TAYCHIPST

General Purpose Plastic Rectifier

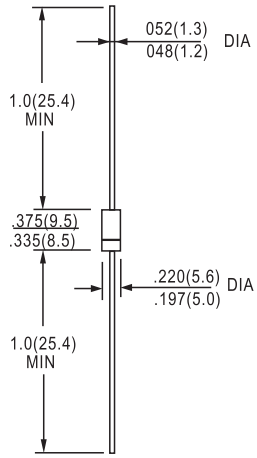
P300A THRU P300M

50V-1000V 3.0A

FEATURES

- Low forward voltage drop
- Low leakage current, I_R less than 0.1 μA
- 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

DO-27



Dimensions in inches and (millimeters)

MECHANICAL DATA

Case: DO-201AD, 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

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25℃ ambient temperature unless otherwise specified
- Single phase, half wave, 60Hz, resistive or inductive load.
- For capacitive load derate current by 20%

	SYMBOLS	P300A	P300B	P300D	P300G	P300J	P300K	P300M	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current, 0.375" (9.5mm) lead length at T_A = 55℃	$I_{(AV)}$	3.0							Amps
Peak Forward Surge Current 8.3ms single half sine - wave superimposed on rated load (JEDEC method)	I_{FSM}	200							Amps
Maximum Instantaneous Forward Voltage at 3.0A	V_F	1.0							Volts
Maximum DC Reverse Current at rated DC blocking voltage T_A = 25℃	I_R	10							μA
Maximum DC Reverse Current at rated DC blocking voltage T_A = 150℃	I_R	500							μA
Maximum Full Load Reverse Current, full cycle average 0.375" (9.5mm) lead length at T_L = 105℃	$I_{R(AV)}$	500							μA
Typical Junction Capacitance (Note 1)	C_J	40							pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	30							℃/W
Operating and Storage Temperature Range	T_J	(-65 to +175)							℃
Storage Temperature Range	T_{STG}	(-65 to +175)							℃

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance from Junction to Ambient at 0.375" (9.5mm) lead length, P.C. board mounted with 0.8" X 0.8" (20 X 20mm) copper heatsink.

RATINGS AND CHARACTERISTIC CURVES P300A THRU P300M

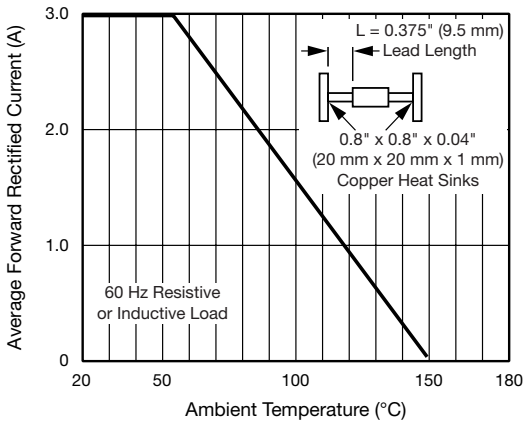


Fig. 1 - Forward Current Derating Curve

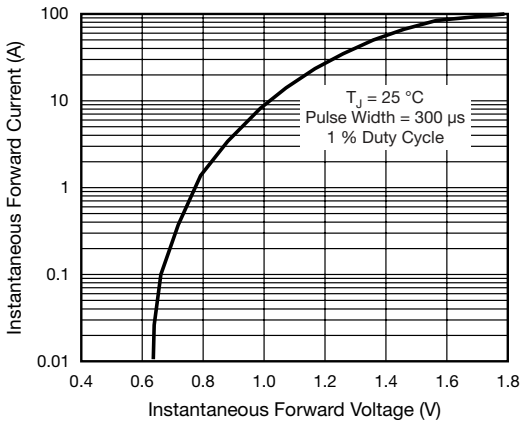


Fig. 3 - Typical Instantaneous Forward Characteristics

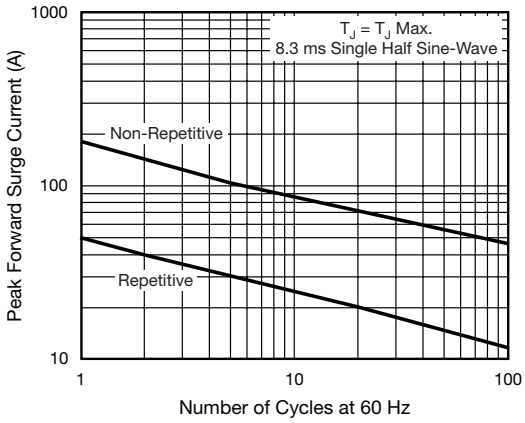


Fig. 2 - Maximum Peak Forward Surge Current

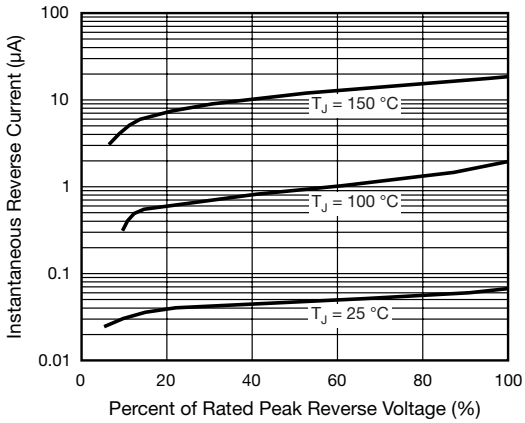


Fig. 4 - Typical Reverse Characteristics

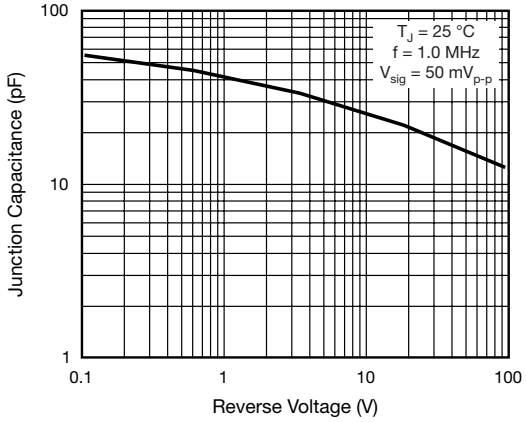


Fig. 5 - Typical Junction Capacitance Per Leg

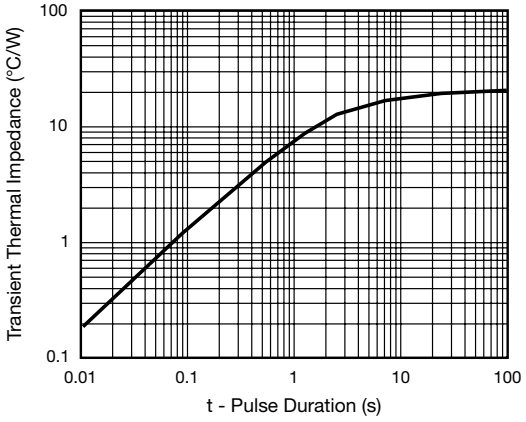


Fig. 6 - Typical Transient Thermal Impedance