



### SOT-89 Three Terminal Adjustable Regulator 三端可调稳压 IC

#### ■ Features & Block Diagram

##### 特点和框图

Programmable output Voltage to 36V

输出电压可调整到 36V

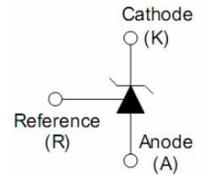
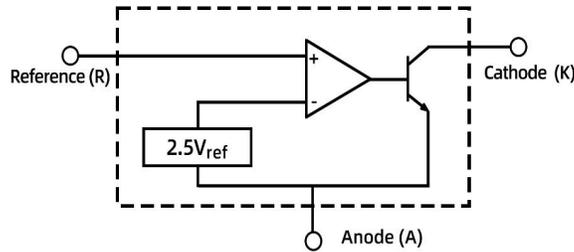
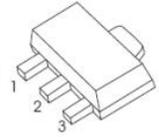
Low dynamic output impedance 0.27 Ω

低动态输出阻抗 0.27 Ω

Sink current capability of 1 to 100mA

电流能力 1 到 100mA

1. Reference
2. Anode
3. Cathode



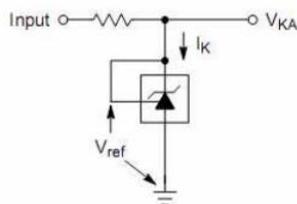
Symbol

#### ■ Absolute Maximum Ratings 最大额定值

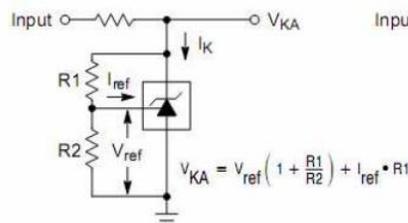
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

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	$P_D$	300	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	418	$^{\circ}\text{C}/\text{W}$
Solder Temperature 焊接温度/时间	$T_d$	260/10	$^{\circ}\text{C}/\text{S}$
Operating Ambient Temperature 工作温度	$T_{op}$	-20~+105	$^{\circ}\text{C}$
Junction and Storage Temperature 结温和储藏温度	$T_J, T_{stg}$	-40to+125 $^{\circ}\text{C}$	

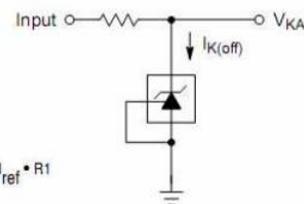
#### ■ Device Marking & Test Circuit 产品打标和测试电路



Test Circuit for  $V_{KA} = V_{ref}$



Test Circuit for  $V_{KA} > V_{ref}$



Test Circuit for  $I_{K(off)}$



■ **Electrical Characteristics** 电特性

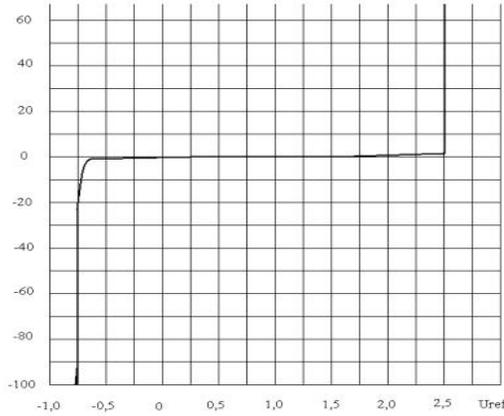
( $V_{KA}=V_{REF}$   $I_{KA}=10mA$   $T_a=25^\circ C$  unless otherwise noted 如无特殊说明)

Characteristic 特性参数	Symbol 符号	Test Condition 测试条件	Min 最小值	Type 典型值	Max 最大值	Unit 单位
Reference Input Voltage 基准电压	$V_{REF}$	$V_{KA}=V_{REF}$ $I_{KA}=10mA$	2.488	2.495	2.502	V
			2.483	2.495	2.507	
			2.470	2.495	2.520	
Deviation of reference Input Voltage Over temperature 标准温度内基准电压偏差	$\Delta V_{REF}/\Delta T$	$V_{KA}=V_{REF}$ $I_{KA}=10mA$ $-20 \sim +105^\circ C$		3	17	mV
Ratio of Change in Reference Input Voltage Change in Cathode Voltage 阴极电压与基准电压变化比	$\Delta V_{REF}/\Delta V_{KA}$	$I_{KA}=10mA$ $\Delta V_{KA}=10V \sim V_{REF}$ $\Delta V_{KA}=36V \sim 10V$	-0.4 -0.4	0 0	2.7 2.0	mV/V
Reference Input Current 基准电流	$I_{REF}$	$I_{KA}=10mA$ $R1=10k \Omega, R2=\infty$		1.8	4	$\mu A$
Deviation of Reference Input Current Over Full Temperature Range 标准温度内基准电流偏差	$\Delta I_{REF}/\Delta T$	$I_{KA}=10mA$ $R1=10k \Omega, R2=\infty$ $T_a=-20 \sim +105^\circ C$		0.4	1.2	$\mu A$
Minimum Cathode Current for Regulation 最小阴极电流	$I_{KA(MIN)}$	$V_{KA}=V_{REF}$		0.25	0.5	mA
Off-state Cathode Current 关闭状态阴极电流	$I_{KA(OFF)}$	$V_{KA}=40V$ $V_{REF}=0V$		0.17	1.0	$\mu A$
Dynamic Impedance 输出阻抗	$Z_{KA}$	$V_{KA}=V_{REF}$ $I_{KA}=1 \sim 100mA$ $f \leq 1kHz$		0.27	0.5	$\Omega$

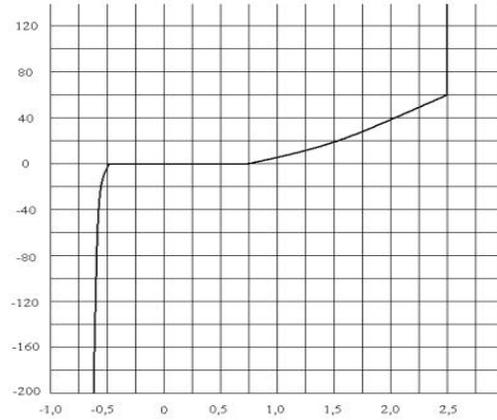


■ Typical Characteristic Curve 典型特性曲线

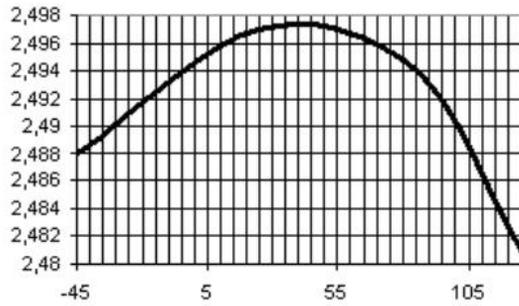
Cathode Current  $I_K$  (mA)  
vs. Cathode Voltage  $U_K$  (V)



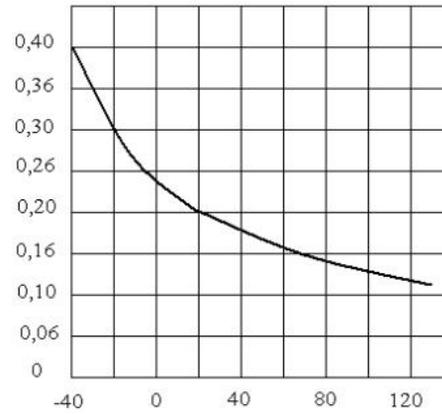
Cathode Current  $I_K$  (uA)  
vs. Cathode Voltage  $U_K$  (V)



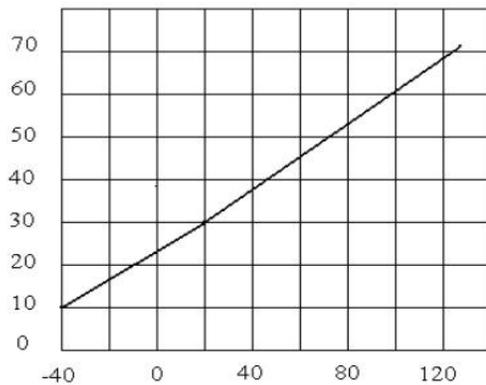
Reference Voltage  $U_{ref}$  (V)  
vs. Junction Temperature  $T_j$  (°C)  
 $I_K=10mA$



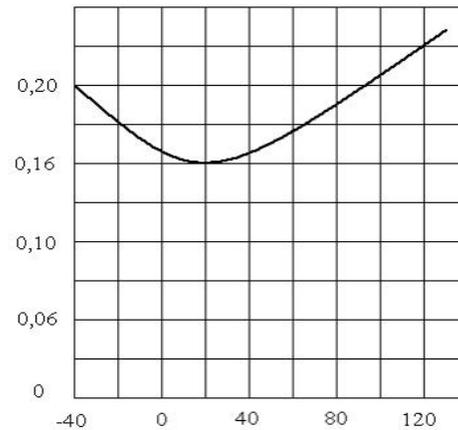
Reference Input Current  $I_{ref}$  (uA)  
vs. Junction Temperature  $T_j$  (°C)  
 $I_K=10mA$



Off-State Cathode Current  $I_{koff}$  (uA)  
vs. Junction Temperature  $T_j$  (°C)  
 $U_{Ka}=36V$

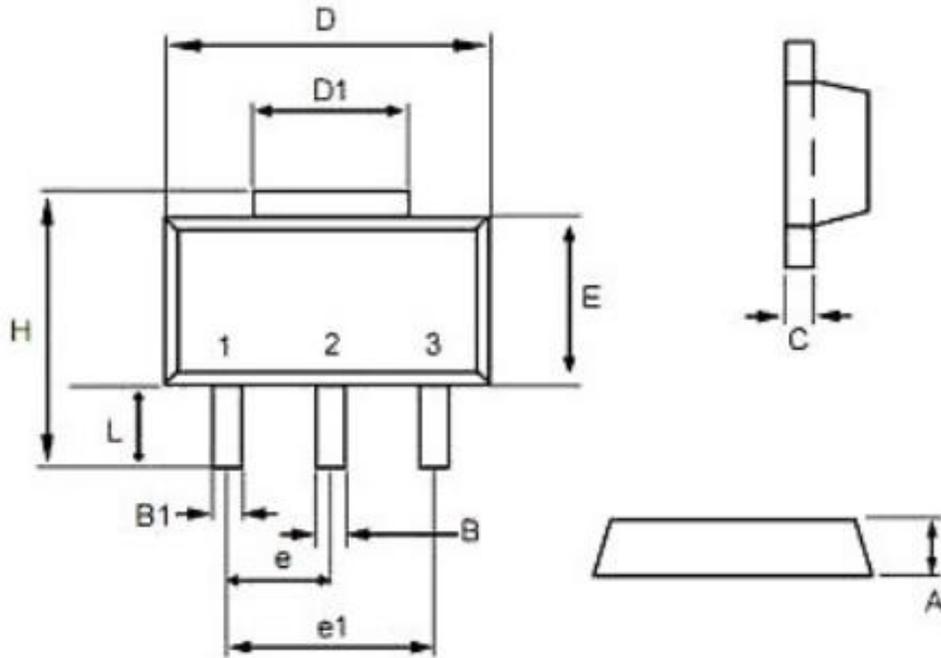


Dynamic Impedance  $Z_K$  (Ohm)  
vs. Junction Temperature  $T_j$  (°C)  
 $I_K = 1 \div 100 mA$





■SOT-89 Dimension 外形封装尺寸



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.40	1.60	0.055	0.063
B	0.40	0.56	0.016	0.022
B1	0.35	0.48	0.014	0.019
C	0.35	0.44	0.014	0.017
D	4.40	4.60	0.173	0.181
D1	1.35	1.83	0.053	0.072
e	1.45	1.55	0.057	0.061
e1	2.95	3.05	0.116	0.120
E	2.29	2.60	0.090	0.102
H	3.75	4.25	0.148	0.167
L	0.80	1.20	0.031	0.047