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Manufacturers of World Class Discrete Semiconductors

1N914  
1N4148

SILICON SWITCHING DIODE

JEDEC DO-35 CASE

#### DESCRIPTION

The CENTRAL SEMICONDUCTOR 1N914, 1N4148 Silicon Planar Epitaxial Diode is characterized by its miniature size, ultra fast switching speed, low capacitance, low leakage, and high conductance. Accordingly, it is ideally suited for applications such as pulse applications, avalanche circuits, core drivers, and for any critical circuit requiring high conductance at power dissipation without sacrificing fast recovery capability. (Both devices have identical electrical and mechanical specifications.)

#### MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ )

|                                                      | <u>SYMBOL</u>  |             | <u>UNIT</u>      |
|------------------------------------------------------|----------------|-------------|------------------|
| Peak Repetitive Reverse Voltage                      | $V_{RRM}$      | 100         | V                |
| Peak Working Reverse Voltage                         | $V_{RWM}$      | 75          | V                |
| Average Forward Current                              | $I_0$          | 150         | mA               |
| Forward Steady-State Current                         | $I_F$          | 200         | mA               |
| Peak Forward Surge Current (1.0 $\mu\text{s}$ pulse) | $I_{FSM}$      | 2000        | mA               |
| Power Dissipation                                    | $P_D$          | 500         | mW               |
| Operating and Storage                                |                |             |                  |
| Junction Temperature                                 | $T_J, T_{STG}$ | -65 TO +200 | $^\circ\text{C}$ |

#### ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

| <u>SYMBOL</u> | <u>TEST CONDITIONS</u>                                                 | <u>MIN</u> | <u>MAX</u> | <u>UNIT</u> |
|---------------|------------------------------------------------------------------------|------------|------------|-------------|
| $B_{VR}$      | $I_R=1.0\text{mA}$                                                     | 100        |            | V           |
| $B_{VR}$      | $I_R=100\mu\text{A}$                                                   | 75         |            | V           |
| $I_R$         | $V_R=20\text{V}$                                                       |            | 25         | nA          |
| $V_F$         | $I_F=10\text{mA}$                                                      |            | 1.0        | V           |
| $C_T$         | $V_R=0\text{V}, f=1.0\text{MHz}$                                       |            | 4.0        | pF          |
| $t_{rr}$      | $V_R=6.0\text{V}, I_F=10\text{mA}, I_{rr}=1.0\text{mA}, R_L=100\Omega$ |            | 4.0        | ns          |

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