

Fast Switching Plastic Rectifier


P600

FEATURES

- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- High forward current operation
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC


**RoHS
COMPLIANT**

TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters and freewheeling diodes for consumer and telecommunication.

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)}	5.0 A
V _{RRM}	50 V to 800 V
I _{FSM}	300 A
t _{rr}	200 ns
V _F	1.05 V
I _R	10 µA
T _J max.	150 °C

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

PARAMETER	SYMBOL	GI820	GI821	GI822	GI824	GI826	GI828	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	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-repetitive peak reverse voltage	V _{RSM}	75	150	250	450	650	880	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T _A = 55 °C	I _{F(AV)}	5.0						A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	300						A
Operating junction and storage temperature range	T _J , T _{STG}	- 50 to + 150						°C

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	GI820	GI821	GI822	GI824	GI826	GI828	UNIT
Maximum instantaneous forward voltage	5.0 A	$T_J = 25^\circ\text{C}$	V_F	1.10					V	
	15.7 A	$T_J = 100^\circ\text{C}$		1.05						
Maximum DC reverse current at rated DC blocking voltage			I_R	10					μA	
	$T_A = 100^\circ\text{C}$	1.0								
Typical junction capacitance	4.0 V, 1 MHz		C_J	300					pF	
Maximum reverse recovery time	$I_F = 1.0 \text{ A}$, $V_R = 30 \text{ V}$, $dI/dt = 50 \text{ A}/\mu\text{s}$, $I_{rr} = 10\% I_{RM}$		t_{rr}	200					ns	
Maximum reverse recovery current	$I_F = 1.0 \text{ A}$, $V_R = 30 \text{ V}$, $dI/dt = 50 \text{ A}/\mu\text{s}$		$I_{RM(REC)}$	2.0					A	

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	GI820	GI821	GI822	GI824	GI826	GI828	UNIT
Typical thermal resistance	$R_{\theta JA}^{(1)}$	10					$^\circ\text{C}/\text{W}$	

Note

⁽¹⁾ Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length with both leads equally heat sink

ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GI826-E3/54	2.1	54	800	13" diameter paper tape and reel
GI826-E3/73	2.1	73	300	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

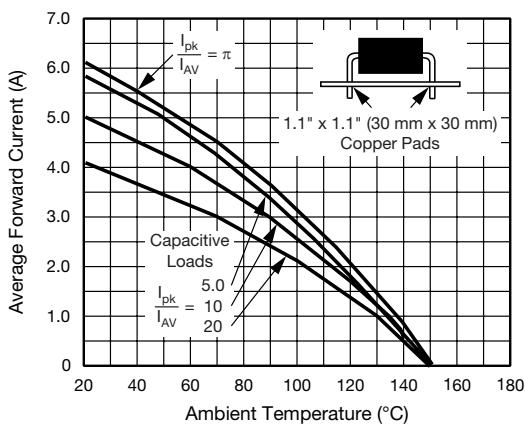


Fig. 1 - Forward Current Derating Curves

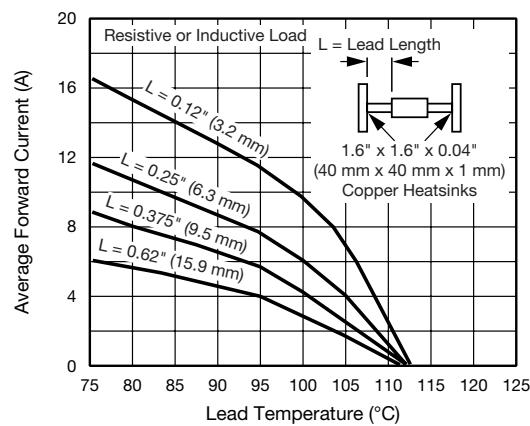


Fig. 2 - Forward Current Derating Curve

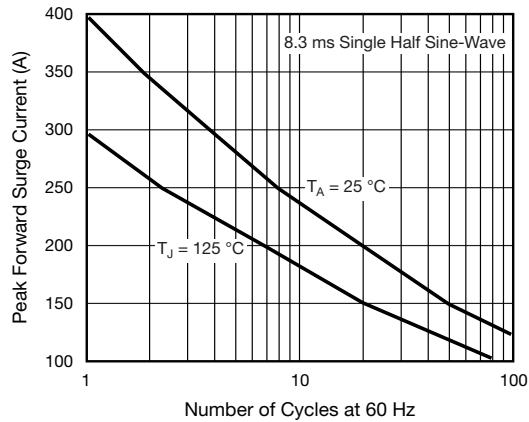


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current

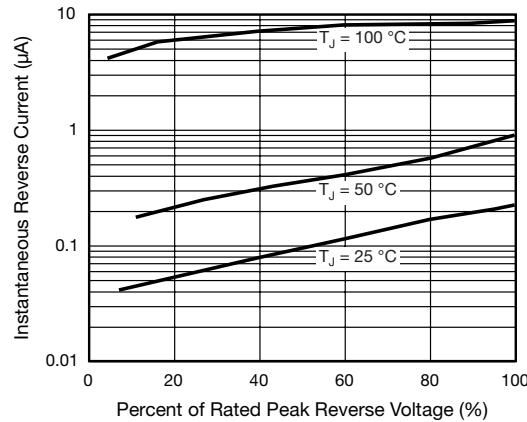


Fig. 5 - Typical Reverse Characteristics

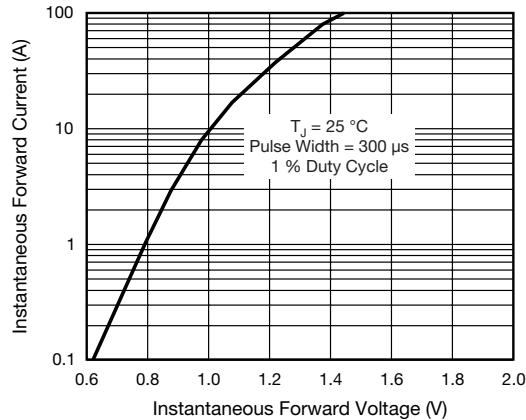


Fig. 4 - Typical Instantaneous Forward Characteristics

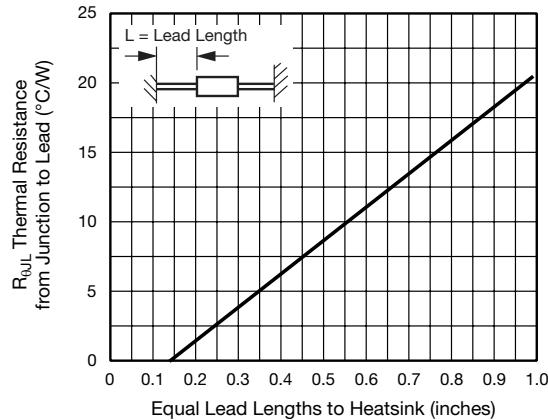
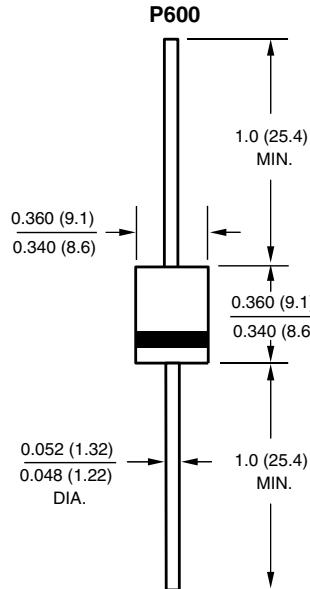


Fig. 6 - Typical Thermal Resistance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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