



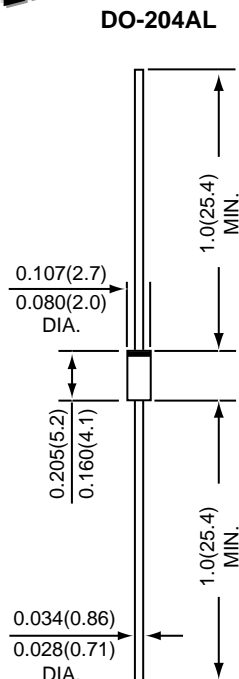
# UGP10A THRU UGP10K

## SINTERED GLASS PASSIVATED JUNCTION ULTRAFAST EFFICIENT RECTIFIER

Reverse Voltage - 50 to 800 Volts

Forward Current - 1.0 Ampere

**PATENTED**



\*Dimensions in inches and (millimeters)

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



### FEATURES

- \* GPRC (Glass Passivated Rectifier Chip) inside
- \* Glass passivated cavity-free junction
- \* Ultrafast recovery time for high efficiency
- \* Low forward voltage , high current capability
- \* Low leakage current
- \* High surge current capability
- \* High temperature soldering guaranteed: 260°C/10 seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3 kg) tension
- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0

### MECHANICAL DATA

**Case :** JEDEC DO-204AL molded plastic over glass body  
**Terminals :** Plated axial leads , solderable per MIL-STD-750, Method 2026  
**Polarity :** Color band denotes cathode end  
**Mounting Position :** Any  
**Weight :** 0.012 ounces , 0.3 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| Ratings at 25°C ambient temperature<br>unless otherwise specified.                                  | SYMBOLS | UGP10       |     |      |     |     |     |       | UNITS  |
|-----------------------------------------------------------------------------------------------------|---------|-------------|-----|------|-----|-----|-----|-------|--------|
|                                                                                                     |         | A           | B   | D    | F   | G   | J   | K     |        |
| Maximum repetitive peak reverse voltage                                                             | VRRM    | 50          | 100 | 200  | 300 | 400 | 600 | 800   | Volts  |
| Maximum RMS voltage                                                                                 | VRMS    | 35          | 70  | 140  | 210 | 280 | 420 | 560   | Volts  |
| Maximum DC blocking voltage                                                                         | VDC     | 50          | 100 | 200  | 300 | 400 | 600 | 800   | Volts  |
| Maximum average forward rectified current<br>0.375" (9.5mm) lead length (SEE FIG.1)                 | I (AV)  | 1.0         |     |      |     |     |     |       | Amps   |
| Peak forward surge current 8.3ms single half sine-wave<br>superimposed on rated load (JEDEC Method) | 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      | 17          |     |      |     |     |     |       | pF     |
| Typical thermal resistance (NOTE 3)                                                                 | R θJA   | 50          |     |      |     |     |     |       | °C / W |
| Operating junction and storage temperature range                                                    | TJ,TSTG | -55 to +150 |     |      |     |     |     |       | °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 at 0.375" (9.5mm) lead lengths, P.C.B. mounted.

# RATINGS AND CHARACTERISTIC CURVES UGP10A THRU UGP10K

FIG.1 - FORWARD CURRENT DERATING CURVE

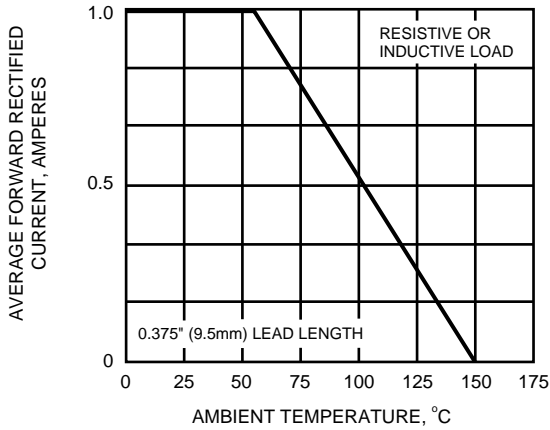


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

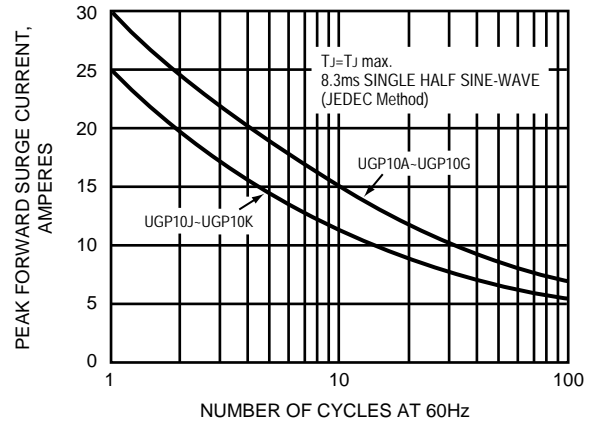


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

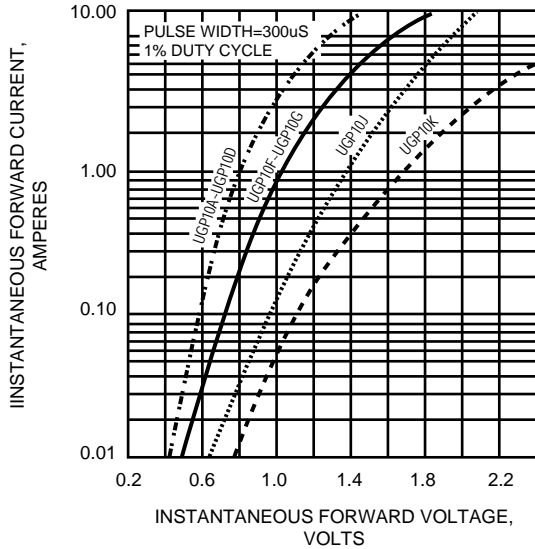


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

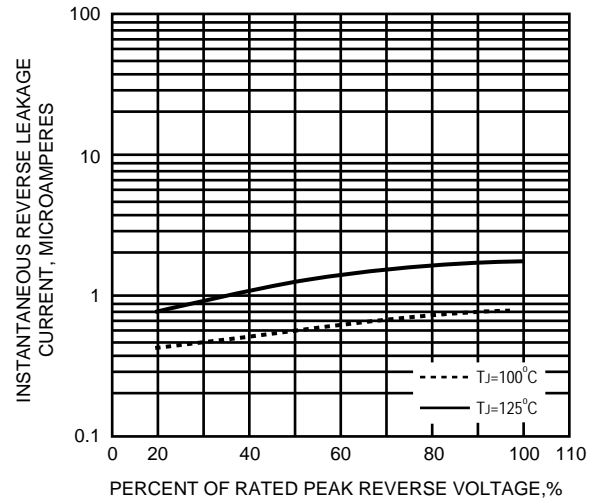


FIG.5 - TYPICAL JUNCTION CAPACITANCE

