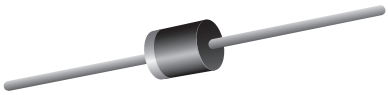
Glass Passivated Junction Rectifier



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
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

RoHS COMPLIANT

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	6.0 A
V_{RRM}	50 V to 400 V
I_{FSM}	500 A
V_F	1.1 V
I_R	5.0 µA
T_J max.	175 °C

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 °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				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	500				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**	**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_R	5.0				μA
		T_A = 100 °C		100				
Maximum reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	5.5				μs
Typical junction capacitance	4.0 V, 1 MHz		C_J	110				pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)							
PARAMETER	**SYMBOL**	**GPP60A**	**GPP60B**	**GPP60D**	**GPP60G**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ (1)	20				°C/W
	$R_{\theta JL}$ (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)

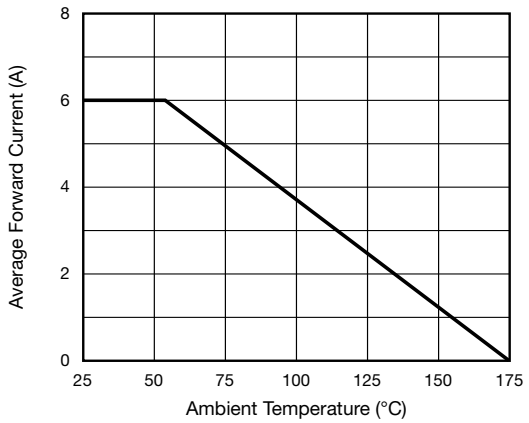


Fig. 1 - Forward Current Derating Curve

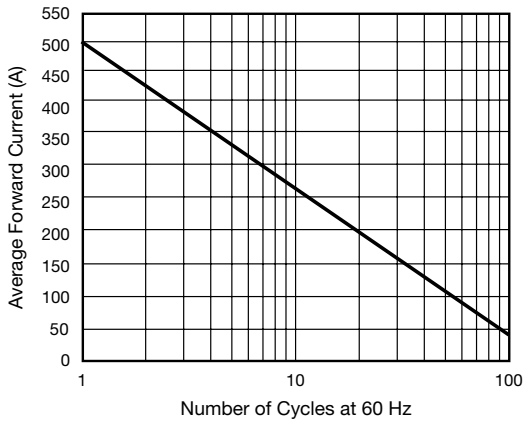


Fig. 2 - Maximum Non-repetitive Forward Surge Current

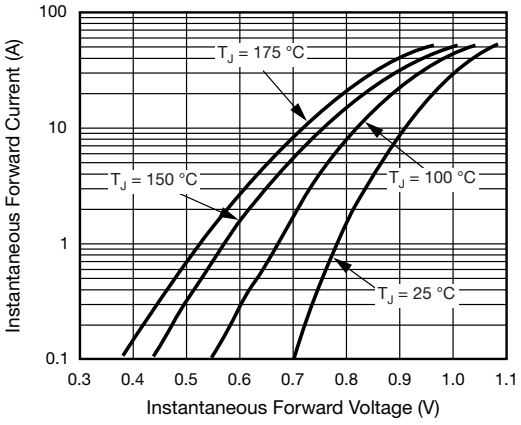


Fig. 3 - Typical Instantaneous Forward Characteristics

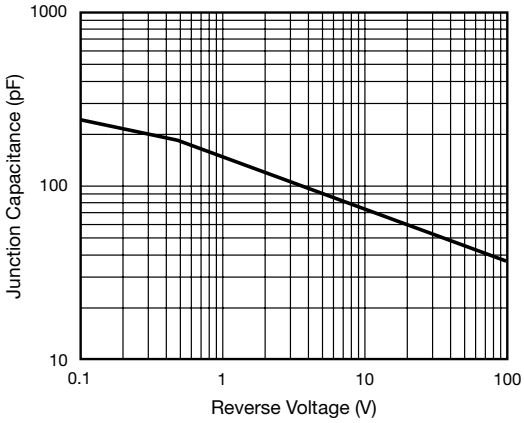


Fig. 5 - Typical Junction Capacitance

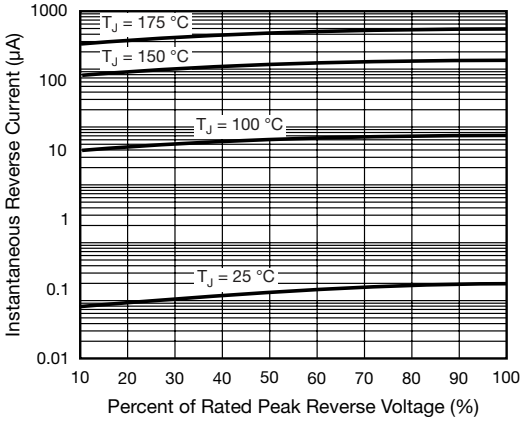
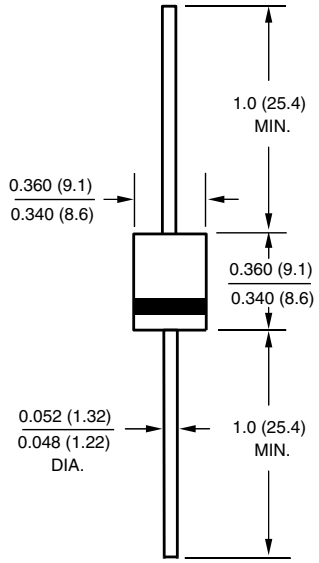


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

P600



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