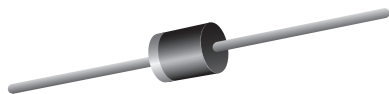


## High Current Axial Plastic Rectifier


**P600**

### FEATURES

- Low forward voltage drop
- Low leakage current,  $I_R$  less than 0.1  $\mu$ A
- High forward current capability
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

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

#### Note

- These devices are not AEC-Q101 qualified.

### MECHANICAL DATA

**Case:** P600, void-free molded epoxy body  
Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	6.0 A
$V_{RRM}$	50 V, 100 V, 200 V, 400 V, 600 V, 800 V
$I_{FSM}$	400 A
$I_R$	5.0 $\mu$ A
$V_F$	0.9 V, 0.95 V
$T_J$ max.	150 °C
Package	P600
Diode variations	Single die

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER		SYMBOL	GI750	GI751	GI752	GI754	GI756	GI758	UNIT
Maximum repetitive peak reverse voltage		V <sub>RRM</sub>	50	100	200	400	600	800	V
Maximum RMS voltage		V <sub>RMS</sub>	35	70	140	280	420	560	V
Maximum DC blocking voltage		V <sub>DC</sub>	50	100	200	400	600	800	V
Maximum non-repetitive peak reverse voltage		V <sub>RSM</sub>	60	120	240	480	720	1200	V
Maximum average forward rectified current at	T <sub>A</sub> =60 °C, PCB mounting (fig. 1)	I <sub>F(AV)</sub>	6.0						A
	T <sub>L</sub> = 60 °C,0.125" (3.18 mm) lead length (fig. 2)		22						
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load		I <sub>FSM</sub>	400						A
Operating junction and storage temperature range		T <sub>J</sub> , T <sub>STG</sub>	- 50 to + 150						°C

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS		SYMBOL	GI750	GI751	GI752	GI754	GI756	GI758	UNIT
Maximum instantaneous forward voltage at	6.0 A		V <sub>F</sub>	0.90					0.95	V
	100 A			1.25					1.30	
Maximum DC reverse current at rated DC blocking voltage		T <sub>A</sub> = 25 °C	I <sub>R</sub>	5.0						μA
		T <sub>A</sub> = 100 °C		1.0						mA
Typical reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>	2.5						μs
Typical junction capacitance	4.0 V, 1 MHz		C <sub>J</sub>	150						pF



THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	GI750	GI751	GI752	GI754	GI756	GI758	UNIT
Typical thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>	20						°C/W
	R <sub>θJL</sub> <sup>(1)</sup>	4.0						

## Note

(1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, PCB mounted with 1.1" x 1.1" (30 mm x 30 mm) copper pads

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GI756-E3/54	2.1	54	800	13" diameter paper tape and reel
GI756-E3/73	2.1	73	300	Ammo pack packaging

## RATINGS AND CHARACTERISTICS CURVES ( $T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

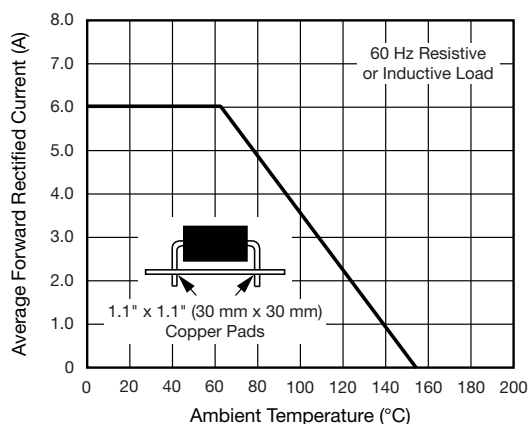


Fig. 1 - Maximum Forward Current Derating Curve

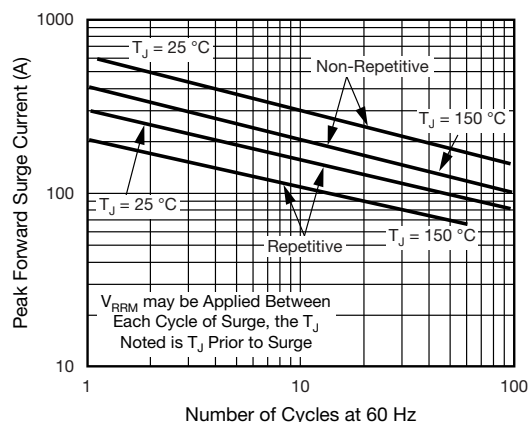


Fig. 3 - Maximum Peak Forward Surge Current

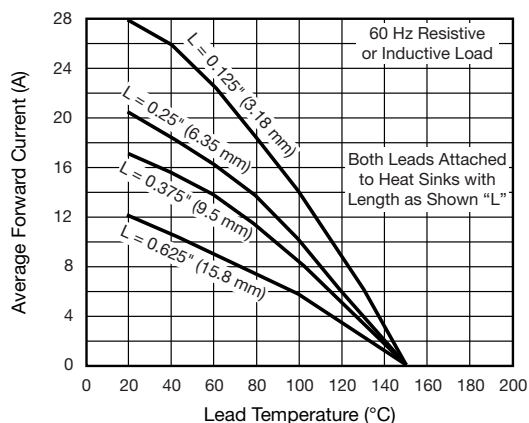


Fig. 2 - Maximum Forward Current Derating Curve

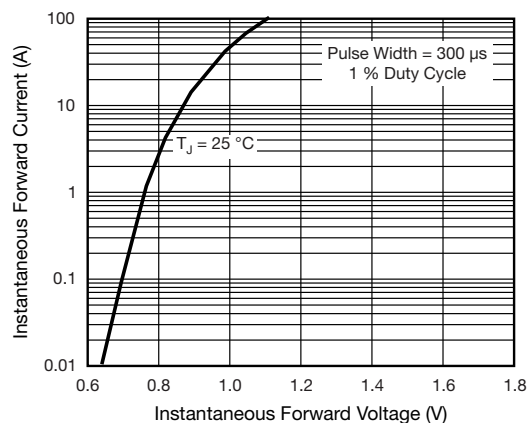


Fig. 4 - Typical Instantaneous Forward Characteristics

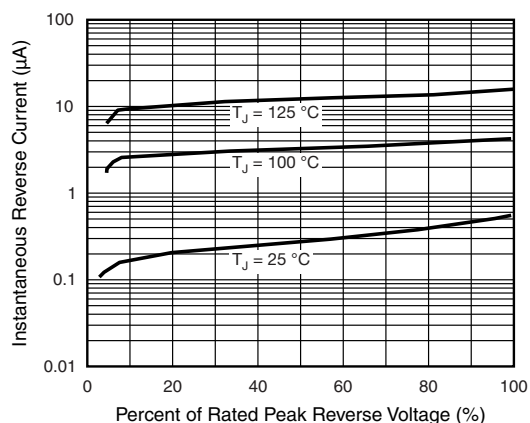


Fig. 5 - Typical Reverse Characteristics

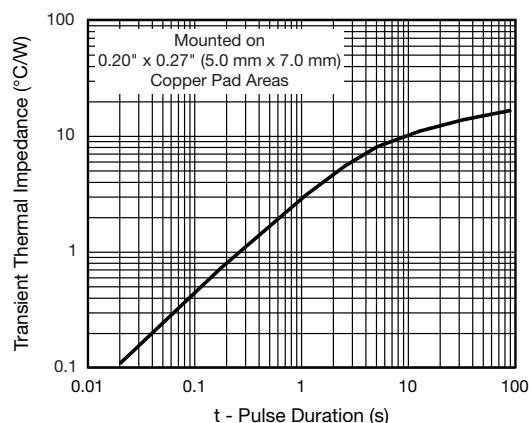
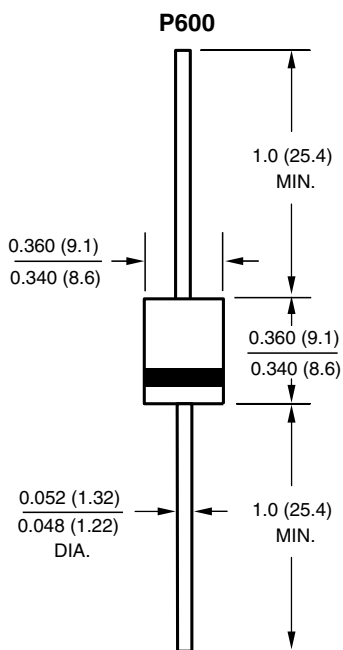


Fig. 6 - Typical Transient Thermal Impedance

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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