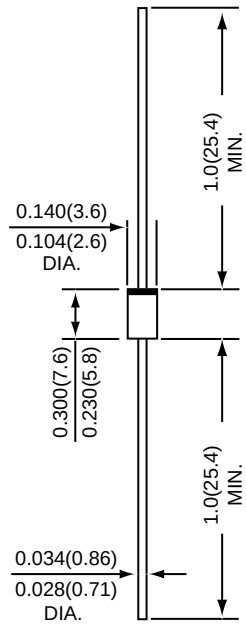
# UGP15A THRU UGP15K

## SINTERED GLASS PASSIVATED JUNCTION ULTRAFAST EFFICIENT RECTIFIER

*Reverse Voltage - 50 to 800 Volts* *Forward Current - 1.5 Amperes*

PATENTED

**DO-204AC**




*Dimensions in inches and (millimeters)

SUPEREX II™



## 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-204AC 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 :** 0.015 ounes , 0.4 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| *Ratings at 25°C ambient temperature unless otherwise specified.* | *SYMBOLS* | ***UGP15*** | | | | | | | *UNITS* |
|---|---|---|---|---|---|---|---|---|---|
| | | ***A*** | ***B*** | ***D*** | ***F*** | ***G*** | ***J*** | ***K*** | |
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 50 | 100 | 200 | 300 | 400 | 600 | 800 | Volts |
| Maximum RMS voltage | $V_{RMS}$ | 35 | 70 | 140 | 210 | 280 | 420 | 560 | Volts |
| Maximum DC blocking voltage | $V_{DC}$ | 50 | 100 | 200 | 300 | 400 | 600 | 800 | Volts |
| Maximum average forward rectified current 0.375" (9.5mm) lead length (SEE FIG.1) | $I_{(AV)}$ | 1.5 | | | | | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 50 | | | | | 45 | | Amps |
| Maximum instantaneous forward voltage at 1.5 A | $V_F$ | 0.95 | | | 1.25 | | 1.7 | 2.2 | Volts |
| Maximum DC reverse current $T_A$=25°C<br>at rated DC blocking voltage $T_A$=125°C | $I_R$ | 5<br>80 | | | | | | | uA |
| Maximum reverse recovery time (NOTE 1) | trr | 35 | | | | | | | nS |
| Typical junction capacitance (NOTE 2) | $C_J$ | 20 | | | | | | | pF |
| Typical thermal resistance (NOTE 3) | $R_{\theta JA}$ | 40 | | | | | | | °C / W |
| Operating junction and storage temperature range | $T_J$,$T_{STG}$ | -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 UGP15A THRU UGP15K

FIG.1 - FORWARD CURRENT DERATING CURVE

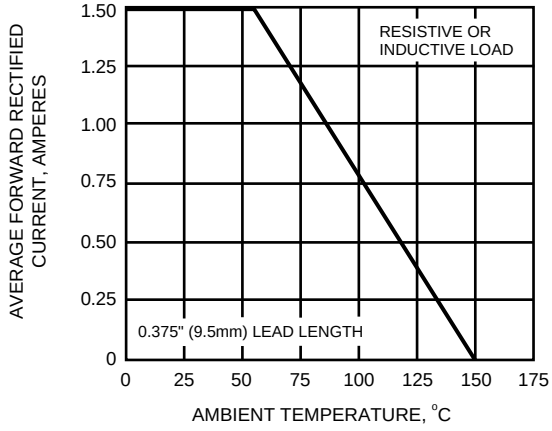



FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

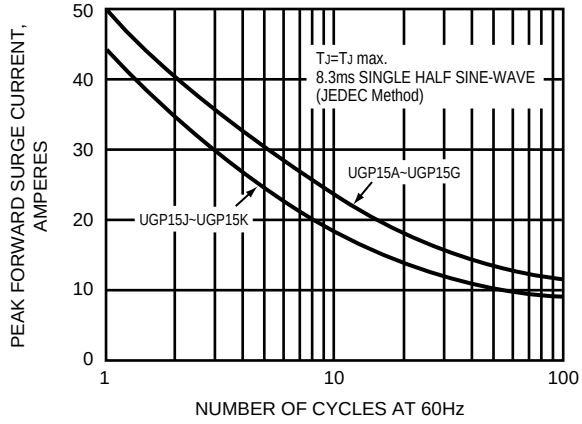



FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

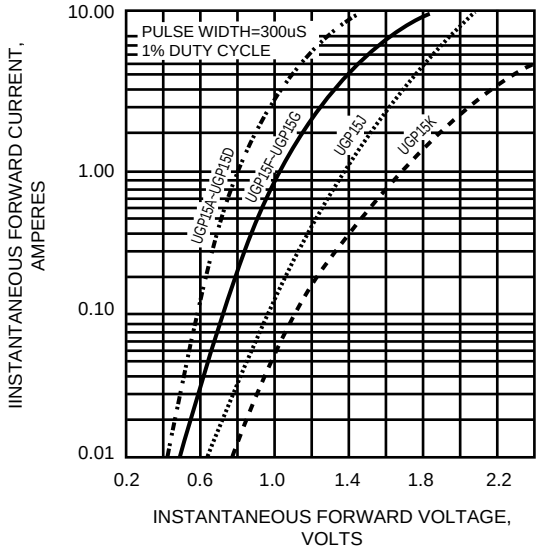



FIG.4 - TYPICAL REVERSE CHARACTERISTICS

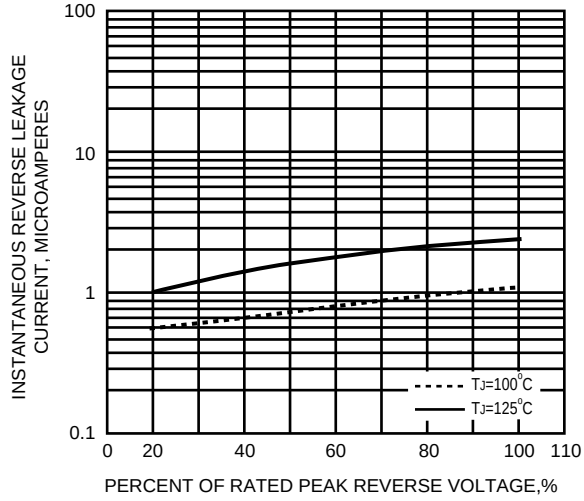



FIG.5 - TYPICAL JUNCTION CAPACITANCE

