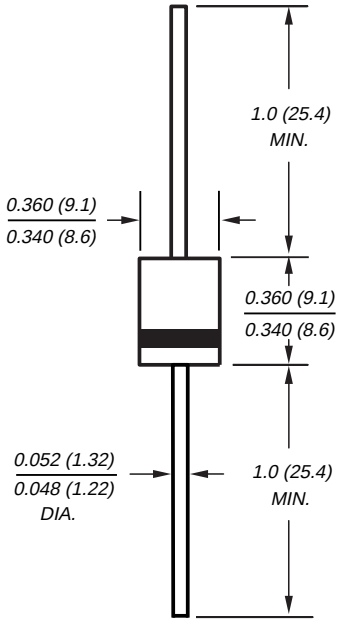
GENERAL SEMICONDUCTOR®

P600A THRU P600M

General Purpose Plastic Rectifier

Reverse Voltage 50 to 1000 V
Forward Current 6.0 A

Case Style P600



Dimensions in inches and (millimeters)

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High forward current capability
- Construction utilizes void-free molded plastic technique
- High surge current capability

Mechanical Data

Case: Void-free molded plastic body

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.07 ounce, 2.1 grams

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	P600A	P600B	P600D	P600G	P600J	P600K	P600M	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at T_A=60°C, 0.375" (9.5mm) lead length (Fig. 1) T_L=60°C, 0.125" (3.18mm) lead length (Fig. 2)	$I_{F(AV)}$	6.0 22							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	400							A
Typical thermal resistance (1)	$R_{\Theta JA}$ $R_{\Theta JL}$	20 4.0							°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-50 to +150							°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at: 6.0A 100A	V_F	0.90 1.30	1.0 1.4	V
Maximum DC reverse current T_A= 25°C at rated DC blocking voltage T_A=100°C	I_R	5.0 1.0		µA mA
Typical reverse recovery time at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	t_{rr}	2.5		µs
Typical junction capacitance at 4.0V, 1MHz	C_J	150		pF

Note: (1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted with 1.1" x 1.1" (30 x 30mm) copper pads

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

FIG.1 - MAXIMUM FORWARD CURRENT DERATING CURRENT

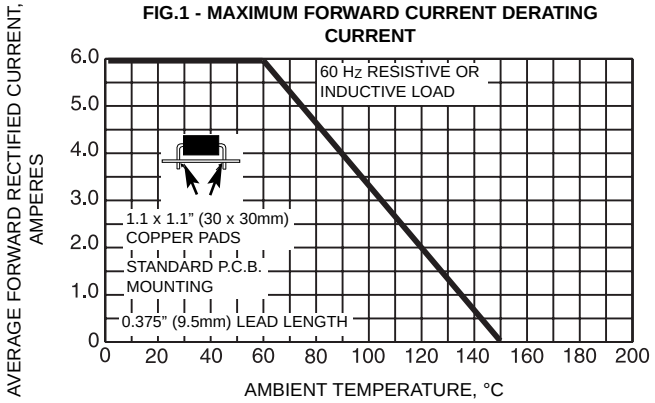

FIG. 2 - MAXIMUM FORWARD CURRENT DERATING CURVE

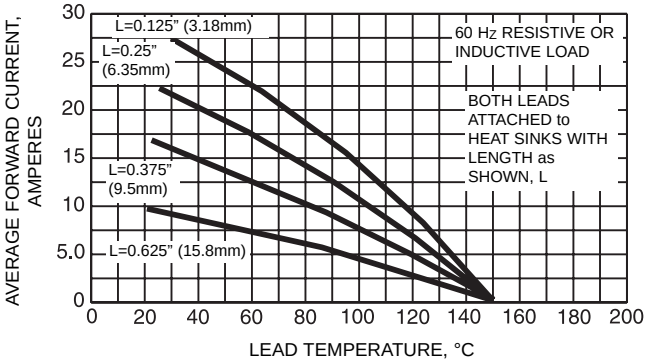

FIG. 3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

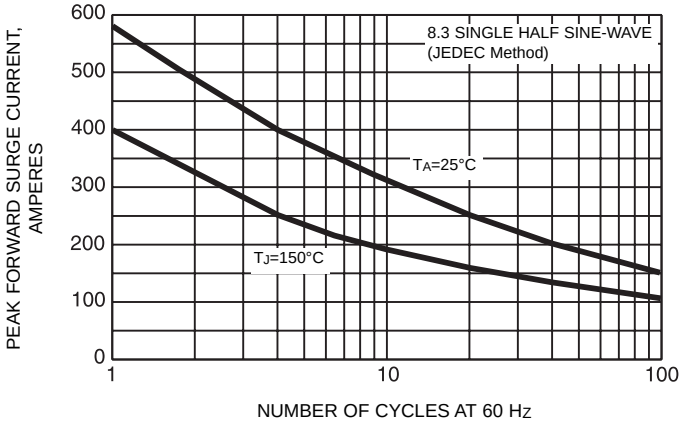

FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

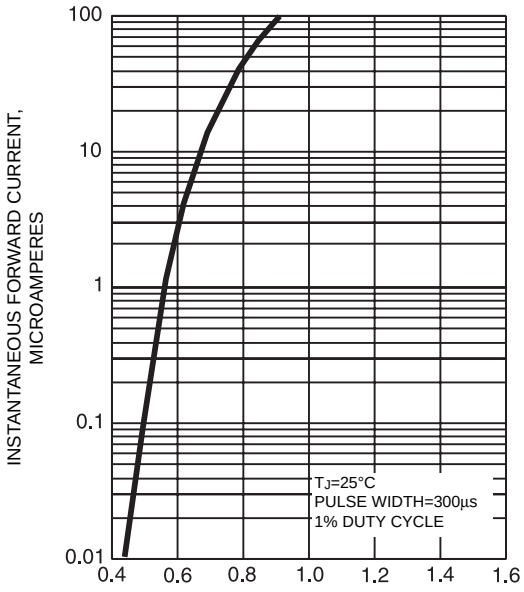

FIG. 5 - TYPICAL REVERSE CHARACTERISTIC

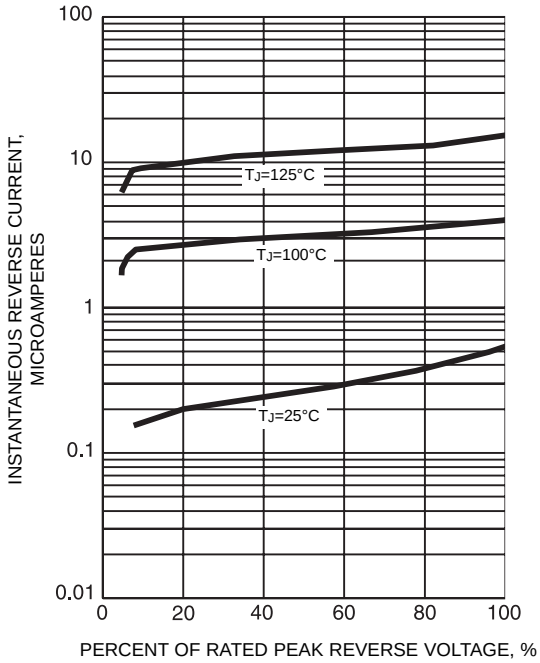

FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE