

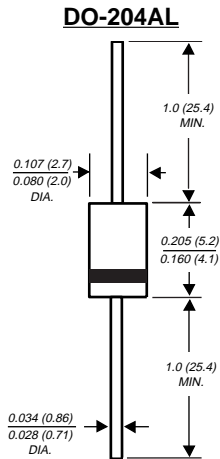
# GP10A THRU GP10Y

## GLASS PASSIVATED JUNCTION RECTIFIER

Reverse Voltage - 50 to 1600 Volts

Forward Current - 1.0 Ampere

**PATENTED\***



NOTE: Lead diameter is 0.026 (0.66) for suffix "E" part numbers  
0.023 (0.58)

Dimensions in inches and (millimeters)

\* Glass-plastic encapsulation is covered by

Patent No. 3,996,602 and brazed-lead assembly by Patent No. 3,930,306

**SUPERRECTIFIER®**

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ High temperature metallurgically bonded construction
- ◆ Glass passivated cavity-free junction
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ 1.0 Ampere operation at  $T_A=75^\circ\text{C}$  and  $55^\circ\text{C}$  with no thermal runaway
- ◆ Typical  $I_R$  less than  $0.1\mu\text{A}$
- ◆ High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds,  $0.375"$  (9.5mm) lead length, 5 lbs. (2.3kg) tension

### 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 ounce, 0.3 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

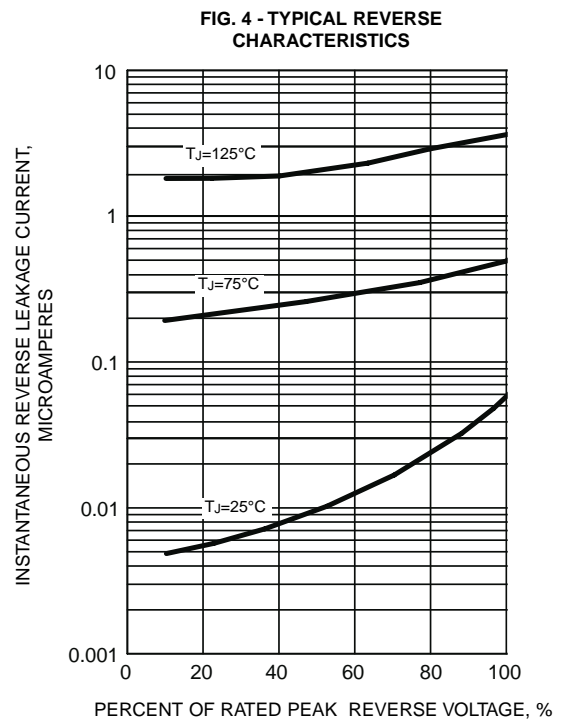
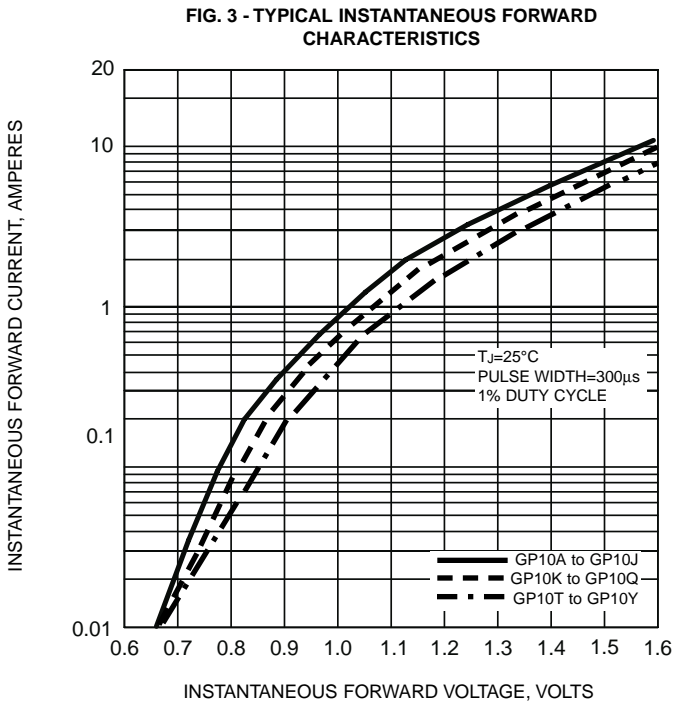
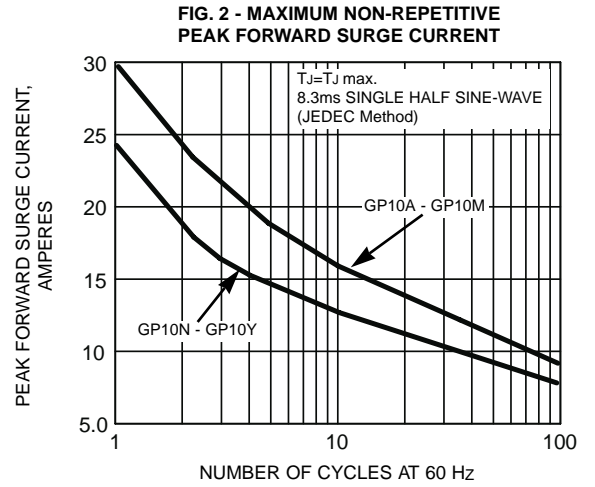
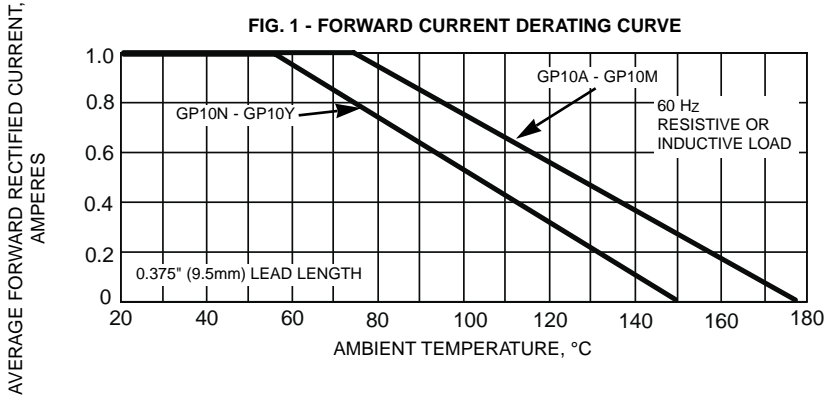
Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

|   | SYMBOLS         | A                             | B | D | G   | J | K | M                               | N | Q | T     | V | W | Y                | UNITS                     |
|---|-----------------|-------------------------------|---|---|-----|---|---|---------------------------------|---|---|-------|---|---|------------------|---------------------------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 50 to 1600 Volts (SEE FIG. 5) |   |   |     |   |   |                                 |   |   |       |   |   |                  | Volts                     |
| Maximum average forward rectified current<br>0.375" (9.5mm) lead length (SEE FIG. 1)                            | $I_{(AV)}$      | 1.0                           |   |   |     |   |   |                                 |   |   |       |   |   |                  | Amp                       |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed<br>on rated load (JEDEC Method)          | $I_{FSM}$       | 30.0                          |   |   |     |   |   | 25.0                            |   |   |       |   |   | Amps             |                           |
| Maximum instantaneous forward voltage at 1.0A   | $V_F$           | 1.1                           |   |   | 1.2 |   |   | 1.3                             |   |   | Volts |   |   |                  |                           |
| Maximum full load reverse current, full cycle<br>average, 0.375" (9.5mm) lead lengths at $T_A=75^\circ\text{C}$ | $I_{R(AV)}$     | 30.0                          |   |   |     |   |   |                                 |   |   |       |   |   |                  | $\mu\text{A}$             |
| Maximum DC reverse current<br>at rated DC blocking voltage  | $I_R$           | $T_A=25^\circ\text{C}$<br>5.0 |   |   |     |   |   | $T_A=125^\circ\text{C}$<br>50.0 |   |   |       |   |   | $\mu\text{A}$    |                           |
| Typical reverse recovery time (NOTE 1)  | $t_{rr}$        | 2.0                           |   |   |     |   |   |                                 |   |   |       |   |   |                  | $\mu\text{s}$             |
| Typical junction capacitance (NOTE 2)   | $C_J$           | 8.0                           |   |   | 7.0 |   |   | 5.0                             |   |   | pF    |   |   |                  |                           |
| Typical thermal resistance (NOTE 3)   | $R_{\theta JA}$ | 55.0                          |   |   |     |   |   |                                 |   |   |       |   |   |                  | $^\circ\text{C}/\text{W}$ |
| Operating junction and storage temperature range  | $T_J, T_{STG}$  | -65 to +175                   |   |   |     |   |   | -65 to +150                     |   |   |       |   |   | $^\circ\text{C}$ |                           |

#### NOTES:

- (1) Reverse recovery test condition:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$
- (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 GP10A THRU GP10Y



**FIG. 5 - MAXIMUM REPETITIVE PEAK REVERSE VOLTAGE,  $V_{RRM}$**

|       |       |       |
|-------|-------|-------|
| GP10A | ..... | .50V  |
| GP10B | ..... | .100V |
| GP10D | ..... | .200V |
| GP10G | ..... | .400V |
| GP10J | ..... | .600V |
| GP10K | ..... | .800V |
| GP10M | ..... | 1000V |
| GP10N | ..... | 1100V |
| GP10Q | ..... | 1200V |
| GP10T | ..... | 1300V |
| GP10V | ..... | 1400V |
| GP10W | ..... | 1500V |
| GP10Y | ..... | 1600V |

