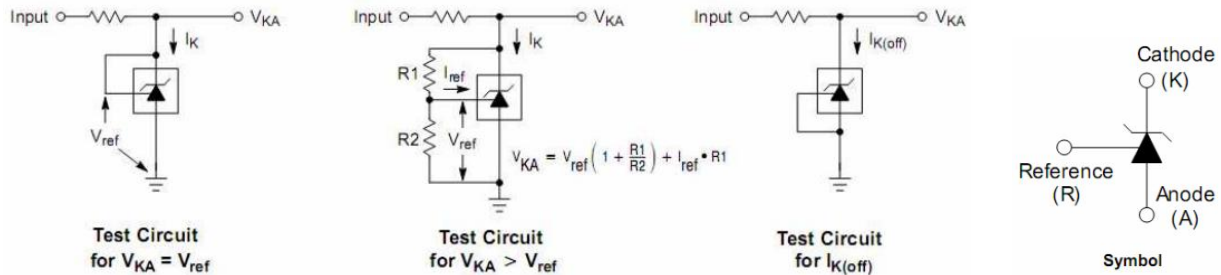


## SOT-23 Three Terminal Adjustable Regulator 三端可调稳压 IC

1.Reference 2.Anode 3.Cathode

### ■ Features 特点



### ■ Absolute Maximum Ratings 最大额定值

( $T_A = 25^\circ\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^\circ\text{C}$ )

| Characteristic 特性参数                      | Symbol 符号       | Rat 额定值                    | Unit 单位                   |
|------------------------------------------|-----------------|----------------------------|---------------------------|
| Cathode to Anode Voltage 阴极到阳极电压         | $V_{KA}$        | 40                         | V                         |
| Cathode Current Range 工作电流               | $I_K$           | -100~+150                  | mA                        |
| Reference Input Current Range 输入电流       | $I_{REF}$       | -0.05~+10                  | mA                        |
| Power dissipation 耗散功率                   | $P_D$           | 200                        | mW                        |
| Thermal Resistance Junction-Ambient 热阻   | $R_{\theta JA}$ | 625                        | $^\circ\text{C}/\text{W}$ |
| Solder Temperature 焊接温度/时间               | $T_d$           | 260/10                     | $^\circ\text{C}/\text{S}$ |
| Operating Ambient Temperature 工作温度       | $T_{op}$        | 0~70                       | $^\circ\text{C}$          |
| Junction and Storage Temperature 结温和储藏温度 | $T_J, T_{stg}$  | -40to+125 $^\circ\text{C}$ |                           |

### ■ Device Marking 产品打标

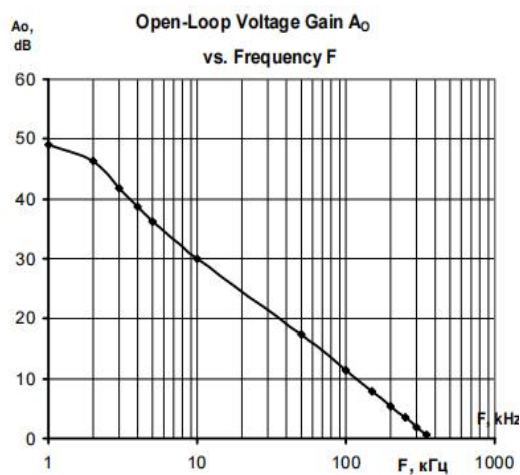
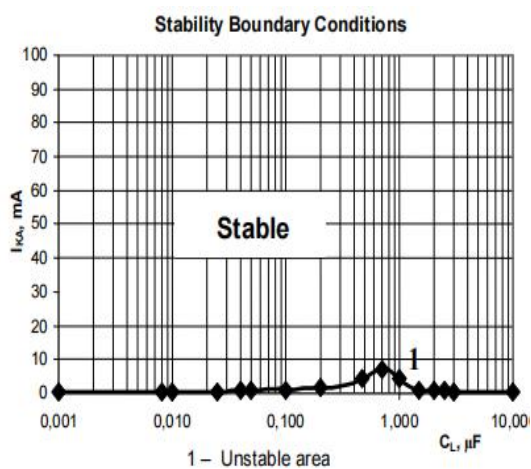
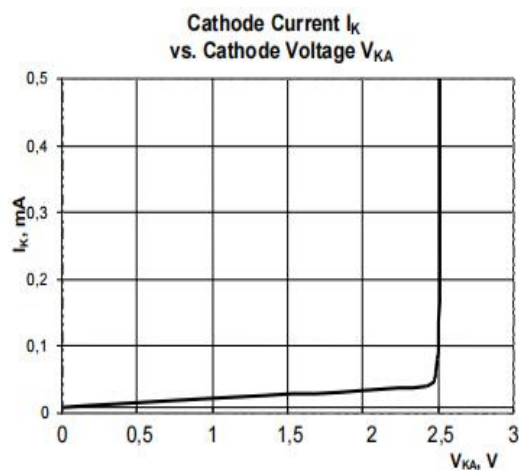
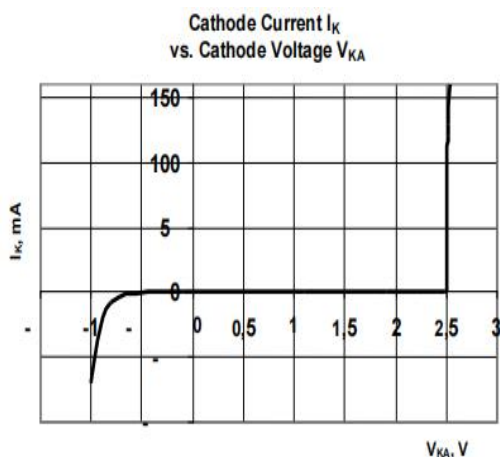
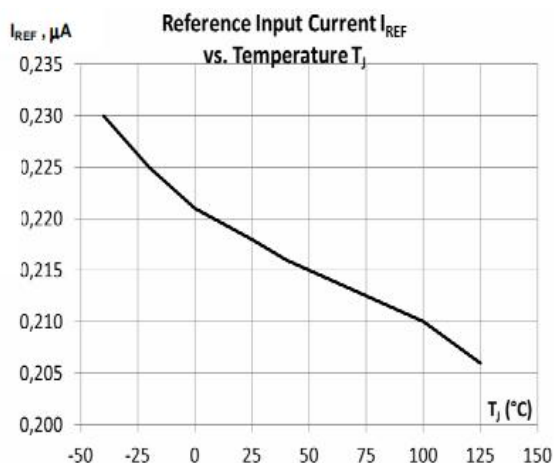
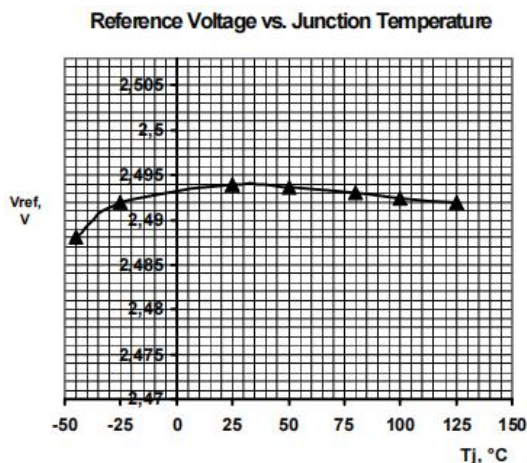
FS431S=431.

## ■Electrical Characteristics 电特性

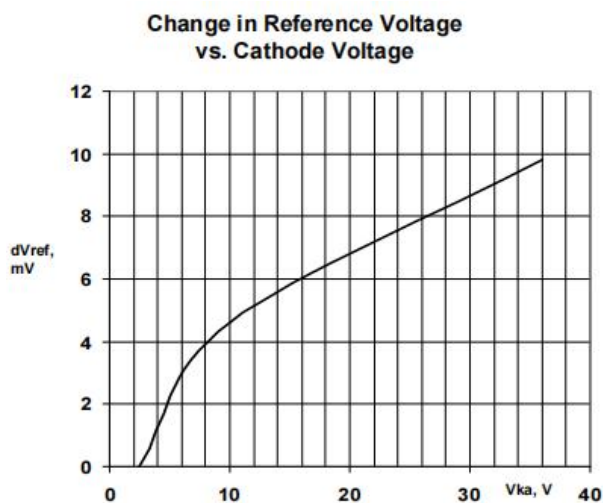
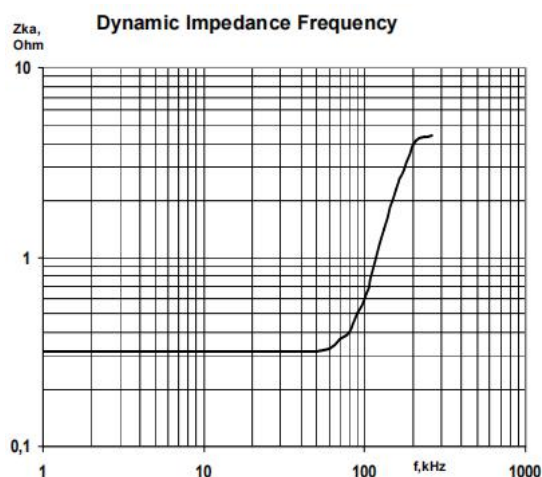
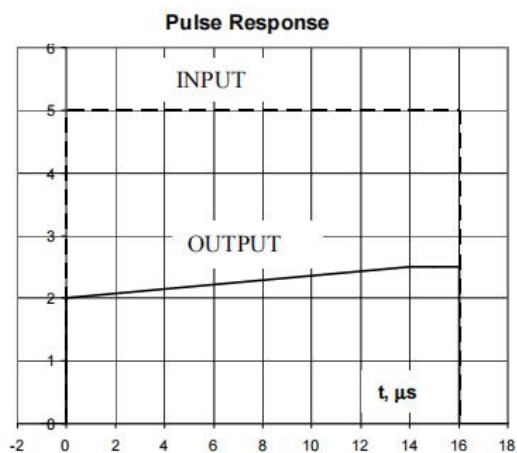
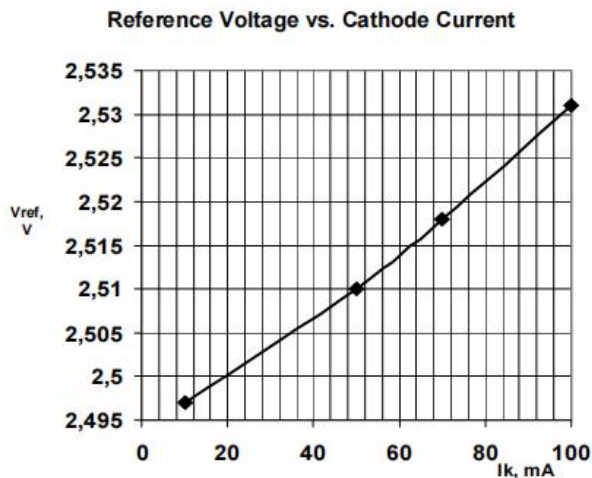
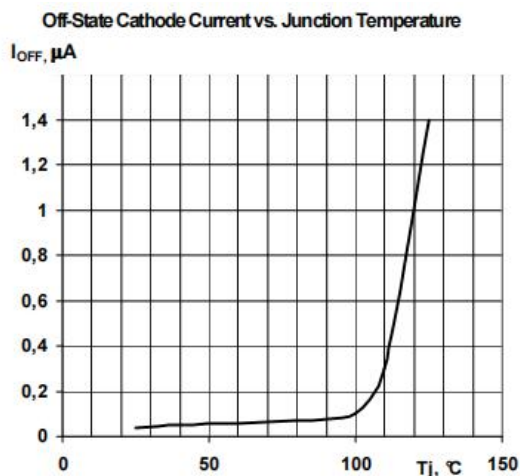
( $V_{KA}=V_{REF}$   $I_{KA}=10mA$   $T_a=25^{\circ}C$  unless otherwise noted 如无特殊说明)

| Characteristic<br>特性参数                                                                  | Symbol<br>符号                   | Test Condition<br>测试条件                                                            | Min<br>最小值   | Type<br>典型值  | Max<br>最大值 | Unit<br>单位 |
|-----------------------------------------------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------|--------------|--------------|------------|------------|
| Reference<br>Input Voltage<br>基准电压                                                      | 0.5%                           | $V_{KA}=V_{REF}$<br>$I_{KA}=10mA$                                                 | 2.483        | 2.495        | 2.507      | V          |
|                                                                                         | 1%                             |                                                                                   | 2.470        | 2.495        | 2.520      |            |
|                                                                                         | 2%                             |                                                                                   | 2.445        | 2.495        | 2.545      |            |
| Deviation of reference Input<br>Voltage Over temperature<br>标准温度内基准电压偏差                 | $\Delta V_{REF}/\Delta T$      | $V_{KA}=V_{REF}$<br>$I_{KA}=10mA$<br>$0 \sim 70^{\circ}C$                         |              | 3            | 17         | mV         |
| Ratio of Change in Reference Input<br>Voltage Change in Cathode Voltage<br>阴极电压与基准电压变化比 | $\Delta V_{REF}/\Delta V_{KA}$ | $I_{KA}=10mA$<br>$\Delta V_{KA}=10V \sim V_{REF}$<br>$\Delta V_{KA}=36V \sim 10V$ | -0.4<br>-0.4 | 0.32<br>0.16 | 2.7<br>2.0 | mV/V       |
| Reference Input Current<br>基准电流                                                         | $I_{REF}$                      | $I_{KA}=10mA$<br>$R1=10k\Omega, R2=\infty$                                        |              | 0.22         | 4          | $\mu A$    |
| Deviation of Reference Input Current<br>Over Full Temperature Range<br>标准温度内基准电流偏差      | $\Delta I_{REF}/\Delta T$      | $I_{KA}=10mA$<br>$R1=10k\Omega, R2=\infty$<br>$T_A=0 \sim 70^{\circ}C$            |              | 0.05         | 0.4        | $\mu A$    |
| Minimum Cathode Current<br>for Regulation<br>最小阴极电流                                     | $I_{KA(MIN)}$                  | $V_{KA}=V_{REF}$                                                                  |              | 0.05         | 0.1        | mA         |
| Off-state Cathode Current<br>关闭状态阴极电流                                                   | $I_{KA(OFF)}$                  | $V_{KA}=40V$<br>$V_{REF}=0V$                                                      |              | 0.056        | 0.5        | $\mu A$    |
| Dynamic Impedance<br>输出阻抗                                                               | $Z_{KA}$                       | $V_{KA}=V_{REF}$<br>$I_{KA}=1 \sim 100mA$<br>$f \leq 1kHz$                        |              | 0.32         | 0.5        | $\Omega$   |

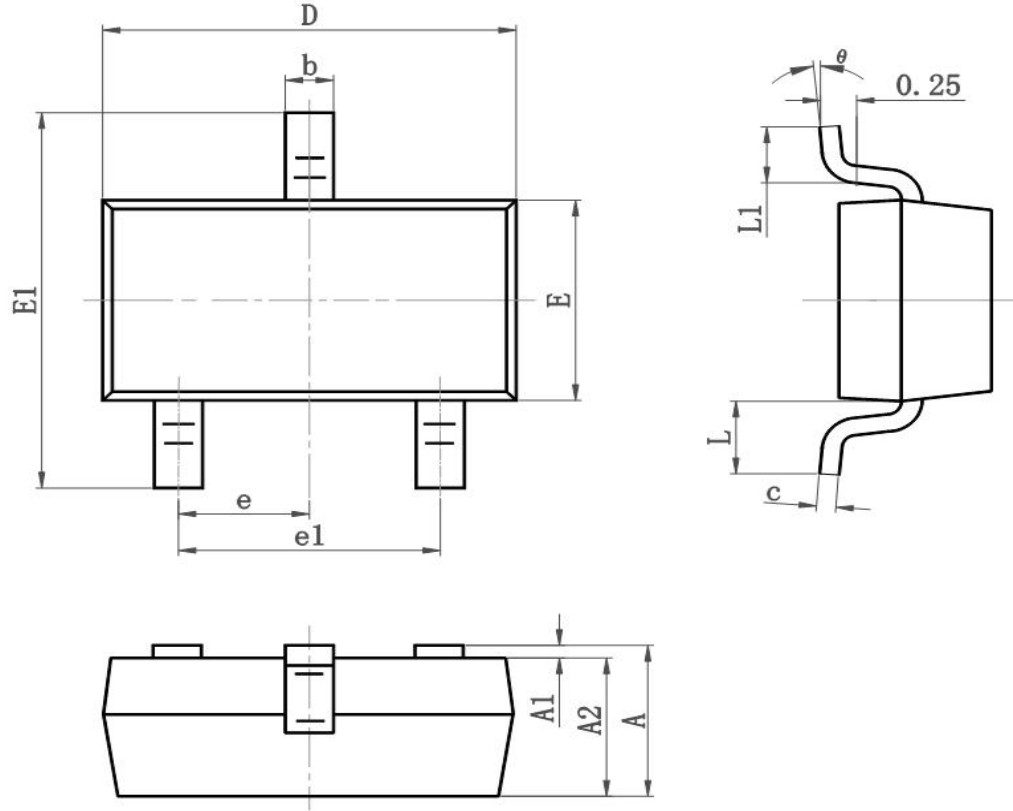
■ Typical Characteristic Curve 典型特性曲线



■ Typical Characteristic Curve 典型特性曲线



■ SOT-23 Dimension 外形封装尺寸



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 0.900                     | 1.150 | 0.035                | 0.045 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.900                     | 1.050 | 0.035                | 0.041 |
| b      | 0.300                     | 0.500 | 0.012                | 0.020 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 2.800                     | 3.000 | 0.110                | 0.118 |
| E      | 1.200                     | 1.400 | 0.050                | 0.055 |
| E1     | 2.250                     | 2.550 | 0.089                | 0.100 |
| e      | 0.900                     | 1.00  | 0.035                | 0.039 |
| e1     | 1.800                     | 2.000 | 0.071                | 0.079 |
| L      | 0.500                     | 0.600 | 0.020                | 0.024 |
| L1     | 0.300                     | 0.500 | 0.012                | 0.020 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |