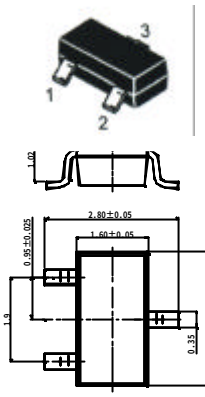
**AV431** Adjustable Accurate Reference Source

**SOT-23-3L**

1. REFERENCE
2. CATHODE
3. ANODE



## FEATURES

The output voltage can be adjusted to 36V
Low dynamic output impedance ,its typical value is 0.2Ω
Trapping current capability is 1 to 100mA
The typical value of the equivalent temperature factor in the whole temperature scope is 50 ppm/℃
The effective temperature compensation in the working range of full temperature
Low output noise voltage
Fast on -state response

## ABSOLUTE MAXIMUM RATINGS（Operating temperature range applies unless otherwise specified）

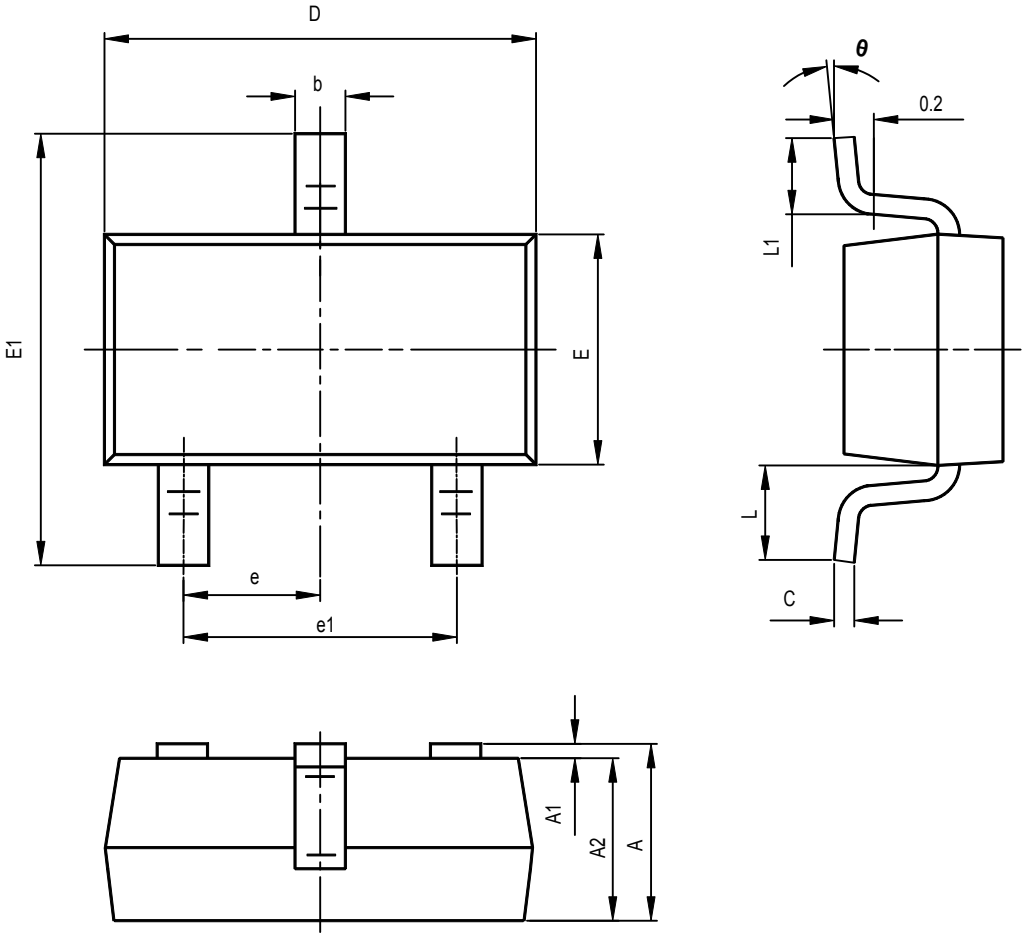
| Parameter | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| Cathode Voltage | $V_{KA}$ | 37 | V |
| Cathode Current Range(Continuous) | $I_{KA}$ | -100~+150 | mA |
| Reference Input Current Range | Iref | 0.05~+10 | mA |
| Power Dissipation | $P_D$ | 350 | mW |
| Operating temperature | Topr | 0~70 | ℃ |
| Storage temperature Range | Tstg | -55~+150℃ | ℃ |

## ELECTRICAL CHARACTERISTICS（Tamb=25℃ unless otherwise specified）

| Parameter | Symbol | Test conditions | | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| Reference Input Voltage | $V_{ref}$ | $V_{KA}=V_{REF}$, $I_{KA}$=10mA | | 2.440 | 2.495 | 2.550 | V |
| Deviation of reference input Voltage Over temperature (note ) | $\triangle V_{ref}/\triangle T$ | $V_{KA}=V_{REF}$, $I_{KA}$=10mA Tmin≤Ta≤Tmax | | | 4.5 | 17 | mV |
| Ratio Of Change in Reference Input Voltage to the change in Cathode Voltage | $\triangle V_{ref}/\triangle V_{KA}$ | $I_{KA}$=10mA | $\triangle V_{KA}$ =10V～ $V_{REF}$ | | -1.0 | -2.7 | m V/V |
| | | | $\triangle V_{KA}$ =36V～ 10V | | -0.5 | -2.0 | |
| Reference Input Current | $I_{ref}$ | $I_{KA}$= 10mA,$R_1$=10KΩ $R_2$=∞ | | | 1.5 | 0.5 | μA |
| Deviation Of Reference Input Current Over Full Temperature Range | $\triangle I_{ref}/\triangle T$ | $I_{KA}$=10mA, $R_1$=10KΩ $R_2$=∞ $T_A$=full Temperature | | | 0.4 | 1.2 | μA |
| Minimum cathode current for Regulation | $I_{KA}$(min) | $V_{KA}=V_{REF}$ | | | 0.45 | 1.0 | mA |
| Off-state cathode Current | $I_{KA}$(OFF) | $V_{KA}$=36V ,$V_{REF}$=0 | | | 0.05 | 1.0 | μA |
| Dynamic Impedance | $Z_{KA}$ | $V_{KA}=V_{REF}$,$I_{KA}$=1 to 100mA f≤1.0KHz | | | 0.15 | 0.5 | Ω |

Note：$T_{MIN}$=0℃ ,$T_{MAX}$=+70℃

## SOT-23-3L PACKAGE OUTLINE DIMENSIONS




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 1.050 | 1.250 | 0.041 | 0.049 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 1.050 | 1.150 | 0.041 | 0.045 |
| b | 0.300 | 0.400 | 0.012 | 0.016 |
| c | 0.100 | 0.200 | 0.004 | 0.008 |
| D | 2.820 | 3.020 | 0.111 | 0.119 |
| E | 1.500 | 1.700 | 0.059 | 0.067 |
| E1 | 2.650 | 2.950 | 0.104 | 0.116 |
| e | 0.950TPY | | 0.037TPY | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.700REF | | 0.028REF | |
| L1 | 0.300 | 0.600 | 0.012 | 0.024 |
| θ | 0° | 8° | 0° | 8° |