

# Silicon Diode

## **P300M**

1000V / 3A

# DATASHEET

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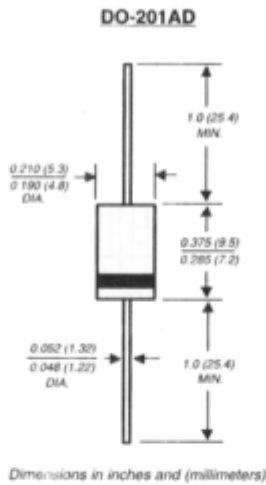
OEM – General Semiconductor

Source: General Semiconductor Databook 1998

# P300A THRU P300M

## GENERAL PURPOSE PLASTIC RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Amperes



### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ High surge current capability
- ◆ Typical  $I_R$  less than  $0.1\mu A$
- ◆ Construction utilizes void-free molded plastic technique
- ◆ 3.0 Ampere operation at  $T_A=90^\circ C$  with no thermal runaway
- ◆ High temperature soldering guaranteed:  $250^\circ C/10$  seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC DO-201AD molded plastic body  
**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.4 ounce, 1.1 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^\circ C$  ambient temperature unless otherwise specified.

	SYMBOLS	P300A	P300B	P300D	P300G	P300J	P300K	P300M	UNITS
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 $T_A=55^\circ C$	$I_{(AV)}$	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	200.0							Amps
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.2							Volts
Maximum DC reverse current at rated DC blocking voltage	$I_R$	$T_A=25^\circ C$ 5.0 $T_A=100^\circ C$ 25.0							$\mu A$
Typical junction capacitance (NOTE 1)	$C_J$	30.0							pF
Typical reverse recovery time (NOTE 2)	$t_{rr}$	2.0							$\mu s$
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$ $R_{\theta JL}$	20.0 5.0							$^\circ C/W$
Operating junction and storage temperature range	$T_J, T_{STG}$	-50 to +150							$^\circ C$

**NOTES:**

- (1) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (2) Reverse recovery test conditions:  $I_R=0.5A, I_F=1.0A, I_R=0.25A$
- (3) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted with 0.8" x 0.8" (20 x 20mm) copper heatsinks

**RATINGS AND CHARACTERISTIC CURVES P300A THRU P300M**

