

# Silicon Diode

## **1N5062**

800V / 1A

# DATASHEET

OEM – General Semiconductor

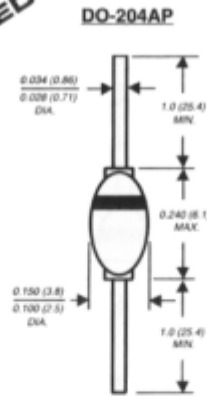
Source: General Semiconductor Databook 1998

# 1N5059 THRU 1N5062

## GLASS PASSIVATED JUNCTION RECTIFIER

Reverse Voltage - 200 to 800 Volts Forward Current - 1.0 Ampere

**PATENTED \***



Dimensions in inches and (millimeters)

\* Brazed-lead assembly is covered by Patent No. 3,930,306

### FEATURES

- ♦ High temperature metallurgically bonded construction
- ♦ 1.0 Ampere operation at  $T_A=75^\circ\text{C}$  with no thermal runaway
- ♦ Typical  $I_R$  less than  $0.1\mu\text{A}$
- ♦ Hermetically sealed package
- ♦ Glass passivated cavity-free junction
- ♦ Capable of meeting environmental standards of MIL-S-19500
- ♦ High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds  $0.375"$  (9.5mm) lead length, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC DO-204AP solid glass body  
**Terminals:** Solder plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Weight:** 0.02 ounce, 0.56 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

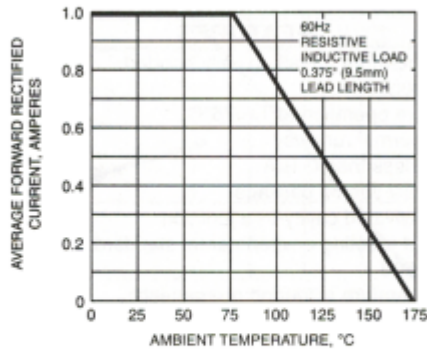
|  | SYMBOLS         | 1N5059      | 1N5060 | 1N5061 | 1N5062 | UNITS                     |
|--|-----------------|-------------|--------|--------|--------|---------------------------|
| * Maximum repetitive peak reverse voltage  | $V_{RRM}$       | 200         | 400    | 600    | 800    | Volts                     |
| Maximum RMS voltage  | $V_{RMS}$       | 140         | 280    | 420    | 560    | Volts                     |
| * Maximum DC blocking voltage  | $V_{DC}$        | 200         | 400    | 600    | 800    | Volts                     |
| * Maximum average forward rectified current<br>0.375" (9.5mm) lead length at $T_A=75^\circ\text{C}$  | $I_{(AV)}$      | 1.0         |        |        |        | Amp                       |
| * Peak forward surge current<br>8.3ms single half sine-wave superimposed<br>on rated load (JEDEC Method)                                     | $I_{FSM}$       | 50.0        |        |        |        | Amps                      |
| * Maximum instantaneous forward voltage at 1.0A  | $V_F$           | 1.2         |        |        |        | Volts                     |
| * Maximum full Load reverse current, full cycle<br>average 0.375" (9.5mm) lead length at<br>$T_A=25^\circ\text{C}$<br>$T_A=75^\circ\text{C}$ | $I_{R(AV)}$     | 150         |        | 100    |        | $\mu\text{A}$             |
| * Maximum DC reverse current<br>at rated DC blocking voltage<br>$T_A=25^\circ\text{C}$<br>$T_A=175^\circ\text{C}$                            | $I_R$           | 300         |        | 200    |        | $\mu\text{A}$             |
| Typical reverse recovery time (NOTE 1)   | $t_{rr}$        | 1.5         |        |        |        | $\mu\text{s}$             |
| Typical junction capacitance (NOTE 2)  | $C_J$ *         | 15.0        |        |        |        | pF                        |
| Typical thermal resistance (NOTE 3)  | $R_{\theta JA}$ | 55.0        |        |        |        | $^\circ\text{C}/\text{W}$ |
| * Operating junction and storage temperature range   | $T_J, T_{STG}$  | -65 to +175 |        |        |        | $^\circ\text{C}$          |

**NOTES:**

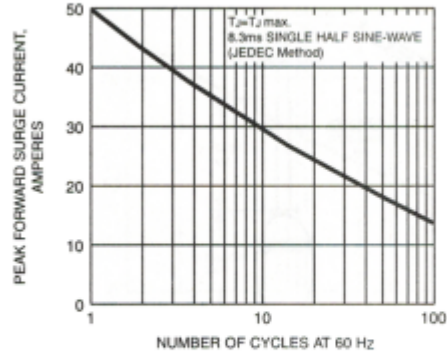
- (1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_{R1}=1.0\text{A}$ ,  $I_{R2}=0.25\text{A}$
  - (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
  - (3) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length P.C.B. mounted
- \* JEDEC registered values

**RATINGS AND CHARACTERISTIC CURVES 1N5059 THRU 1N5062**

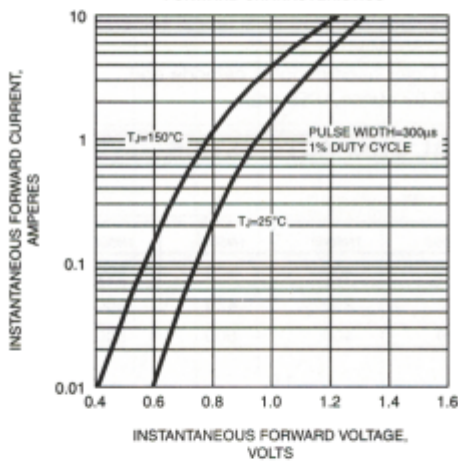
**FIG. 1 - FORWARD CURRENT DERATING CURVE**



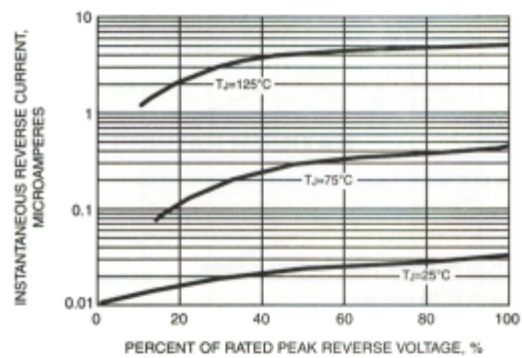
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



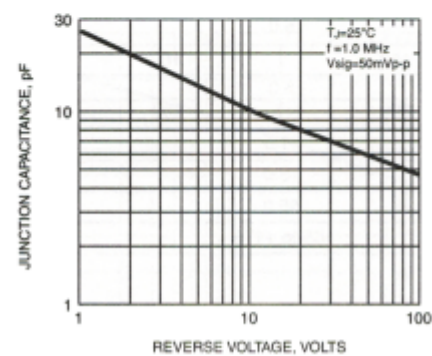
**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**



**FIG. 6 - MAXIMUM NON-REPETITIVE PEAK PULSE REVERSE AVALANCHE POWER DISSIPATION**

