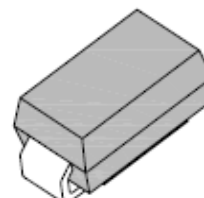


## 1.0A Sintered Glass Passivated Ultra Fast Rectifier

### Features

- Sintered glass passivated (SGP) rectifier chip
- Glass passivated cavity-free junction
- Ideal for surface mount automotive applications
- Superfast recovery time for high efficiency
- Built-in strain relief
- Easy pick and place
- High temperature soldering guaranteed: 260°C/10 seconds, at terminals
- RoHS Compliance



SMA



### Mechanical Data

|                   |                                                          |
|-------------------|----------------------------------------------------------|
| <b>Case:</b>      | JEDEC DO-214AC(SMA) molded plastic over passivated chip  |
| <b>Epoxy:</b>     | Plastic package has UL flammability classification 94V-0 |
| <b>Terminals:</b> | Tin plated, solderable per MIL-STD-750, Method 2026      |
| <b>Polarity:</b>  | Color band denotes cathode end                           |
| <b>Weight:</b>    | 0.002 ounces, 0.064 gram                                 |

### Maximum Ratings and Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless noted otherwise)

| Symbol                   | Description                               | UGF1A | UGF1B | UGF1D | UGF1G | UGF1J | UGF1K | UGF1M | Unit | Conditions                                                            |
|--------------------------|-------------------------------------------|-------|-------|-------|-------|-------|-------|-------|------|-----------------------------------------------------------------------|
| <b>V<sub>RRM</sub></b>   | Maximum Repetitive Peak Reverse Voltage   | 50    | 100   | 200   | 400   | 600   | 800   | 1000  | V    |                                                                       |
| <b>V<sub>RMS</sub></b>   | Maximum RMS Voltage                       | 35    | 70    | 140   | 280   | 420   | 560   | 700   | V    |                                                                       |
| <b>V<sub>DC</sub></b>    | Maximum DC Blocking Voltage               | 50    | 100   | 200   | 400   | 600   | 800   | 1000  | V    |                                                                       |
| <b>I<sub>F(AV)</sub></b> | Maximum Average Forward Rectified Current | 1.0   |       |       |       |       |       |       | A    | T <sub>L</sub> =75° C                                                 |
| <b>I<sub>FSM</sub></b>   | Peak Forward Surge Current                | 30    |       |       |       |       |       |       | A    | 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) |

# 1.0A Sintered Glass Passivated Ultra Fast Rectifier

## UGF1A - UGF1M

| Symbol                                | Description                                             | UGF1A       | UGF1B | UGF1D | UGF1G | UGF1J | UGF1K | UGF1M | Unit   | Conditions                                                         |
|---------------------------------------|---------------------------------------------------------|-------------|-------|-------|-------|-------|-------|-------|--------|--------------------------------------------------------------------|
| <b>V<sub>F</sub></b>                  | Maximum Instantaneous Forward Voltage                   | 1.0         |       |       | 1.25  | 1.7   |       |       | V      | I <sub>F</sub> =1.0A                                               |
| <b>I<sub>R</sub></b>                  | Maximum DC Reverse Current at Rated DC Blocking Voltage | 5           |       |       |       | 5     |       |       | μA     | T <sub>A</sub> =25° C                                              |
|                                       |                                                         | 30          |       |       |       | 50    |       |       |        | T <sub>A</sub> =125° C                                             |
|                                       |                                                         | 50          |       |       |       | -     |       |       |        | T <sub>A</sub> =150° C                                             |
| <b>T<sub>rr</sub></b>                 | Maximum Reverse Recovery Time                           | 50          |       |       |       | 75    |       |       | nS     | I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A |
| <b>C<sub>J</sub></b>                  | Typical Junction Capacitance                            | 15          |       |       |       |       |       |       | pF     | V <sub>R</sub> =4V, f=1MHz                                         |
| <b>R<sub>thJA</sub></b>               | Typical Thermal Resistance                              | 75          |       |       |       |       |       |       | °C / W | Note                                                               |
| <b>R<sub>thJL</sub></b>               |                                                         | 25          |       |       |       |       |       |       |        |                                                                    |
| <b>T<sub>J</sub>, T<sub>STG</sub></b> | Operating Junction and Storage Temperature Range        | -65 to +175 |       |       |       |       |       |       | ° C    |                                                                    |

**Note:** Thermal resistance from junction to ambient and from junction to lead P.C.B mounted on 0.2x0.2" (5.0x5.0mm) copper pad areas.

### Typical Characteristics Curves

Fig.1- Forward Current Derating Curve

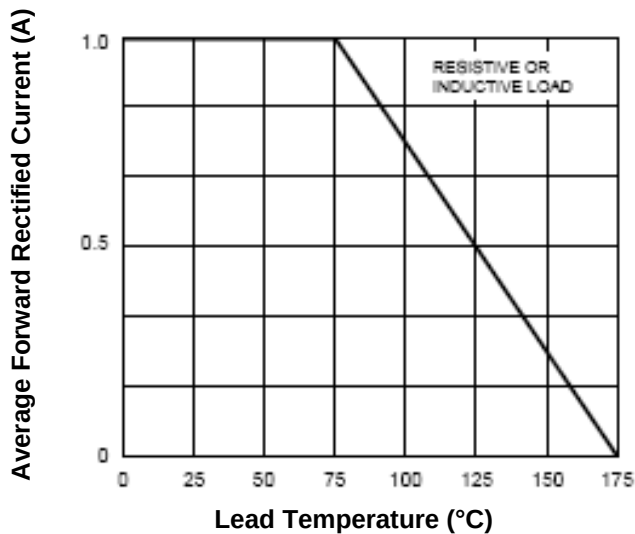
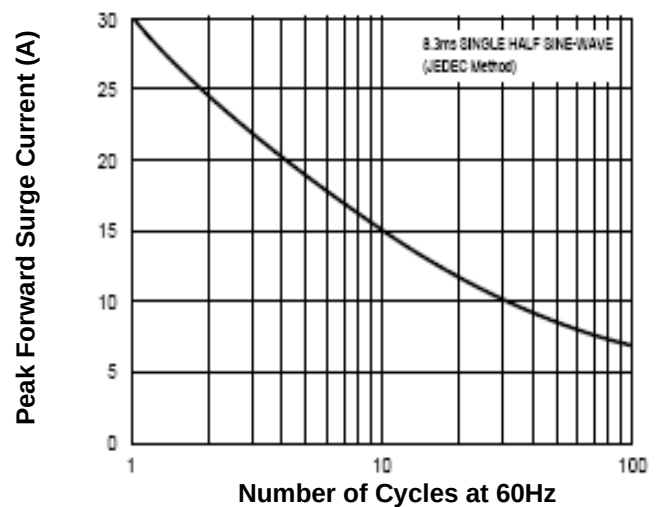


Fig.2- Max. Non-Repetitive Peak Forward Surge Current



# 1.0A Sintered Glass Passivated Ultra Fast Rectifier

## UGF1A - UGF1M

Fig.3- Typical Instantaneous Forward Characteristics

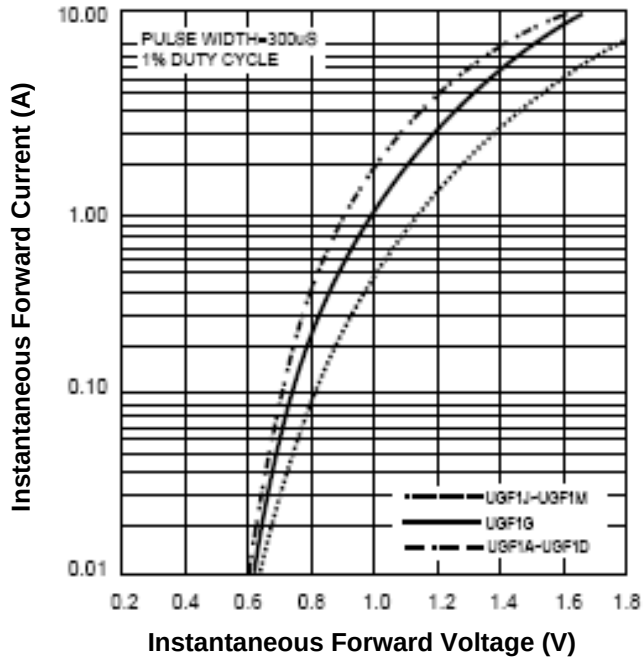


Fig.4-Typical Reverse Characteristics

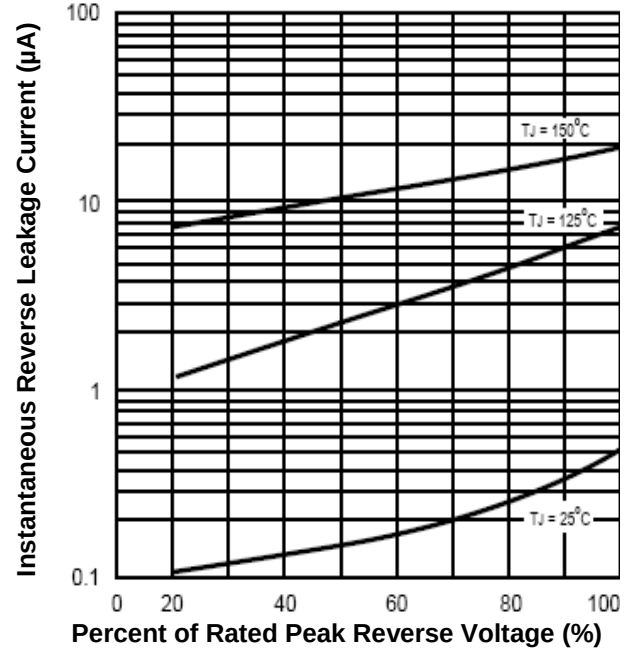
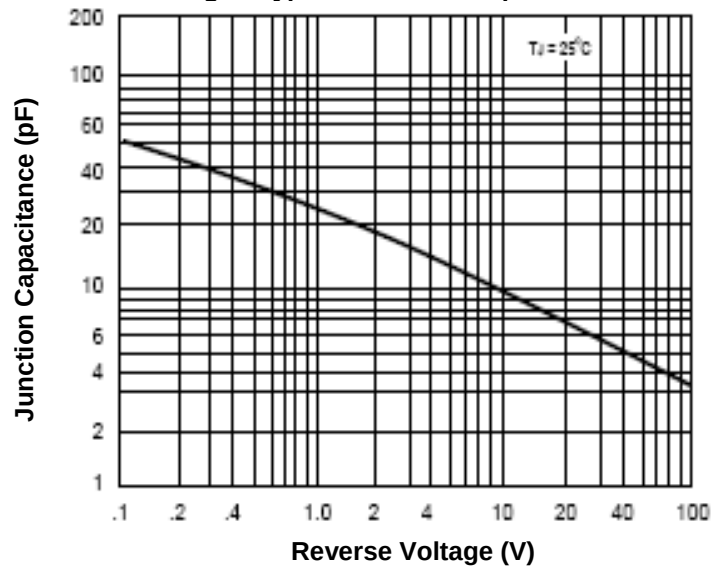


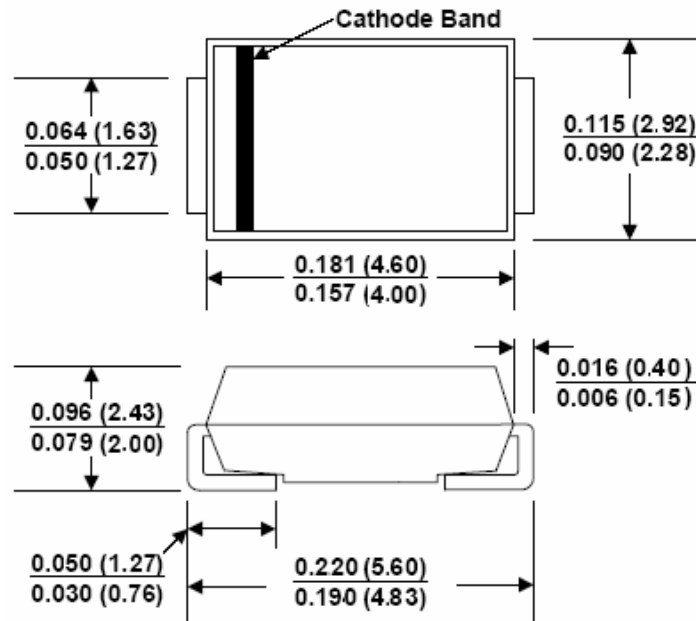
Fig.5- Typical Junction Capacitance



# 1.0A Sintered Glass Passivated Ultra Fast Rectifier

## UGF1A - UGF1M

### Dimensions in inches (mm)



SMA

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