

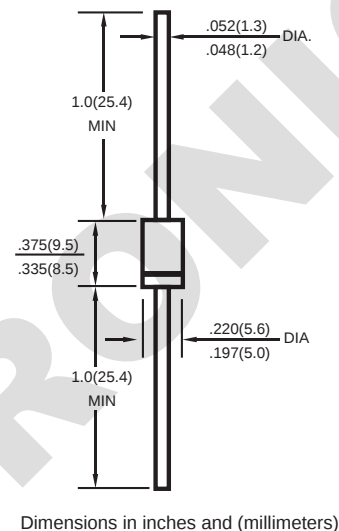
## GENERAL PURPOSE SILICON RECTIFIER

## 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, 1.19 grams

VOLTAGE RANGE  
CURRENT50 to 1000 Volts  
3.0 Ampere

## 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                           | IN<br>5400  | IN<br>5401 | IN<br>5402 | IN<br>5404 | IN<br>5406 | IN<br>5407 | IN<br>5408 | UNITS |
|------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------|-------------|------------|------------|------------|------------|------------|------------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                                    |                       | V <sub>RRM</sub>                  | 50          | 100        | 200        | 400        | 600        | 800        | 1000       | Volts |
| Maximum RMS Voltage                                                                                        |                       | V <sub>RMS</sub>                  | 35          | 70         | 140        | 280        | 420        | 560        | 700        | Volts |
| Maximum DC Blocking Voltage                                                                                |                       | V <sub>DC</sub>                   | 50          | 100        | 200        | 400        | 600        | 800        | 1000       | Volts |
| Maximum Average Forward Rectified Current<br>0.5" (12.5mm) lead length at T <sub>L</sub> =105°C            |                       | I <sub>(AV)</sub>                 | 3.0         |            |            |            |            |            |            | Amps  |
| Peak Forward Surge Current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method)     |                       | I <sub>FSM</sub>                  | 200         |            |            |            |            |            |            | Amps  |
| Maximum Instantaneous Forward Voltage at 3.0A                                                              |                       | V <sub>F</sub>                    | 1.0         |            |            |            |            |            |            | Volts |
| Maximum DC Reverse Current<br>at rated DC blocking voltage                                                 | T <sub>A</sub> =25°C  | I <sub>R</sub>                    | 10          |            |            |            |            |            |            | μAmps |
|                                                                                                            | T <sub>A</sub> =150°C |                                   | 500         |            |            |            |            |            |            |       |
| Maximum Full Load Reverse Current,full cycle<br>average 0.5" (12.5mm) lead length at T <sub>L</sub> =105°C |                       | I <sub>R(AV)</sub>                | 500         |            |            |            |            |            |            | μAmps |
| Typical Junction Capacitance(NOTE1)                                                                        |                       | C <sub>J</sub>                    | 40          |            |            |            |            |            |            | pF    |
| Typical Thermal Resistance(NOTE2)                                                                          |                       | R <sub>θJA</sub>                  | 30          |            |            |            |            |            |            | °C/W  |
| Operating and Storage Temperature Range                                                                    |                       | T <sub>J</sub> , T <sub>STG</sub> | -65 to +175 |            |            |            |            |            |            | °C    |

## NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance from Junction to Ambient at 0.5" (12.5mm) lead length, P.C. board mounted with 0.8" X 0.8" (20.0X20.0mm) copper heatsink.

FIG.1-TYPICAL FORWARD CURRENT  
DERATING CURVE

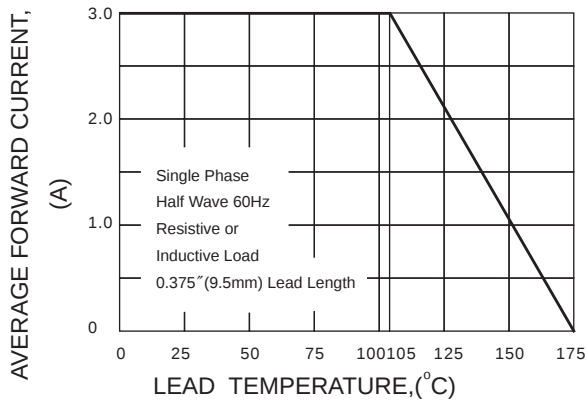


FIG.2-MAXIMUM NON-REPETITIVE PEAK  
FORWARD SURGE CURRENT

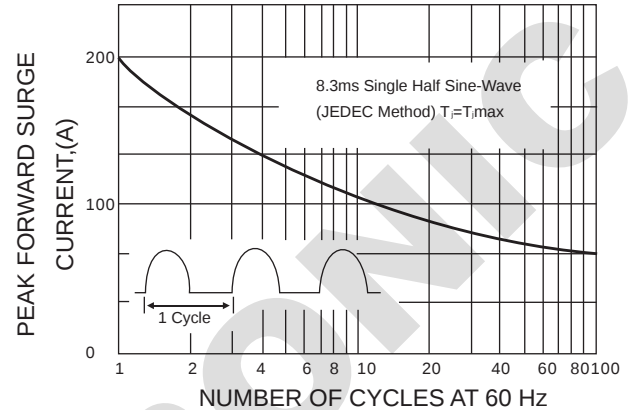


FIG.3-TYPICAL INSTANTANEOUS  
FORWARD CHARACTERISTICS

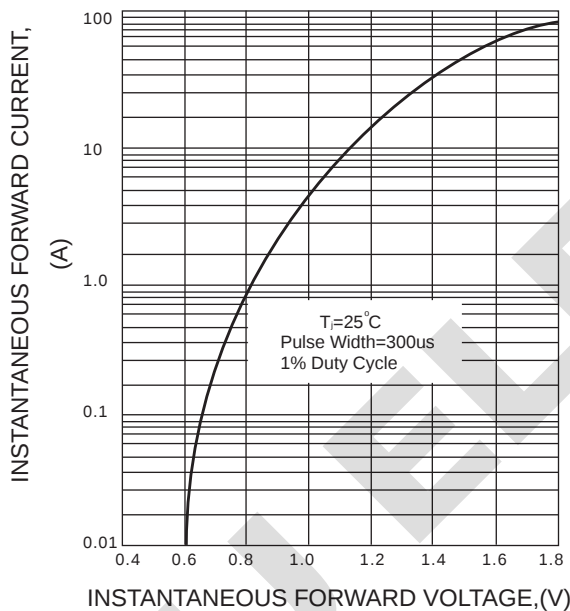


FIG.4-TYPICAL REVERSE  
CHARACTERISTICS

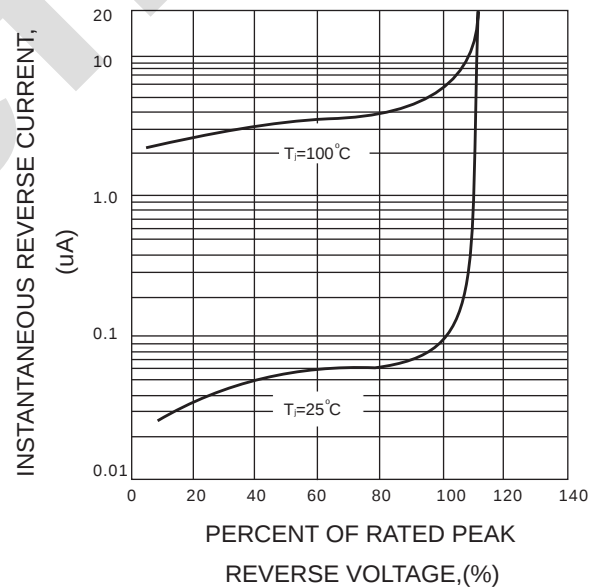


FIG.5-TYPICAL JUNCTION CAPACITANCE

