DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

P600A-P600M

6A STANDARD RECOVERY RECTIFIERS

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Parameter	Symbols	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 @ T_A = 60°C, 0.375" lead length **@ T_L = 60°C, 0.125" lead length**	$I_{F(AV)}$	6.0 22							A
Peak forward surge current **8.3ms single half sine wave superimposed on rated load**	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

Note 1: Thermal resistance from junction to ambient and from junction to lead at 0.375" lead length, PC board mounted with 1.1" x 1.1" copper heatsinks

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Parameter		Symbols	P300A	P300B	P300D	P300G	P300J	P300K	P300M	Unit
Maximum instantaneous forward voltage at **6.0A** **100A**		V_F	0.90 1.30						1.0 1.4	V
Maximum DC reverse current **At rated DC blocking voltage**	T_A = 25°C 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, **1 MHz**		C_J	150							pF

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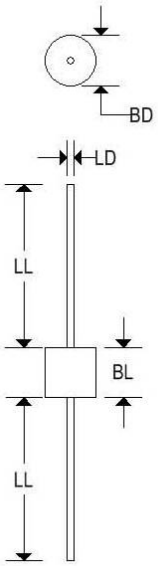
MECHANICAL CHARACTERISTICS

Case	Digi I
Marking	Body painted, alpha numeric
Polarity	Cathode band



	Digi I			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.340	0.360	8.600	9.100
BL	0.340	0.360	8.600	9.100
LD	0.047	0.053	1.194	1.346
LL	1.000	-	25.400	-

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Fig. 1 — Maximum Forward Current Derating Current

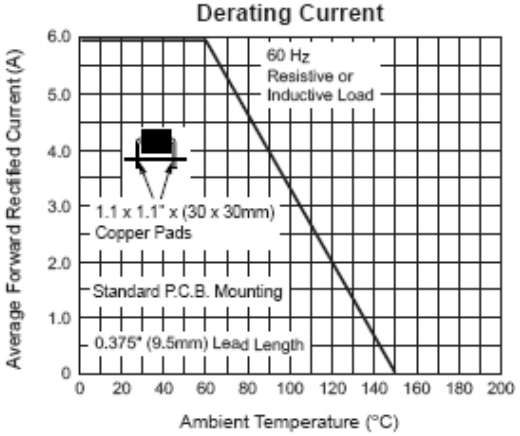

Fig. 2 — Maximum Forward Current Derating Curve

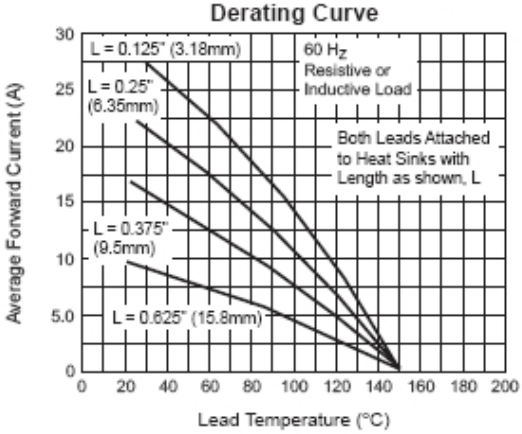

Fig. 3 — Typical Instantaneous Forward Characteristics

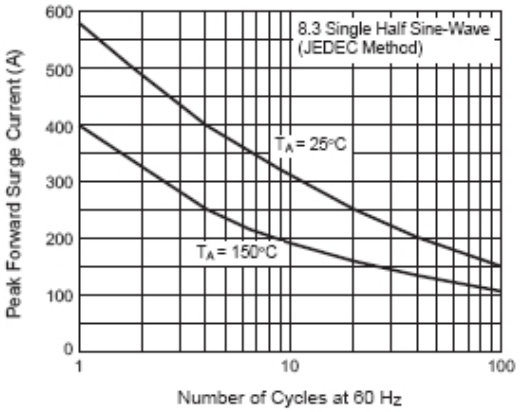

Fig. 4 — Typical Instantaneous Forward Characteristics

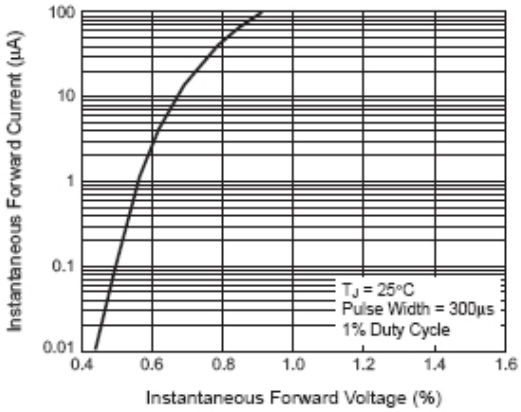

Fig. 5 — Typical Reverse Characteristics

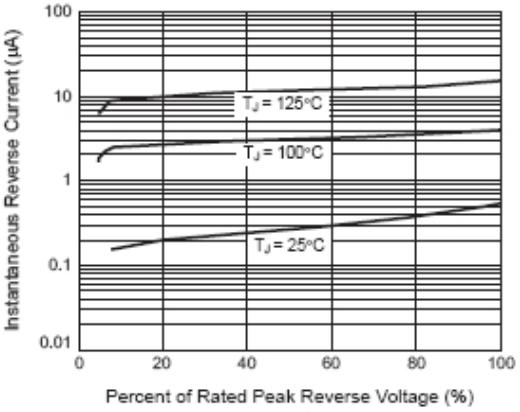

Fig. 6 — Typical Transient Thermal Impedance