

### SUPER FAST RECTIFIER

VOLTAGE RANGE: 50 --- 800 V  
CURRENT: 1.0 A

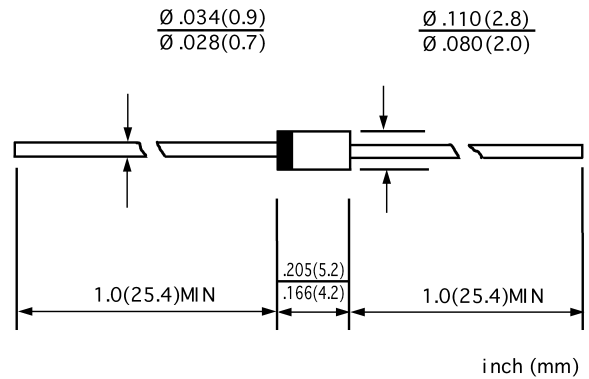
#### FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ low leakage current
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents
- ◇ Plastic package has underwriters laboratory flammability classification 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

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#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

|   |                 | UGP 10A          | UGP 10B | UGP 10D | UGP 10F | UGP 10G | UGP 10J      | UGP 10K | UNITS      |
|---|-----------------|------------------|---------|---------|---------|---------|--------------|---------|------------|
| Maximum recurrent peak reverse voltage  | $V_{RRM}$       | 50               | 100     | 200     | 300     | 400     | 600          | 800     | V          |
| Maximum RMS voltage   | $V_{RMS}$       | 35               | 70      | 140     | 210     | 280     | 420          | 560     | V          |
| Maximum DC blocking voltage   | $V_{DC}$        | 50               | 100     | 200     | 300     | 400     | 600          | 800     | V          |
| Maximum average forward rectified current<br>9.5mm lead length, @ $T_A=75^\circ C$                          | $I_{F(AV)}$     | 1.0              |         |         |         |         |              |         | A          |
| Peak forward surge current<br>8.3ms single half-sine-wave<br>superimposed on rated load @ $T_J=125^\circ C$ | $I_{FSM}$       | 30.0             |         |         |         |         | 25.0         |         | A          |
| Maximum instantaneous forward voltage<br>@ 1.0A   | $V_F$           | 0.95             |         |         | 1.25    |         | 1.7          | 2.2     | V          |
| Maximum reverse current<br>@ $T_A=25^\circ C$<br>at rated DC blocking voltage @ $T_A=100^\circ C$           | $I_R$           | 5.0              |         |         |         |         | 50.0         |         | $\mu A$    |
| Maximum reverse recovery time (Note1)   | $t_{rr}$        | 35               |         |         |         |         | ns           |         |            |
| Typical junction capacitance (Note2)  | $C_J$           | 17               |         |         |         |         | pF           |         |            |
| Typical thermal resistance (Note3)  | $R_{\theta JA}$ | 50               |         |         |         |         | $^\circ C/W$ |         |            |
| Operating junction temperature range  | $T_J$           | - 55 ----- + 150 |         |         |         |         |              |         | $^\circ C$ |
| Storage temperature range   | $T_{STG}$       | - 55 ----- + 150 |         |         |         |         |              |         | $^\circ C$ |

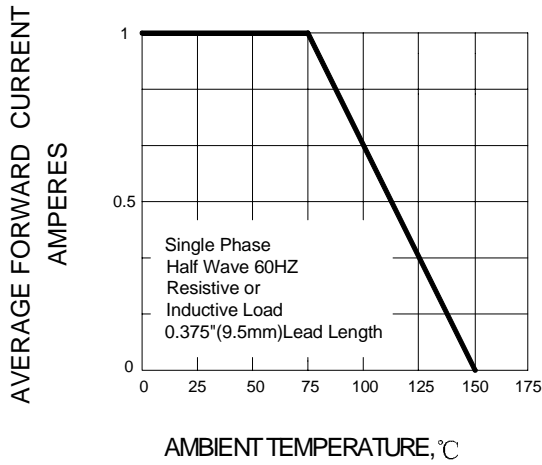
NOTE: 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

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

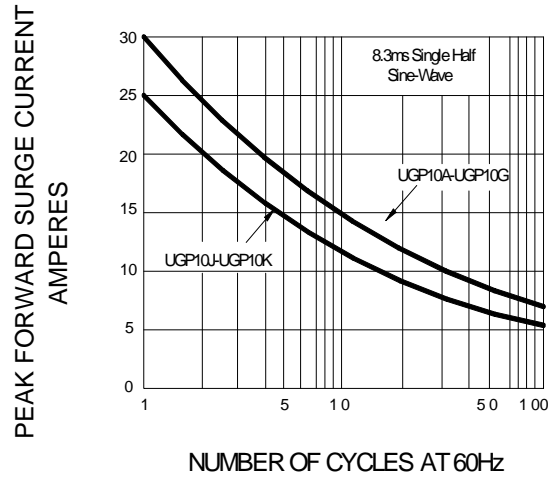
3. Thermal resistance junction to ambient.

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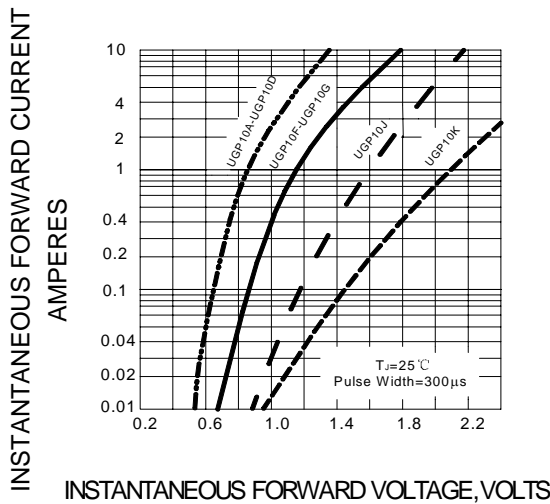
**FIG.1 – FORWARD DERATING CURVE**



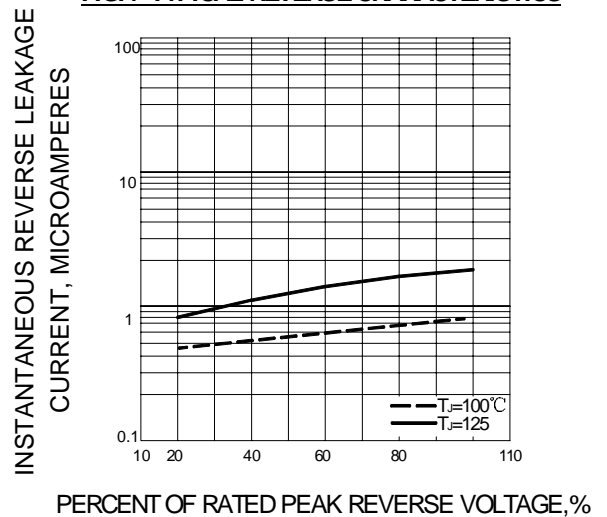
**FIG.2 – PEAK FORWARD SURGE CURRENT**



**FIG.3 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.4 – TYPICAL REVERSE CHARACTERISTICS**



**FIG.5 – TYPICAL JUNCTION CAPACITANCE**

