Vishay General Semiconductor

Glass Passivated Junction Rectifier



- Glass passivated chip junction
- · Low forward voltage drop
- Low leakage current, typical I_B 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 gualified
- · Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

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

MAXIMUM RATINGS ($T_A = 25 \text{ °C}$ unless otherwise noted)								
PARAMETER	SYMBOL	GPP60A	GPP60B	GPP60D	GPP60G	UNIT		
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	400	V		
Maximum RMS voltage	V _{RMS}	35	70	140	280	V		
Maximum DC blocking voltage	V _{DC}	50	100	200	400	V		
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 55$ °C	I _{F(AV)}	6.0				А		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	500			А			
Operating junction and storage temperature range	T _J , T _{STG}	- 55 to + 175				°C		

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RoHS COMPLIANT



P600

6.0 A

50 V to 400 V

500 A

1.1 V

5.0 µA

175 °C

PRIMARY CHARACTERISTICS

I_{F(AV)}

V_{RRM}

 I_{FSM}

 V_{F}

 I_R

T_{.1} max.

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ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	GPP60A	GPP60B	GPP60D	GPP60G	UNIT
Maximum instantaneous forward voltage	6.0 A		V _F	1.1			V	
Maximum reverse current at rated DC blocking voltage		T _A = 25 °C	I_	5.0				μA
	T _A = 100 °C		IR	100				μΑ
Maximum reverse recovery time	$I_F = 0.5 \text{ A}, I_R = 1.0 \text{ A}, I_{rr} = 0.25 \text{ A}$		t _{rr}	5.5			μs	
Typical junction capacitance	4.0 V, 1 MHz		CJ	110			pF	

THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	GPP60A	GPP60B	GPP60D	GPP60G	UNIT	
Turning the small registered	R _{0JA} ⁽¹⁾		°C/W				
Typical thermal resistance	R _{θJL} ⁽¹⁾	4.0					

Note

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

ORDERING INFORMATION (Example)							
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE			
GPP60J-E3/54	2.0	54	800	13" diameter paper tape and reel			
GPP60J-E3/73	2.0	73	300	Ammo pack packaging			
GPP60JHE3/54 (1)	2.0	54	800	13" diameter paper tape and reel			
GPP60JHE3/73 (1)	2.0	73	300	Ammo pack packaging			

Note

(1) AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

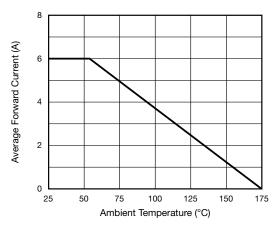


Fig. 1 - Forward Current Derating Curve

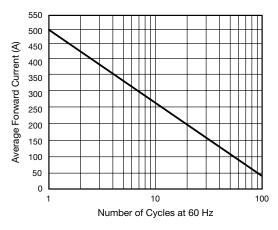


Fig. 2 - Maximum Non-repetitive Forward Surge Current



GPP60A thru GPP60G

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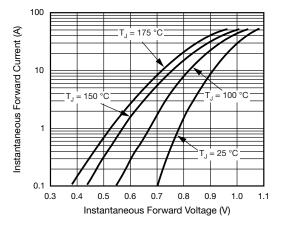


Fig. 3 - Typical Instantaneous Forward Characteristics

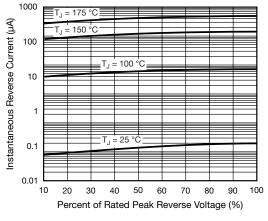
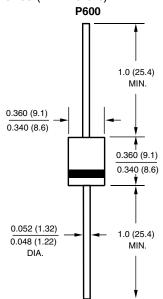


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





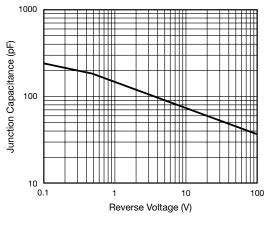


Fig. 5 - Typical Junction Capacitance



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