



## GENERAL PURPOSE SILICON RECTIFIER

P300A THRU P300M

VOLTAGE RANGE  
CURRENT

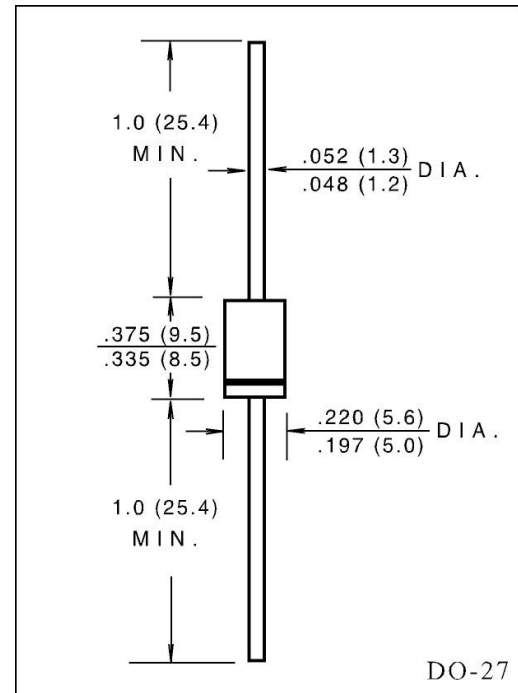
50 to 1000 Volts  
3.0 Ampere

### FEATURES

- Low cost construction.
- Low forward voltage drop
- Low reverse leakage
- High forward surge current capability.
- High temperature soldering guaranteed:  
260°C/10 seconds, 0.375" (9.5mm) lead length  
at 5 lbs (2.3kg) tension.

### MECHANICAL DATA

- Case: transfer molded plastic
- Epoxy: UL94V - 0 rate flame retardant.
- Polarity: Color band denotes cathode end.
- Lead: Plated axial lead, solderable per MIL - STD - 202E  
method 208C
- Mounting position: Any
- Weight: 0.042 ounce, 1.19grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C 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,<br>0.375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$             | $I_{(AV)}$      | 3.0           |       |       |       |       |       |       | Amps               |
| Peak Forward Surge Current<br>8.3ms single half sine - wave superimposed on<br>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<br>DC blocking voltage                                                       | $I_R$           | 10            |       |       |       |       |       |       | $\mu\text{A}$      |
|                                                                                                                  |                 | 500           |       |       |       |       |       |       |                    |
| Maximum Full Load Reverse Current, full cycle<br>average 0.375" (9.5mm) lead length at $T_L = 105^\circ\text{C}$ | $I_{R(AV)}$     | 500           |       |       |       |       |       |       | $\mu\text{A}$      |
| Typical Junction Capacitance (Note 1)                                                                            | $C_J$           | 40            |       |       |       |       |       |       | pF                 |
| Typical Thermal Resistance (Note2)                                                                               | $R_{\theta JA}$ | 30            |       |       |       |       |       |       | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range                                                                          | $T_J$           | (-65 to +175) |       |       |       |       |       |       | $^\circ\text{C}$   |
| Storage Temperature Range                                                                                        | $T_{STG}$       | (-65 to +175) |       |       |       |       |       |       | $^\circ\text{C}$   |

### 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-TYPICAL FORWARD CURRENT  
DERATING CURVE

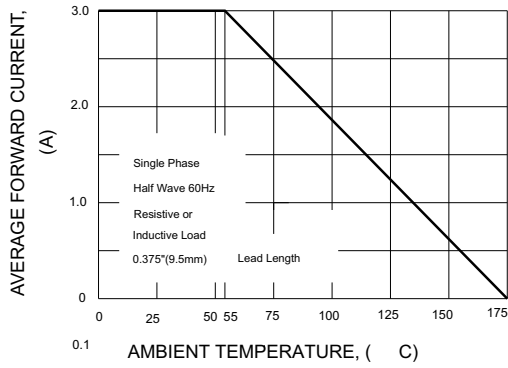


FIG.2-MAXIMUM NON-REPETITIVE PEAK  
FORWARD SURGE CURRENT

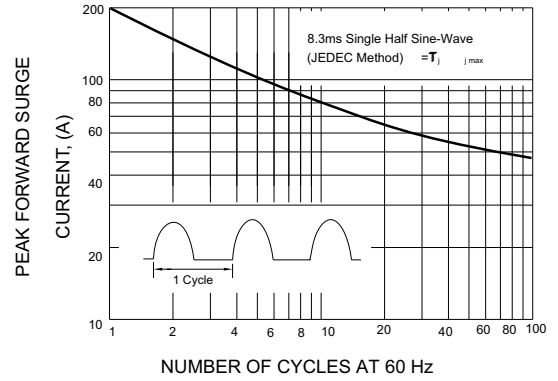


FIG.3-TYPICAL INSTANTANEOUS

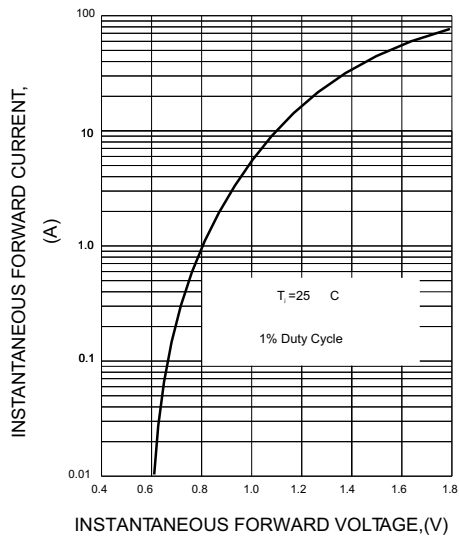


FIG.4-TYPICAL REVERSE  
CHARACTERISTICS

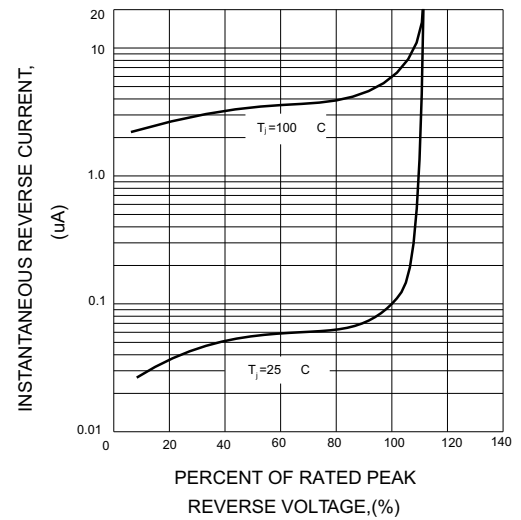


FIG.5-TYPICAL JUNCTION CAPACITANCE

