



PRELIMINARY

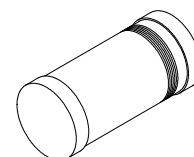
**SOLID STATE DEVICES, INC.**

14830 Valley View Blvd \* La Mirada, Ca 90638

Phone: (562) 404-7855 \* Fax: (562) 404-1773

**Designer's Data Sheet****FEATURES:**

- **Hyper Fast Recovery: 5 nsec maximum**
  - **Subminiature Surface Mount Package**
  - **Round Tab Mounting (Square Tabs Available)**
  - **Hermetically Sealed**
  - **Planar Passivated Chip**
  - **For High Efficiency Applications**
- 
- **TX, TXV, and Space Level Screening Available**

**1N4148SM****200 mAMP  
75 VOLTS  
5 nsec  
HYPER FAST  
RECTIFIER****SURFACE MOUNT  
ROUND TAB  
"SM"**

| Maximum Ratings                                                                                                                                                   | SYMBOL                          | VALUE       | UNITS                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------|----------------------------|
| <b>Peak Repetitive Reverse and DC Blocking Voltage</b>                                                                                                            | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 75          | Volts                      |
| <b>Average Rectified Forward Current</b><br>(Resistive Load, 60Hz, Sine Wave, $T_A = 25^\circ\text{C}$ )                                                          | $I_o$                           | 200         | mAmps                      |
| <b>Peak Surge Current</b><br>(8.3 ms Pulse, Half Sine Wave Superimposed on $I_o$ , allow junction to reach equilibrium between pulses, $T_A = 25^\circ\text{C}$ ) | $I_{FSM}$                       | 2           | Amps                       |
| <b>Operating and Storage Temperature</b>                                                                                                                          | $T_{OP}$ & $T_{STG}$            | -65 TO +200 | $^\circ\text{C}$           |
| <b>Maximum Thermal Resistance</b><br>Junction to End Tab                                                                                                          | $R_{\theta JE}$                 | 0.35        | $^\circ\text{C}/\text{mW}$ |

**NOTE:** All specifications are subject to change without notification.  
SCD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: RC0061A**

**1N4148SM**

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| Electrical Characteristics                                                                                                          |                                                  | SYMBOL   | MAXIMUM    | UNITS         |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------|------------|---------------|
| <b>Instantaneous Forward Voltage Drop</b><br>( $T_A = 25^\circ\text{C}$ , 300 - 500 $\mu\text{s}$ Pulse)                            | $I_F = 10\text{mA}$                              | $V_{F1}$ | <b>0.8</b> | $V_{DC}$      |
|                                                                                                                                     | $I_F = 100\text{mA}$                             | $V_{F2}$ | <b>1.2</b> |               |
| <b>Instantaneous Forward Voltage Drop</b><br>(300 - 500 $\mu\text{s}$ Pulse)                                                        | $I_F = 10\text{mA}$ , $T_A = 150^\circ\text{C}$  | $V_{F3}$ | <b>0.8</b> | $V_{DC}$      |
|                                                                                                                                     | $I_F = 100\text{mA}$ , $T_A = -55^\circ\text{C}$ | $V_{F4}$ | <b>1.3</b> |               |
| <b>Reverse Leakage Current</b><br>( $T_A = 25^\circ\text{C}$ , 300 $\mu\text{s}$ minimum Pulse)                                     | $V_R = 20\text{V}$                               | $I_{R1}$ | <b>25</b>  | $\text{nA}$   |
|                                                                                                                                     | $V_R = 75\text{V}$                               | $I_{R2}$ | <b>500</b> |               |
| <b>Reverse Leakage Current</b><br>( $T_A = 150^\circ\text{C}$ , 300 $\mu\text{s}$ minimum Pulse)                                    | $V_R = 20\text{V}$                               | $I_{R3}$ | <b>35</b>  | $\mu\text{A}$ |
|                                                                                                                                     | $V_R = 75\text{V}$                               | $I_{R4}$ | <b>75</b>  |               |
| <b>Junction Capacitance</b><br>( $V_R = 1.5V_{DC}$ , $T_A = 25^\circ\text{C}$ , $f = 1\text{ MHz}$ )                                |                                                  | $C_J$    | <b>2.8</b> | $\text{pF}$   |
| <b>Reverse Recovery Time</b><br>( $I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$ , $I_{RR} = 1\text{ mA}$ , $T_A = 25^\circ\text{C}$ ) |                                                  | $t_{RR}$ | <b>5</b>   | $\text{nsec}$ |

**CASE OUTLINE:  
ROUND TAB "SM"****DIMENSIONS**

| DIM | MIN.  | MAX.  |
|-----|-------|-------|
| A   | .130" | .146" |
| B   | .056" | .064" |
| C   | .010" | .022" |

