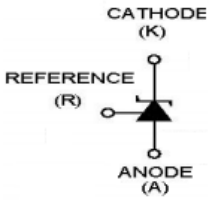
SOT-23**精密可调电压基准**/SOT-23 Encapsulate PrecisionAdjustable Reference Source

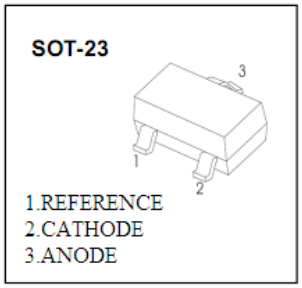
RC431

印章/Marking：431

特点/Features：

输入电压范围宽，可达 36V；
动态输出电阻低，典型值约为 0.2Ω；
阴极电流能力 1～100mA；





用途/Applications：

线性调整电路、可调电源及开关电源电路。

极限参数/Absolute maximum ratings(Ta=25℃)

参数/Parameter	符号/ Symbol	数值/Value	单位/Unit
阴极电压/Cathode Voltage	V_{KA}	37	V
阴极电流范围/Cathode Current Range	I_{KA}	-100～100	mA
基准电流输入范围/Reference Input Current Range	I_{REF}	0.05～10	mA
功率/Power Dissipation	P_D	300	mW
使用温度/Operating Temperature	Topr	0～70	℃
储存温度/Storage Temperature	Tstg	-65～150	℃

电性能参数/Electrical characteristics (Ta=25℃)

参数	符号	测试条件	最小值	典型值	最大值	单位
基准输入电压	V_{ref}	$V_{KA}=V_{ref}$, I_{KA}=10mA	2.445	2.495*	2.545	V
			2.450	2.500*	2.550	
基准电压温度漂移	$\Delta V_{ref}/\Delta T$	$V_{KA}=V_{ref}$, I_C=100μA, T_A=0～70℃		4.5	17	mV
基准与阴极电压变化比率	$\Delta V_{ref}/\Delta V_{KA}$	I_{KA}=10mA, ΔV_{KA} =10V～V_{ref}		-1.0	-2.7	mV/V
		I_{KA}=10mA, ΔV_{KA} =36V～10V		-0.5	-2.0	mV/V
基准输入电流	I_{REF}	I_{KA}=10mA, R1=10KΩ, R2=∞		1.5	4	μA
基准输入电流温度变化率	$\Delta I_{REF}/\Delta T$	I_{KA}=10mA, R1=10KΩ, R2=∞ T_A=40～120℃		0.4	1.2	μA
最小稳压阴极电流	$I_{KA(MIN)}$	$V_{KA}=V_{ref}$		0.45	1.0	mA
OFF 阴极电流	$I_{KA(OFF)}$	V_{KA}=36V, V_{ref} =0		0.05	1.0	μA
动态阻抗	Z_{KA}	V_{KA}= V_{ref}, I_{KA}=1～100mA f≤1.0KHz		0.2	0.5	Ω

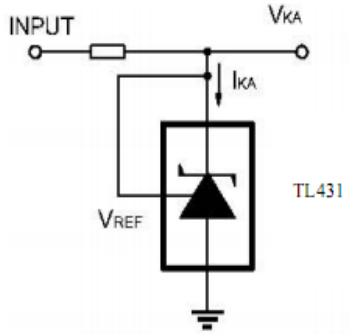
V_{ref} 分档/Classification of V_{ref}

档位/Rank	0.5%	1%	2%
范围/Range	2.483～2.507	2.470～2.520	2.445～2.545
	2.487～2.512	2.475～2.525	2.450～2.550

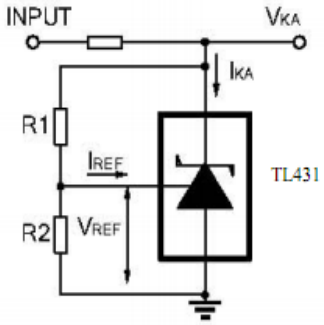
*根据使用要求选择合适的电压规格产品。

RC431

测试电路（TEST CIRCUITS）：

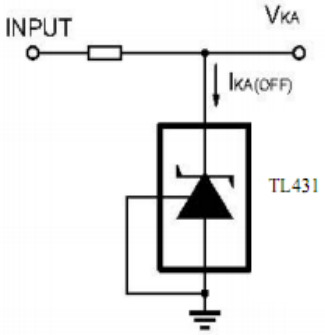


Test Circuit For VKA=VREF



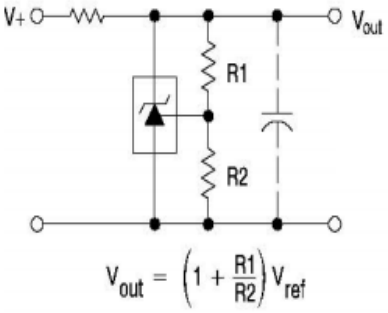
$V_{KA}=V_{REF}*(1+R1/R2)+I_{REF}*R1$

Test Circuit for VKA≥VREF

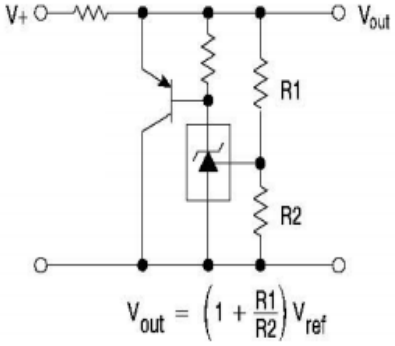


Test Circuit For IKA(OFF)

典型应用（TYPICAL APPLICATION）：



Shutdown Regulator



Higher-current Shunt

典型特性曲线图/Typical Characteristics

Fig 1 Cathode Current Vs Cathode Voltage

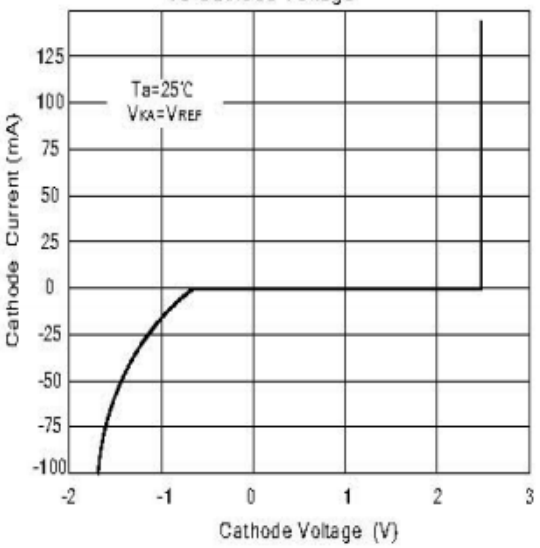


Fig 2 Cathode Current Vs Cahode Voltage

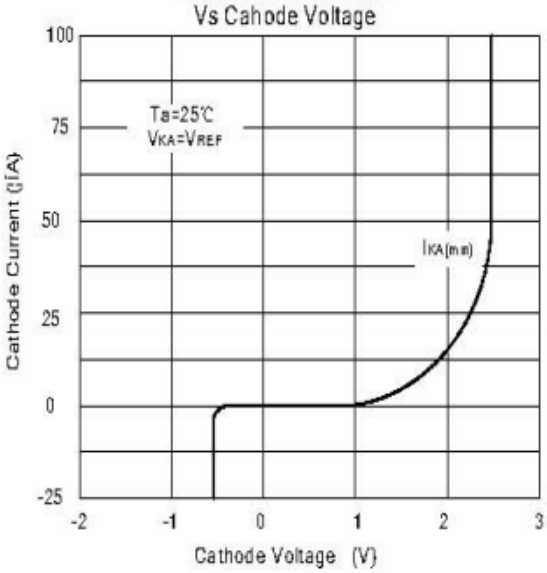


Fig 3 Change in Reference Input Voltage Vs Cathode voltage

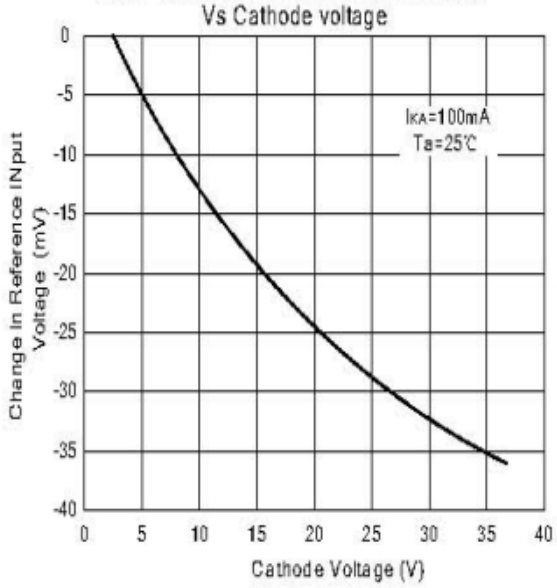


Fig 4 Pulse Response

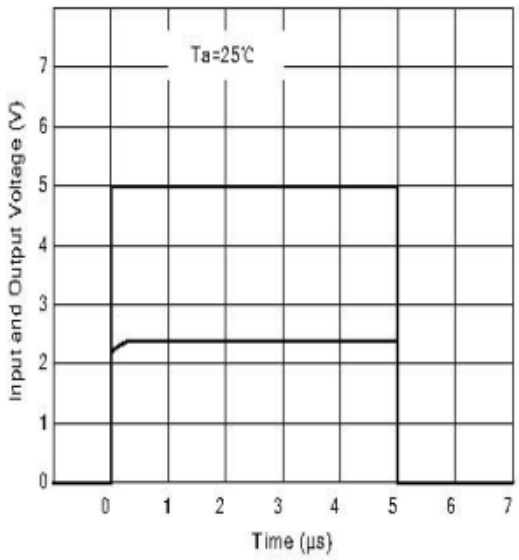


Fig 5 Dynamic Impedance Vs Frequency

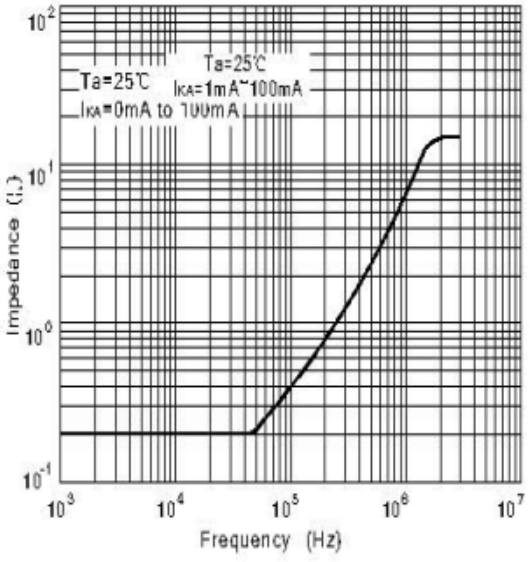


Fig 6 Small Signal Voltage Amplification Vs Frequency