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Vishay General Semiconductor

High Current Axial Plastic Rectifier



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 μA						
V_{F}	0.9 V, 0.95 V						
T_J max.	150 °C						
Package	P600						
Diode variations	Single die						

FEATURES

- Low forward voltage drop
- Low leakage current, I_R less than 0.1 μA
- 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 <u>www.vishay.com/doc?99912</u>





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

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	GI750	GI751	GI752	GI754	GI756	GI758	UNIT	
Maximum repetitive	Maximum repetitive peak reverse voltage		50	100	200	400	600	800	V
Maximum RMS voltage		V_{RMS}	35	70	140	280	420	560	V
Maximum DC blocking voltage		V_{DC}	50	100	200	400	600	800	V
Maximum non-repe	V_{RSM}	60	120	240	480	720	1200	٧	
Maximum average T _A =60 °C, PCB mounting (fig. 1)									
forward rectified current at	$T_L = 60 ^{\circ}\text{C}, 0.125'' (3.18 \text{mm})$ lead length (fig. 2)	I _{F(AV)}	22						A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load		I _{FSM}	400						Α
Operating junction a	T _J , T _{STG}	- 50 to + 150					°C		

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS		SYMBOL	GI750	GI751	GI752	GI754	GI756	GI758	UNIT
Maximum instantaneous	6.0 A		V _F	0.90					0.95	V
forward voltage at	100 A		V _F	1.25						
Maximum DC reverse current	Maximum DC reverse current T _A = 25 °C			5.0						μA
at rated DC blocking voltage		T _A = 100 °C	IR	1.0						mA
Typical reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	2.5						μs
Typical junction capacitance	4.0 V, 1	MHz	CJ	150						pF



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THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL GI750 GI751 GI752 GI754 GI756 GI758 UNIT						UNIT	
Typical thermal resistance	R ₀ JA (1)	20						°C/W
Typical thermal resistance	R _{0JL} (1)	4.0						C/ VV

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 °C unless otherwise noted)

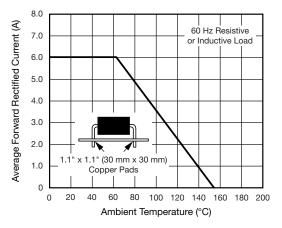


Fig. 1 - Maximum Forward Current Derating Curve

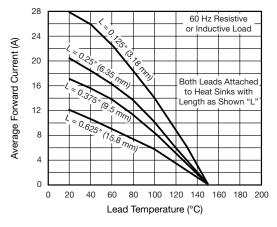


Fig. 2 - Maximum Forward Current Derating Curve

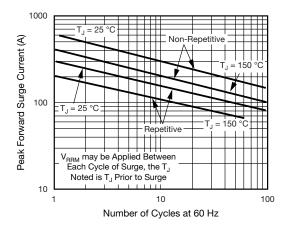


Fig. 3 - Maximum Peak Forward Surge Current

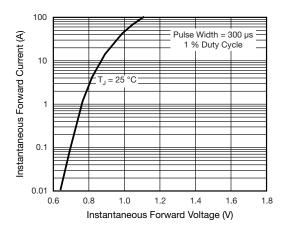


Fig. 4 - Typical Instantaneous Forward Characteristics



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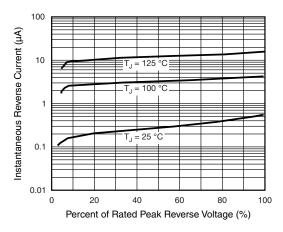


Fig. 5 - Typical Reverse Characteristics

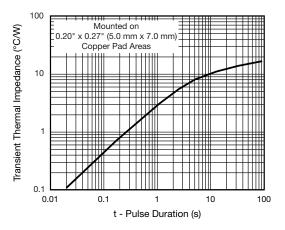
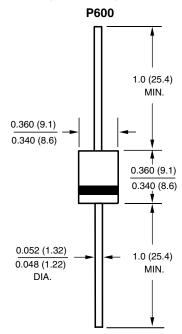


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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