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## 1N5059 thru 1N5062 General Purpose Silicon Rectifier Fast Recovery

### **Features:**

- Controlled Avalanche Characteristics
- Low Reverse Current
- High Surge Current Loading

### **Applications:**

- Rectification Diode, General Purpose

### **Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$ unless otherwise specified)

Maximum Reverse Voltage,  $V_R$

|        |      |
|--------|------|
| 1N5059 | 200V |
| 1N5060 | 400V |
| 1N5061 | 600V |
| 1N5062 | 800V |

Maximum Repetitive Peak Reverse Voltage,  $V_{RRM}$

|        |      |
|--------|------|
| 1N5059 | 200V |
| 1N5060 | 400V |
| 1N5061 | 600V |
| 1N5062 | 800V |

Peak Forward Surge Current ( $t_p = 10\text{ms}$ , half-sinewave),  $I_{FSM}$  50A

Average Forward Current,  $I_{FAV}$

|                                                        |      |
|--------------------------------------------------------|------|
| $R_{thJA} = 45\text{K/W}$ , $T_A = +50^\circ\text{C}$  | 2A   |
| $R_{thJA} = 100\text{K/W}$ , $T_A = +75^\circ\text{C}$ | 0.8A |

Max. Pulse Energy in Avalanche Mode, Non-Repetitive (Inductive Load Switch OFF),  $E_R$

|                                          |      |
|------------------------------------------|------|
| $I_{(BR)R} = 1\text{A}$ , Inductive Load | 20mJ |
|------------------------------------------|------|

Operating Junction Temperature Range,  $T_J$   $-55^\circ$  to  $+175^\circ\text{C}$

Storage Temperature Range,  $T_{stg}$   $-55^\circ$  to  $+175^\circ\text{C}$

Thermal Resistance, Junction-to-Ambient,  $R_{thJA}$

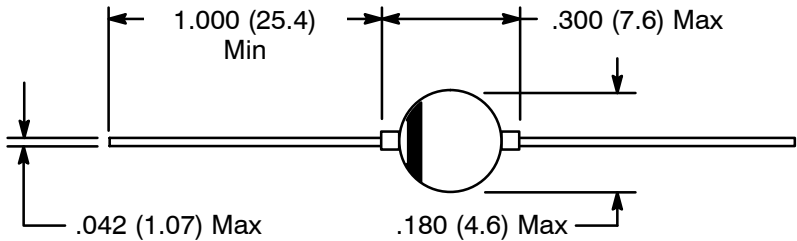
|                                             |        |
|---------------------------------------------|--------|
| Lead Length = 10mm, $T_L = \text{Constant}$ | 45K/W  |
| On PC Board with Spacing 25mm               | 100K/W |

Rev. 09-23

**Electrical Characteristics:** ( $T_A = +25^{\circ}\text{C}$  unless otherwise specified)

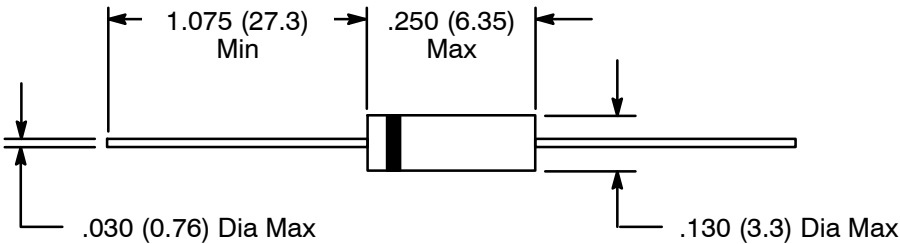
| Parameter                           | Symbol      | Test Conditions                                          | Min | Typ | Max  | Unit          |
|-------------------------------------|-------------|----------------------------------------------------------|-----|-----|------|---------------|
| Forward Voltage                     | $V_F$       | $I_F = 1\text{A}$                                        | –   | –   | 1    | V             |
|                                     |             | $I_F = 2.5\text{A}$                                      | –   | –   | 1.15 | V             |
| Reverse Current                     | $I_R$       | $V_R = V_{RRM}$                                          | –   | –   | 1    | $\mu\text{A}$ |
|                                     |             | $T_J = +100^{\circ}\text{C}$                             | –   | –   | 10   | $\mu\text{A}$ |
|                                     |             | $T_J = +150^{\circ}\text{C}$                             | –   | –   | 100  | $\mu\text{A}$ |
| Reverse Breakdown Voltage<br>1N5059 | $V_{(BR)R}$ | $I_R = 100\mu\text{A}$                                   | 225 | –   | 1600 | V             |
| 1N5060                              |             |                                                          | 450 | –   | 1600 | V             |
| 1N5061                              |             |                                                          | 650 | –   | 1600 | V             |
| 1N5062                              |             |                                                          | 900 | –   | 1600 | V             |
| Reverse Recovery Time               | $t_{rr}$    | $I_F = 0.5\text{A}, I_R = 1\text{A}, i_R = 0.25\text{A}$ | –   | –   | 4    | $\mu\text{s}$ |
| Diode Capacitance                   | $C_D$       | $V_R = 0, f = 1\text{MHz}$                               | –   | 40  | –    | pF            |

**SOD-64**  
(1N5059, 1N5062)



Color Band Denotes Cathode

**DO-15**  
(1N5060, 1N5061)



Color Band Denotes Cathode