Fast Switching Fast Rectifier

Case Style P600

FEATURES

- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- High forward current operation
- High forward surge capability
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and 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 Q101 qualified.)

MECHANICAL DATA

Case: P600, void-free molded epoxy body

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102
E3 suffix for consumer grade, 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 to 800 V
I_{FSM}	300 A
t_{rr}	100 ns, 150 ns, 200 ns
V_F	1.3 V
I_R	10 µA
T_J max.	125 °C

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

PARAMETER	SYMBOL	SRP600A	SRP600B	SRP600D	SRP600G	SRP600J	SRP600K	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 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}	300						A
Operating junction temperature range	T_J	- 50 to + 125						°C
Storage temperature range	T_{STG}	- 50 to + 150						°C

For technical questions within your region, please contact one of the following:
PDD-Americas@vishay.com, PDD-Asia@vishay.com, PDD-Europe@vishay.com

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)										
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**SRP600A**	**SRP600B**	**SRP600D**	**SRP600G**	**SRP600J**	**SRP600K**	**UNIT**
Maximum instantaneous forward voltage	6.0 A		V_F	1.3						V
Maximum DC reverse current at rated DC blocking voltage		T_A = 25 °C T_A = 100 °C	I_R	10 1.0						µA mA
Maximum reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	100		150		200		ns

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)								
PARAMETER	**SYMBOL**	**SRP600A**	**SRP600B**	**SRP600D**	**SRP600G**	**SRP600J**	**SRP600K**	**UNIT**
Typical thermal resistance (1)	$R_{\theta JA}$	10						°C/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**
SRP600J-E3/54	2.1	54	800	13" diameter paper tape and reel
SRP600J-E3/73	2.1	73	300	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

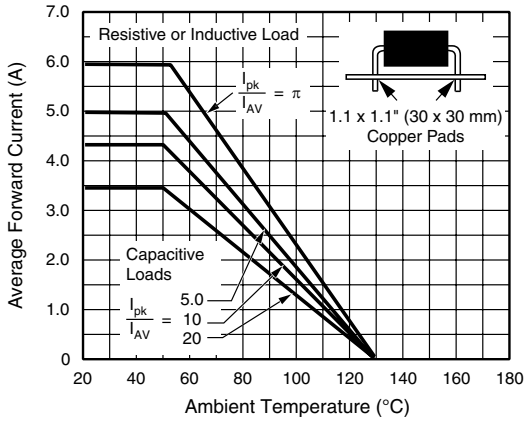


Figure 1. Forward Current Derating Curves

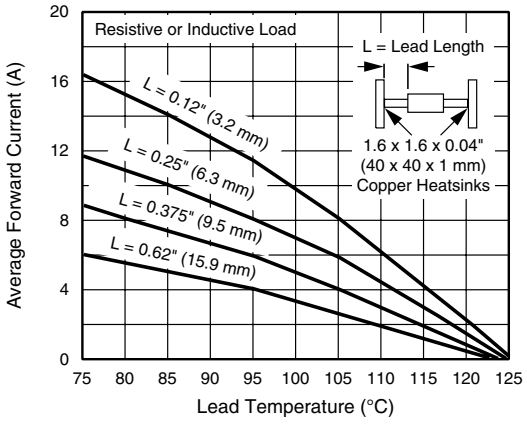


Figure 2. Forward Current Derating Curve

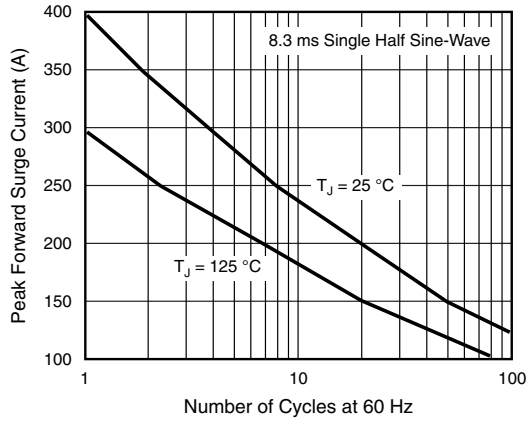


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current

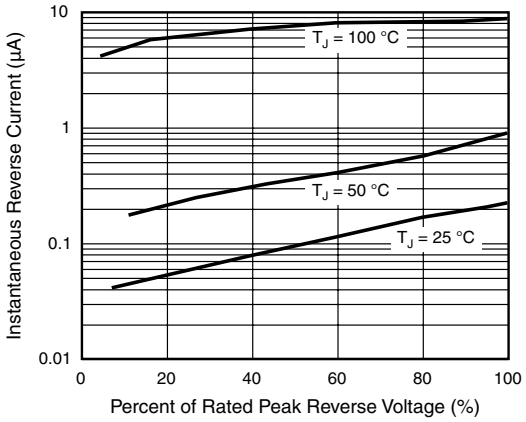


Figure 5. Typical Reverse Characteristics

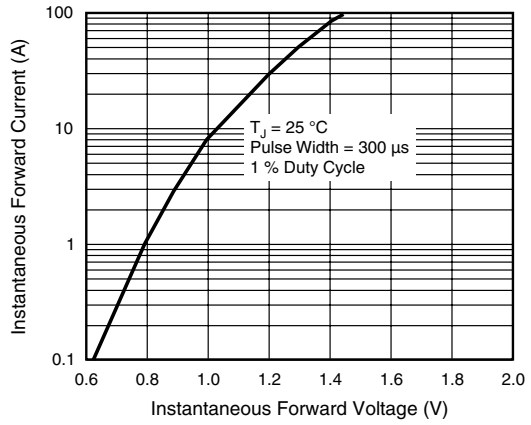


Figure 4. Typical Instantaneous Forward Characteristics

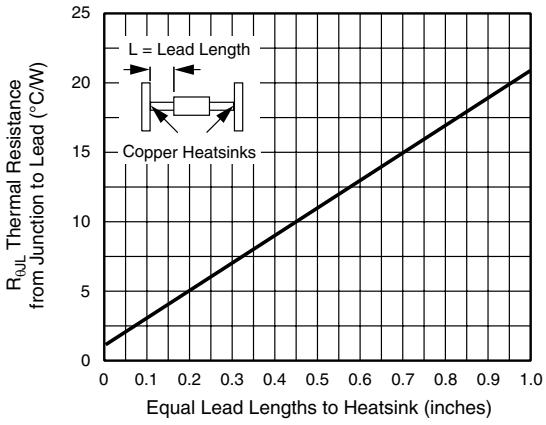
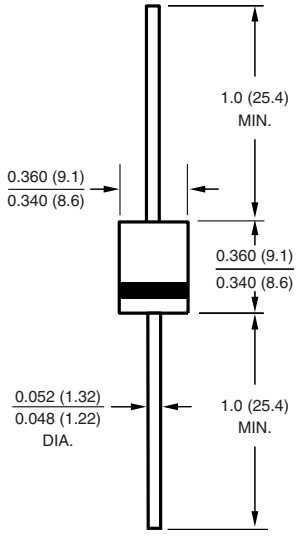


Figure 6. Typical Thermal Resistance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style P600



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