



# UGF10A THRU UGF10K

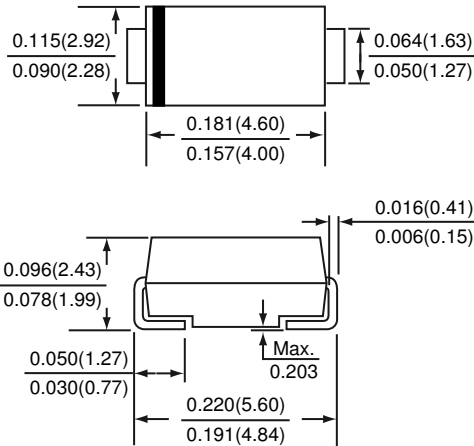
**SURFACE MOUNT GLASS PASSIVATED JUNCTION ULTRAFAST EFFICIENT RECTIFIER**

*Reverse Voltage - 50 to 800 Volts*

*Forward Current - 1.0 Ampere*

**PATENTED**

**SMA/DO-214AC**



\*Dimensions in inches and (millimeters)

**SUPEREX II<sup>TM</sup>**



## FEATURES

- \* GPRC (Glass Passivated Rectifier Chip) inside
- \* Glass passivated cavity-free junction
- \* Ideal for surface mount automotive applications
- \* Ultrafast recovery time for high efficiency
- \* Built-in strain relief
- \* Easy pick and place
- \* High temperature soldering guaranteed: 260°C/10 seconds, at terminals
- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0

## MECHANICAL DATA

**Case :** JEDEC DO-214AC molded plastic over passivated chip

**Terminals :** Tin plated, solderable per MIL-STD-750, Method 2026

**Polarity :** Color band denotes cathode end

**Weight :** 0.002 ounces , 0.064 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| Ratings at 25 °C ambient temperature<br>unless otherwise specified.                  | SYMBOLS        | UGF10       |     |     |      |     |     | UNITS  |
|--------------------------------------------------------------------------------------|----------------|-------------|-----|-----|------|-----|-----|--------|
|                                                                                      |                | A           | B   | D   | G    | J   | K   |        |
| Maximum repetitive peak reverse voltage                                              | VRRM           | 50          | 100 | 200 | 400  | 600 | 800 | Volts  |
| Maximum RMS voltage                                                                  | VRMS           | 35          | 70  | 140 | 280  | 420 | 560 | Volts  |
| Maximum DC blocking voltage                                                          | VDC            | 50          | 100 | 200 | 400  | 600 | 800 | Volts  |
| Maximum average forward rectified current TL=110°C                                   | I (AV)         | 1.0         |     |     |      |     |     | Amps   |
| Peak forward surge current 8.3ms single half sine-wave<br>superimposed on rated load | IFSM           | 30          |     |     |      | 25  |     | Amps   |
| Maximum instantaneous forward voltage at 1.0 A                                       | VF             | 0.95        |     |     | 1.25 | 1.7 | 2.2 | Volts  |
| Maximum DC reverse current<br>at rated DC blocking voltage                           | IR             | 5<br>50     |     |     |      |     |     | uA     |
| Maximum reverse recovery time (NOTE 1)                                               | trr            | 35          |     |     |      |     |     | nS     |
| Typical junction capacitance (NOTE 2)                                                | CJ             | 10          |     |     |      |     |     | pF     |
| Typical thermal resistance (NOTE 3)                                                  | R θJA<br>R θJL | 68<br>23    |     |     |      |     |     | °C / W |
| Operating junction and storage temperature range                                     | TJ,TSTG        | -55 to +175 |     |     |      |     |     | °C     |

NOTES : (1) Reverse recovery test condition : IF 0.5A, IR=1.0A, Irr=0.25A

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

(3) Thermal resistance from junction to ambient P.C.B. mounted on 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas.

# RATINGS AND CHARACTERISTIC CURVES UGF10A THRU UGF10K

FIG.1 - FORWARD CURRENT DERATING CURVE

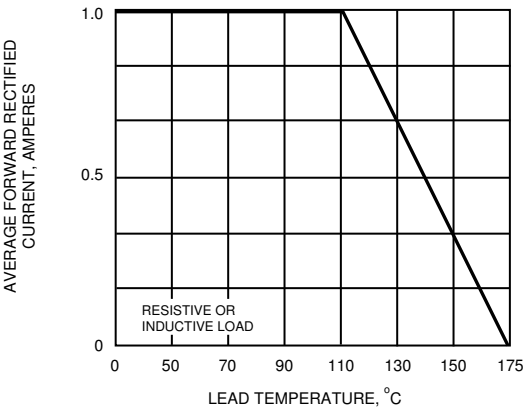


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

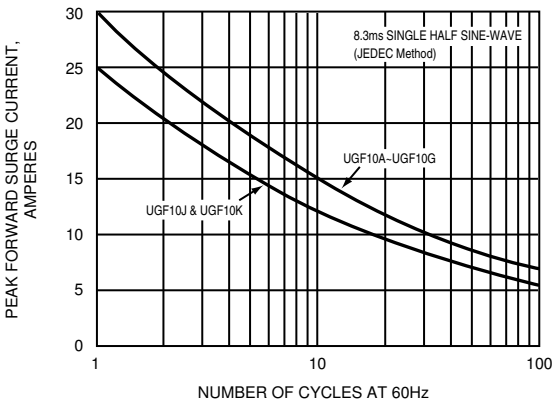


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

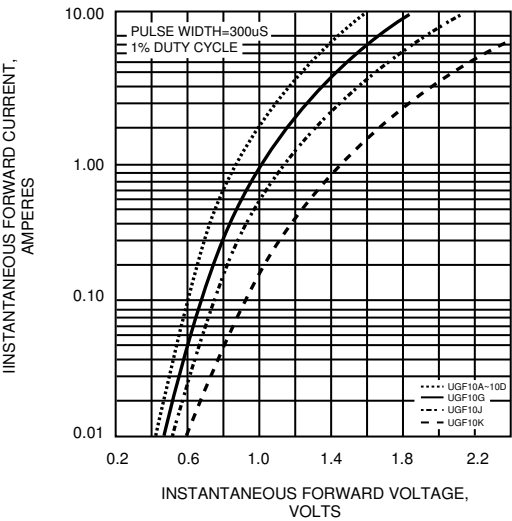


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

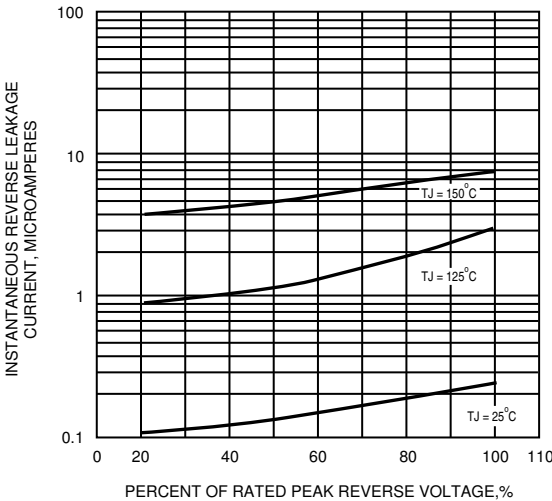


FIG.5 - TYPICAL JUNCTION CAPACITANCE

