**Solid State Devices, Inc.**
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773
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# SVR1009 SERIES

## DESIGNER'S DATA SHEET

# 2.5 Volts PRECISION SHUNT REGULATOR DIODE

**Part Number / Ordering Information** [1/]

**SVR1009** __ __

**Screening** [2/] __ = Not Screened
H = High Rel Level
K = Space Level

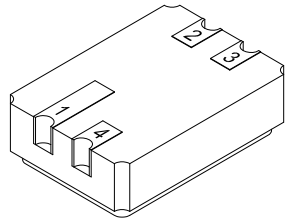
**Package** [3/] -4 = LCC 4
/46 = TO-46
/18 = TO-18

**Features:**

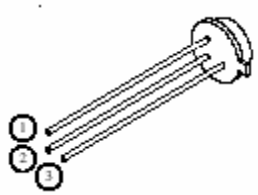
- Replacement for LT1009 and LM316 Types
- Eutectic Die Attach
- Maximum Initial Tolerance: 1%
- Guaranteed Temperature Stability
- Typ. 0.2Ω Dynamic Impedance
- Wide Operating Current Range
- Hermetically Sealed Package
- 125°C Operating Temperature
- Class H or K (Space) Screening Available

| Maximum Ratings [4/] | Symbol | Value | Units |
|---|---|---|---|
| **Reverse Current** | $I_R$ | 15 | **mA** |
| **Forward Current**<br>**Long Term Stability** ($I_R$ = 1 mA, $T_A$ = 25 ± 0.1°C) | $I_F$<br>$\Delta V_Z/V_Z/\Delta$Time | 10<br>20 | **mA**<br>**ppm/khr** |
| **Operating Temperature** | $T_{OP}$ | -55 to +150 | **ºC** |
| **Storage Temperature** | $T_{STG}$ | -65 to +150 | **ºC** |

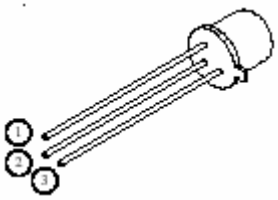
**LCC 4 (-4):**



**TO-46 (/46):**



**TO-18 (/18):**



| FOR PACKAGE OUTLINE REQUEST FOLLOWING DOCUMENTS | |
|---|---|
| **PACKAGE** | **DOCUMENT** |
| LCC 4 (-4) | 60-0149-323 |
| TO-46 (/46) | 60-0149-046 |
| TO-18 (/18) | 60-0149-018 |
| | |

| PIN ASSIGNMENT | | | |
|---|---|---|---|
| **PACKAGE** | **Anode** | **Cathode** | **Adjust** |
| LCC 4 (-4) | Pins 1, 2 | Pin 4 | Pin 3 |
| TO-46 (/46) | Pin 1 | Pin 2 | Pin 3 |
| TO-18 (/18) | Pin 1 | Pin 2 | Pin 3 |
| | | | |

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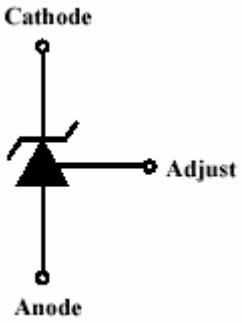
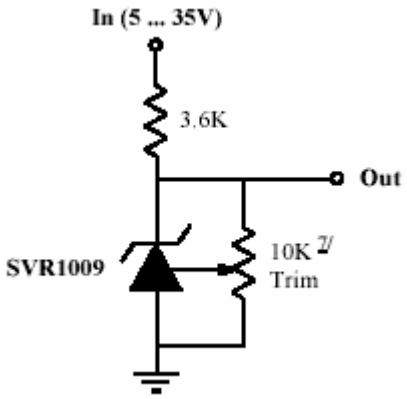
| Electrical Characteristics | t ° | Symbol | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|
| **Reverse Breakdown Voltage** ($I_R$ = 1 mA) | 25 | $V_Z$ | 2.465 | 2.500 | 2.515 | **Volts** |
| **Reverse Breakdown Change with Current** (400 μA < IR < 10 mA) | 25<br>* | $\frac{\Delta V_Z}{\Delta I_R}$ | — | 2.6<br>3.0 | 10<br>12 | **mV** |
| **Reverse Dynamic Impedance** 5/ ($I_R$ = 1 mA) | 25<br>* | $r_Z$ | — | 0.2<br>0.4 | 1.0<br>1.4 | **Ω** |
| **Change in Reference Voltage with Temperature** ($T_{MIN} \leq T_A \leq T_{MAX}$) | * | — | — | 12 | 20 | **mV** |
| **Average Temperature Coefficient** 5/, 6/ ($0^oC \leq T_A \leq 70^oC$) | | $\frac{\Delta V_Z/V_Z}{\text{Temp}}$ | — | 15 | 25 | **ppm/°C** |

**SCHEMATIC:**




**TYPICAL APPLICATION:**




**NOTES:**

Full Temperature Range

1/ For Ordering Information, Price, and Availability Contact Factory.

2/ Screening per MIL-PRF-19500.

3/ For Package Outlines and Led Bend Options Contact Factory.

4/ Absolute Maximum Ratings Are Those Values Beyond Which the Life of a Device May Be Impaired

5/ Guaranteed by Design.

6/ Average Temperature Coefficient is Defines as the Proportional Voltage Change Divided by the Specified Temperature Change.

7/ ± 5% Trim Range. Resistance Does Not Affect Temperature Coefficient.