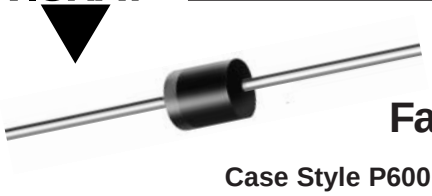
SRP600A thru SRP600K

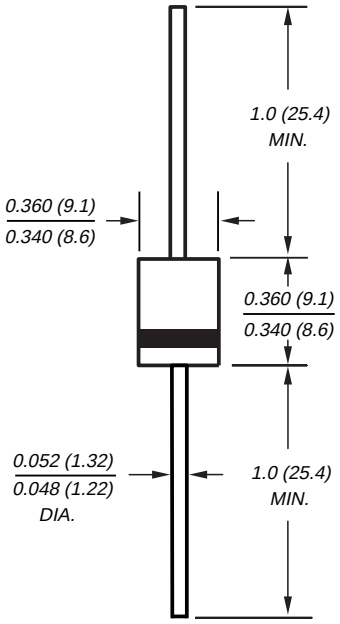
Vishay Semiconductors
formerly General Semiconductor



Fast Switching Fast Rectifier

Reverse Voltage 50 to 800V
Forward Current 6.0A

Case Style P600



Dimensions in inches and (millimeters)

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High surge current capability
- Construction utilizes void-free molded plastic technique
- Fast switching for high efficiency
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: Void-free molded plastic body

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.07 oz., 2.1 g

Packaging codes/options:
1/750 EA. per Bulk Box
4/800 EA. per 13" Reel (52mm Tape)
23/300 EA. per Ammo box (52mm Tape)

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	SRP 600A	SRP 600B	SRP 600D	SRP 600G	SRP 600J	SRP 600K	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" (9.5mm) lead length at T_A=55°C	$I_{F(AV)}$	6.0						A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	300						A
Typical thermal resistance (1)	$R_{\Theta JA}$	10						°C/W
Operating junction temperature range	T_J	-50 to +125						°C
Storage temperature range	T_{STG}	-50 to +150						°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 6.0A	V_F	1.3						V
Maximum DC reverse current T_A=25°C at rated DC blocking voltage T_A=100°C	I_R	10 1.0						µA
Maximum reverse recovery time at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	t_{rr}	100	100	150	150	200	200	ns
Typical junction capacitance at 4.0V, 1MHz	C_J	300						pF

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

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 – Forward Current Derating Curves

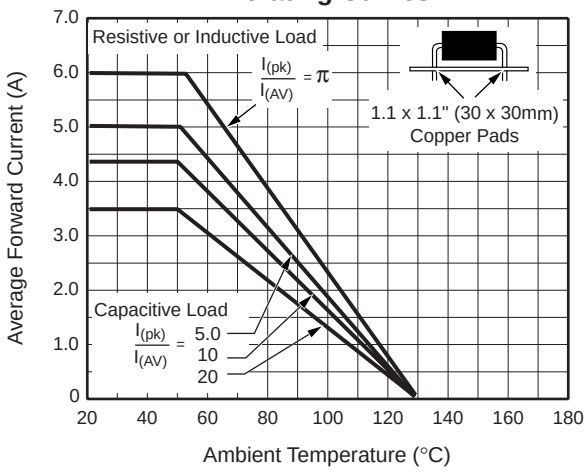


Fig. 2 – Forward Current Derating Curve

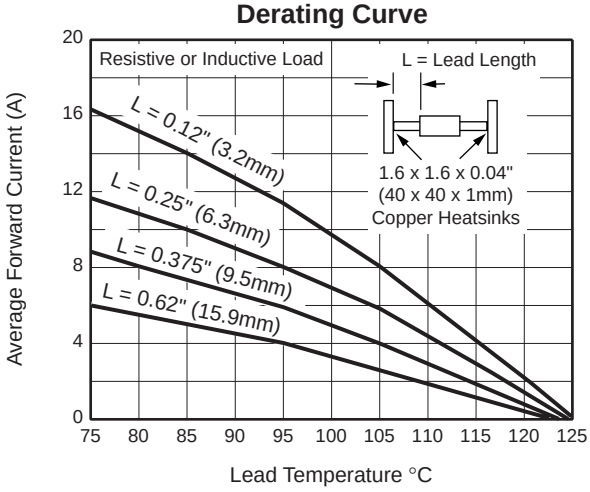


Fig. 3 – Maximum Non-Repetitive Peak Forward Surge Current

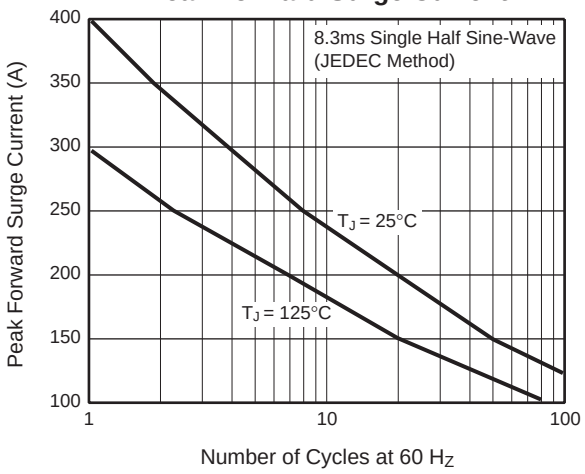


Fig. 4 – Typical Instantaneous Forward Characteristics

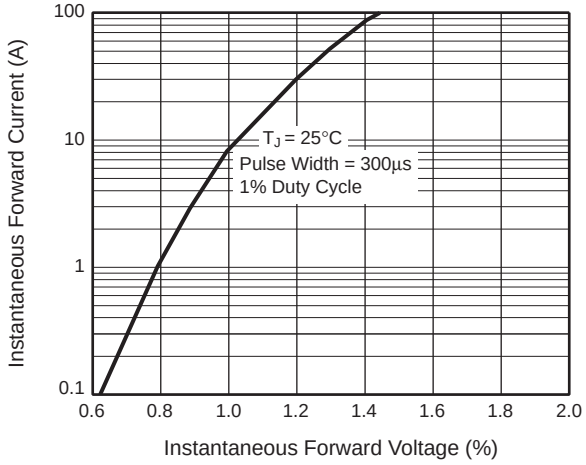


Fig. 5 – Typical Reverse Characteristics

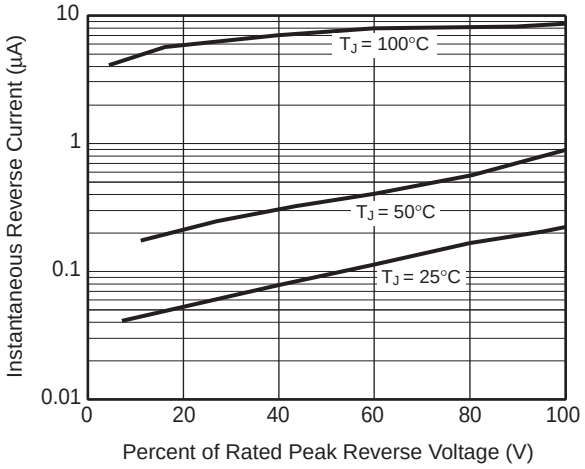


Fig. 6 – Typical Thermal Resistance