage   | $V_{RMS}$       | 840             | 1050   | 1260   | 1400   | V            |
| Maximum DC blocking voltage   | $V_{DC}$        | 1200            | 1500   | 1800   | 2000   | V            |
| Maximum average forward rectified current<br>9.5mm lead length, @ $T_A=75^\circ C$                          | $I_{F(AV)}$     | 0.5             |        |        | 0.2    | A            |
| Peak forward surge current<br>8.3ms single half-sine-wave<br>superimposed on rated load @ $T_J=125^\circ C$ | $I_{FSM}$       | 30.0            |        |        |        | A            |
| Maximum instantaneous forward voltage<br>@ 0.5A   | $V_F$           | 2.5             |        |        | 4.0    | V            |
| Maximum reverse current @ $T_A=25^\circ C$<br>at rated DC blocking voltage @ $T_A=100^\circ C$              | $I_R$           | 5.0<br>100.0    |        |        |        | $\mu A$      |
| Maximum reverse capacitance (Note1)   | $t_{rr}$        | 500             |        |        |        | ns           |
| Typical thermal resistance (Note2)  | $R_{\theta JA}$ | 35              |        |        |        | $^\circ C/W$ |
| Typical junction capacitance (Note3)  | $C_J$           | 15              |        |        |        | pF           |
| Operating junction temperature range  | $T_J$           | - 55 ---- + 125 |        |        |        | $^\circ C$   |
| Storage temperature range   | $T_{STG}$       | - 55 ---- + 150 |        |        |        | $^\circ C$   |

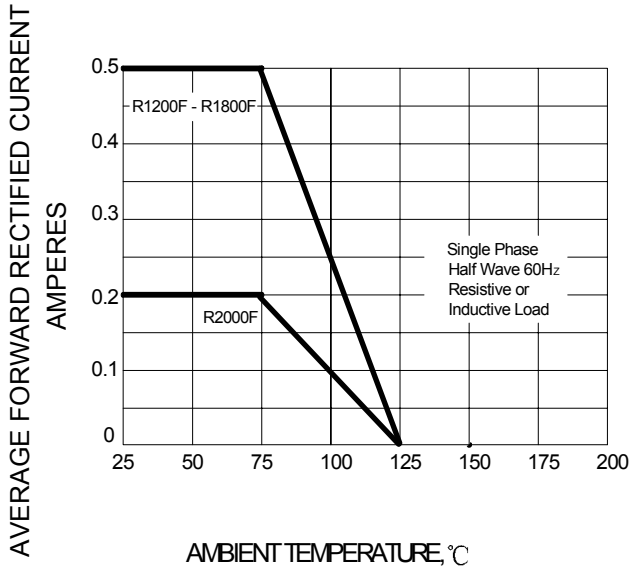
NOTE: 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

2. Thermal resistance from junction to ambient.

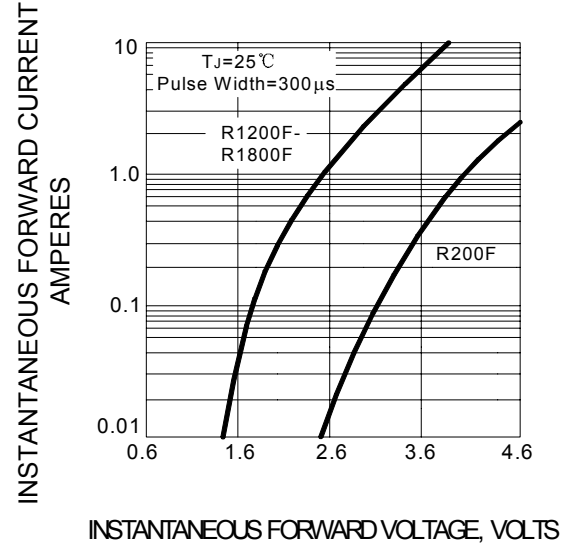
3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

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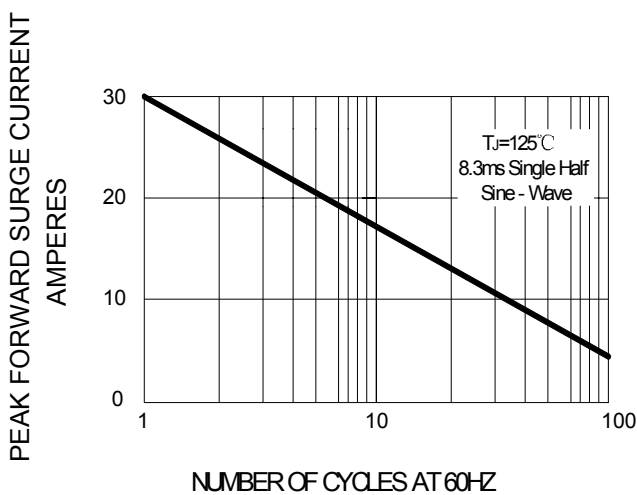
**FIG.1 – FORWARD DERATING CURVE**



**FIG.2 – TYPICAL FORWARD CHARACTERISTICS**



**FIG.3 – PEAK FORWARD SURGE CURRENT**



**FIG.4 – TYPICAL JUNCTION CAPACITANCE**

