

Case Style GP10E

Glass Passivated Junction Fast Switching Rectifier

Reverse Voltage 1200 to 2000V
Forward Current 0.5A

Features

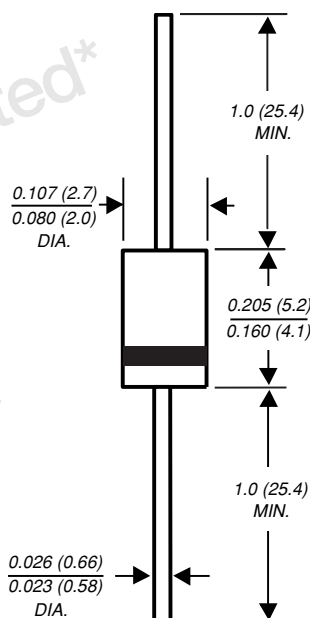
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature metallurgically bonded construction
- Capable of meeting environmental standards of MIL-S-19500
- For use in high frequency rectifier circuits
- Fast switching for high efficiency
- Cavity-free glass passivated junction
- 0.5 Ampere operation at $T_A=55^{\circ}\text{C}$ with no thermal runaway
- Typical I_R less than $0.2\mu\text{A}$
- High temperature soldering guaranteed: $350^{\circ}\text{C}/10$ seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: 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 oz., 0.3 g

Patented*

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Dimensions in inches and (millimeters)

* Glass-plastic encapsulation technique is covered by Patent No. 3,996,602, and brazed-lead assembly by Patent No. 3,930,306

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	RGP02 -12E	RGP02 -14E	RGP02 -16E	RGP02 -17E	RGP02 -18E	RGP02 -20E	Units
Maximum repetitive peak reverse voltage	V_{RRM}	1200	1400	1600	1700	1800	2000	V
Maximum RMS voltage	V_{RMS}	840	980	1120	1190	1260	1400	V
Maximum DC blocking voltage	V_{DC}	1200	1400	1600	1700	1800	2000	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^{\circ}\text{C}$	$I_{F(AV)}$	0.5						A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	20						A
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	65 30						$^{\circ}\text{C}/\text{W}$
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175						$^{\circ}\text{C}$

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 0.1A	V_F	1.8	V
Maximum DC reverse current $T_A=25^{\circ}\text{C}$ at rated DC blocking voltage $T_A=125^{\circ}\text{C}$	I_R	5.0 50	μA
Maximum reverse recovery time at $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$	t_{rr}	300	ns
Typical junction capacitance at 4.0V, 1MHz	C_J	5.0	pF

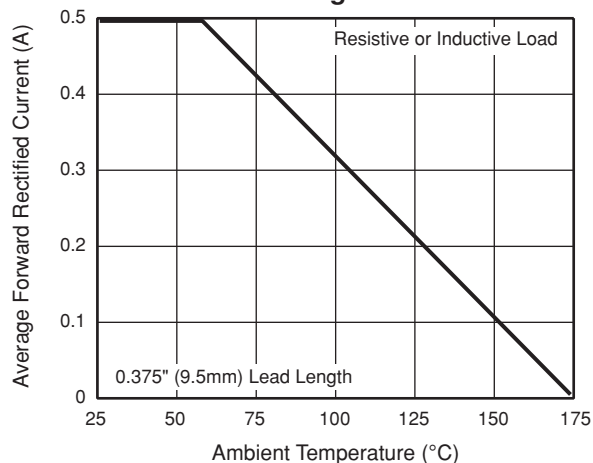
Note:

(1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted

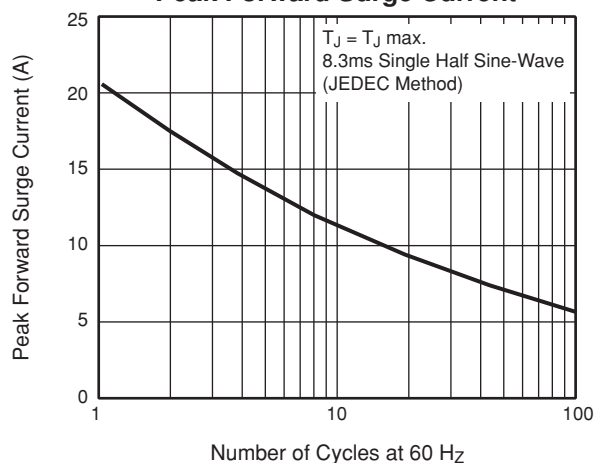
Vishay Semiconductors
formerly General Semiconductor

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

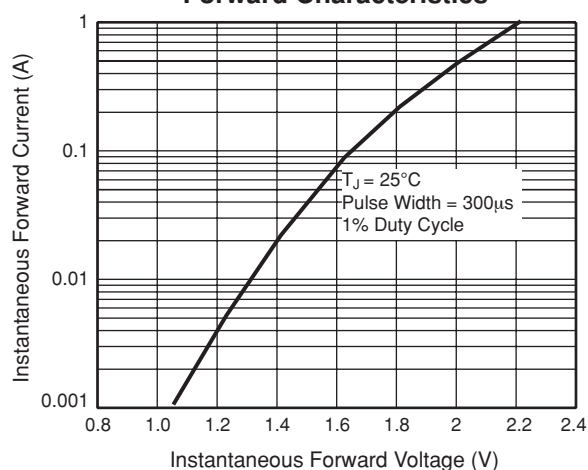
**Fig. 1 — Forward Current
Derating Curve**



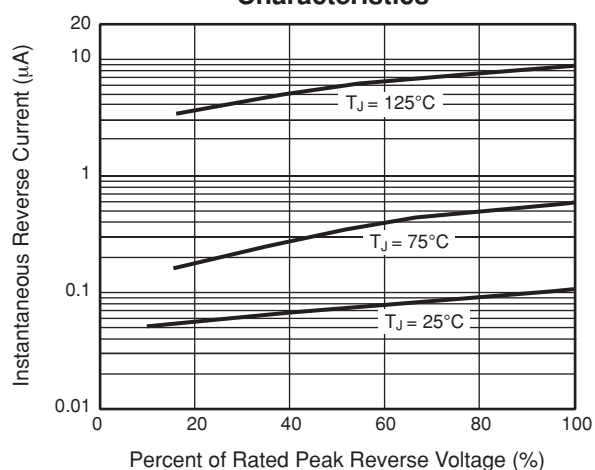
**Fig. 2 — Maximum Non-Repetitive
Peak Forward Surge Current**



**Fig. 3 — Typical Instantaneous
Forward Characteristics**



**Fig. 4 — Typical Reverse
Characteristics**



**Fig. 5 — Typical Junction
Capacitance**

