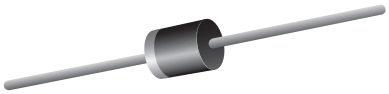
GPP100D, GPP100G, GPP100J, GPP100K, GPP100M

Glass Passivated Junction Plastic Rectifier



P600

FEATURES

- Glass passivated chip junction
- Low forward voltage drop
- Low leakage current, typical I_R less than 0.2 µA
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes application.

MECHANICAL DATA

Case: P600, molded epoxy over passivated junction
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade
Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	10 A
V_{RRM}	200 V, 400 V, 600 V, 800 V, 1000 V
I_{FSM}	440 A
V_F at I_F = 10 A	1.05 V
I_R	5.0 µA
T_J max.	175 °C
Package	P600
Diode variations	Single die

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	GPP100D	GPP100G	GPP100J	GPP100K	GPP100M	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T_A = 50 °C	$I_{F(AV)}$	10					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	440					A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 175					°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	GPP100D	GPP100G	GPP100J	GPP100K	GPP100M	UNIT
Maximum instantaneous forward voltage	I_F = 10 A		V_F (1)	1.05					V
Maximum reverse current	Rated V_R	T_A = 25 °C	I_R	5.0					µA
		T_A = 100 °C		100					
Typical reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr} (2)	5.5					µs
Typical junction capacitance	4.0 V, 1 MHz		C_J	110					pF

Notes

(1) Pulse test: 300 µs pulse width, 1 % duty cycle
(2) Pulse test: 40 ms pulse width,

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	GPP100D	GPP100G	GPP100J	GPP100K	GPP100M	UNIT
Typical thermal resistance	$R_{\theta JA}$ (1)	20					°C/W
	$R_{\theta JL}$ (1)	4.0					

Note

(1) Leads clipped at 3 mm lead length from plastic body on 7.0 cm x 2.2 cm x 1.9 cm x 2 heatsink

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GPP100J-E3/54	2.0	54	800	13" diameter paper tape and reel
GPP100J-E3/73	2.0	73	300	Ammopack packaging
GPP100JHE3/54 (1)	2.0	54	800	13" diameter paper tape and reel
GPP100JHE3/73 (1)	2.0	73	300	Ammopack packaging

Note

(1) AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

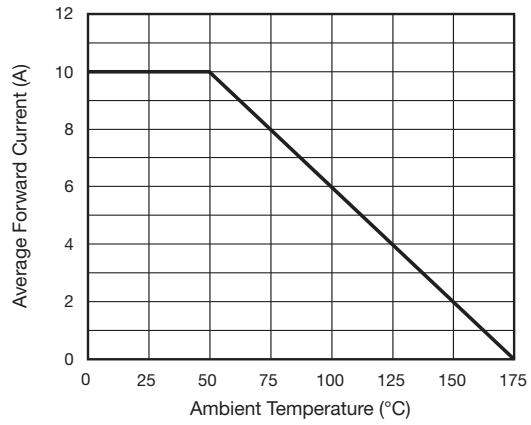


Fig. 1 - Maximum Forward Current Derating Curve

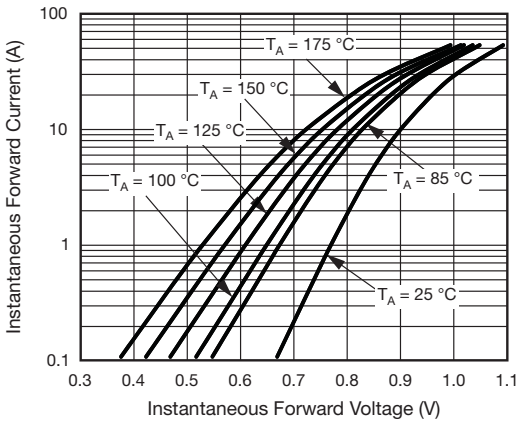


Fig. 3 - Typical Instantaneous Forward Characteristics

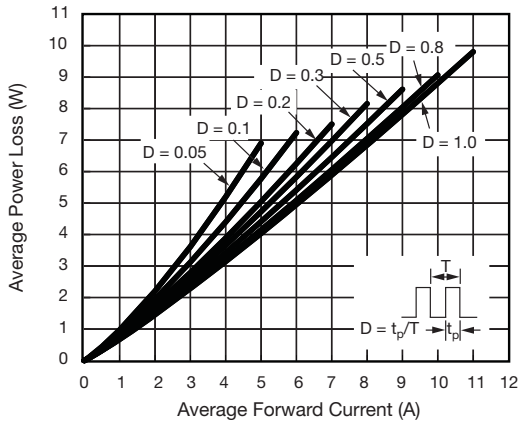


Fig. 2 - Forward Power Loss Characteristics

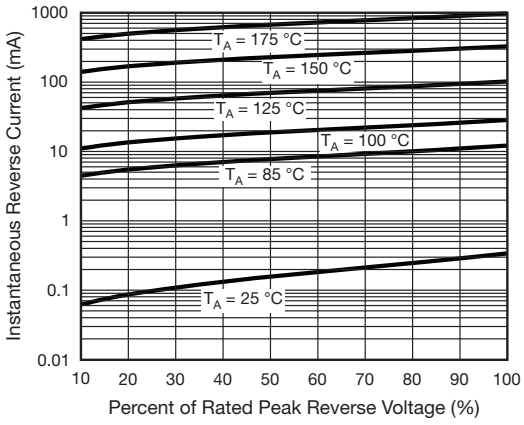


Fig. 4 - Typical Reverse Leakage Characteristics

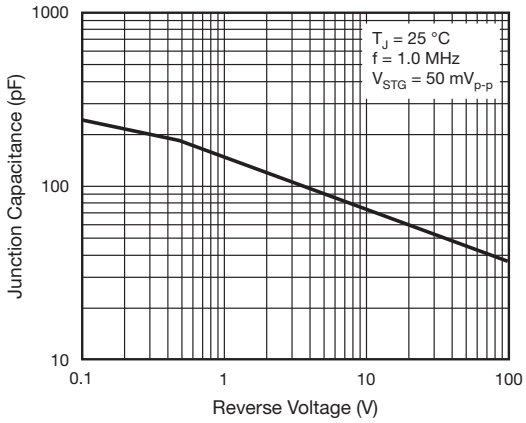
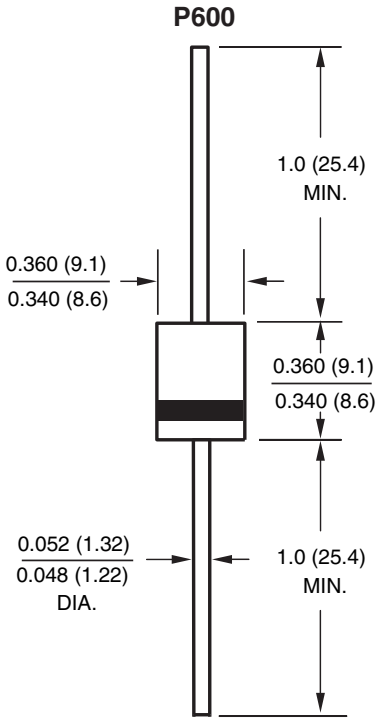


Fig. 5 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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