

Rev.A Dec.-2022

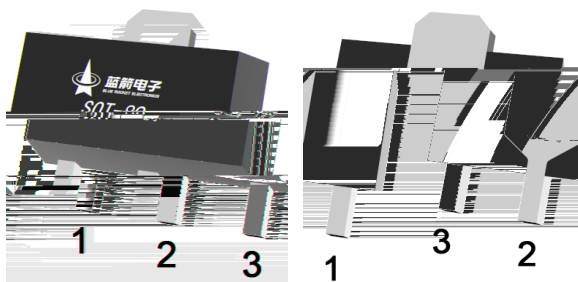
SOT-89

Precision adjustable shunt regulator in a SOT-89 Plastic Package.

2.500V; $V_O = V_{ref}$	0.4%, 0.8%; (:400 μ A);	1.0mA 100mA; (:0.15 Ω)	;
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Precise reference voltage to 2.500V; guaranteed 0.4%, 0.8% reference voltage Tolerance; sink current capability, 1.0mA~100mA; quick turn-on; adjustable Output voltage, $V_O = V_{ref} \sim 37V$; low operational cathode current, 400 A typical; 0.15 typical output impedance, HF product.

Linear regulators, adjustable power supply, switching power supply.



PIN1 R PIN 2 A PIN 3 K

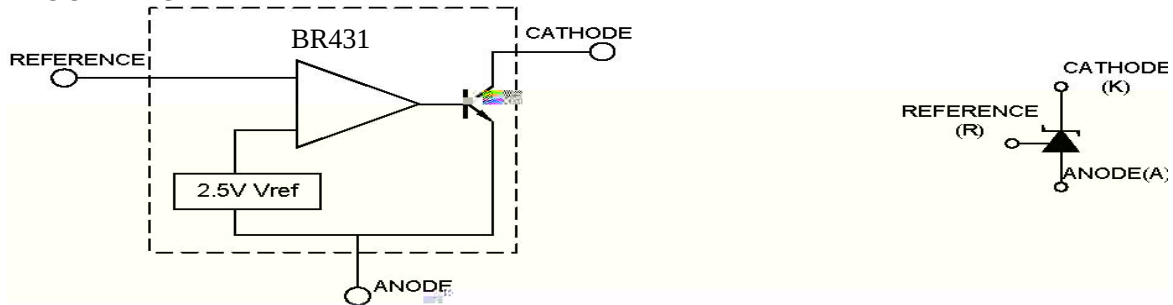
See Marking Instructions

Parameter	Symbol	Rating	Unit
Cathode to Anode Voltage	V_{KA}	37	V
Cathode Current Range, Continuous	I_K	-100~+100	mA
Reference Input Current Range, Continuous	I_{REF}	0.05~+10	mA
Power Dissipation	P_D	770	mW
Operating Ambient Temperature	T_{amb}	-40~125	°C
Junction Temperature	T_j	160	°C
Storage Temperature Range	T_{stg}	-65~150	°C

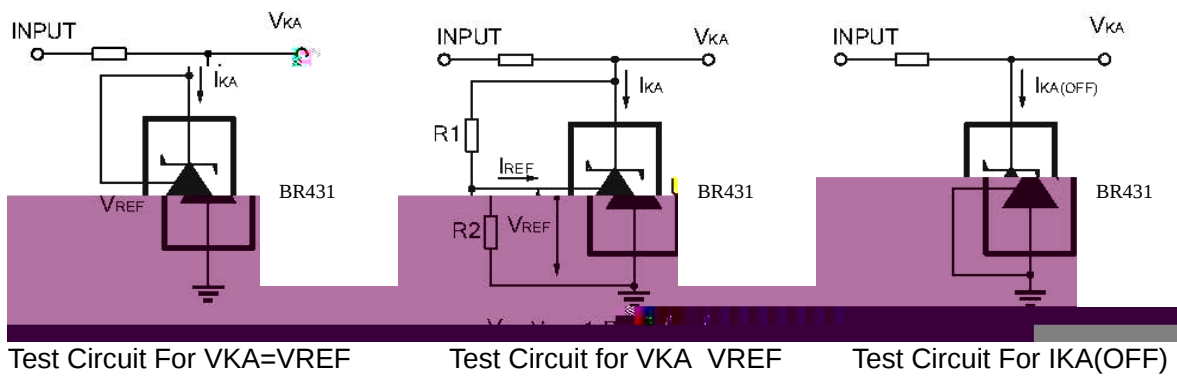
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reference Input voltage	V_{REF}	$V_{KA}=V_{REF}$ $I_K=10mA(A=0.4\%)$	2.490	2.500	2.510	V
		$V_{KA}=V_{REF}$ $I_K=10mA(B=0.8\%)$	2.480	2.500	2.520	V
Deviation of Reference Input Voltage Over-Temperature	$\Delta V_{REF}/T$	$V_{KA}=V_{REF}$ $I_K=10mA$ $T_A=-25\sim 85^{\circ}C$		4.5	17	mV
Ratio of Change in Reference Input Voltage to the Change in Cathode Voltage	$\Delta V_{REF}/\Delta V_{KA}$	$I_K=10mA$ $\Delta V_{KA}=10V$ to V_{REF}		-1	-2.7	mV/V
		$I_K=10mA$ $\Delta V_{KA}=36V$ to $10V$		-0.45	-2.0	mV/V
Reference Input current	I_{REF}	$I_K=10mA$ $R_1=10K$ $R_2=open$		1.0	4.0	A
Deviation of Reference Input Current Over Full Temperature Range	$\Delta I_{REF}/T$	$I_K=10mA$ $R_1=10K$, $R_2=open$ $T_A=-40\sim 125^{\circ}C$		0.4	1.2	A
Minimum Cathode Current for Regulation	$I_{K(min)}$	$V_{KA}=V_{REF}$		0.4	1.0	mA
Off-state cathode current	$I_{K(off)}$	V_{KA}				

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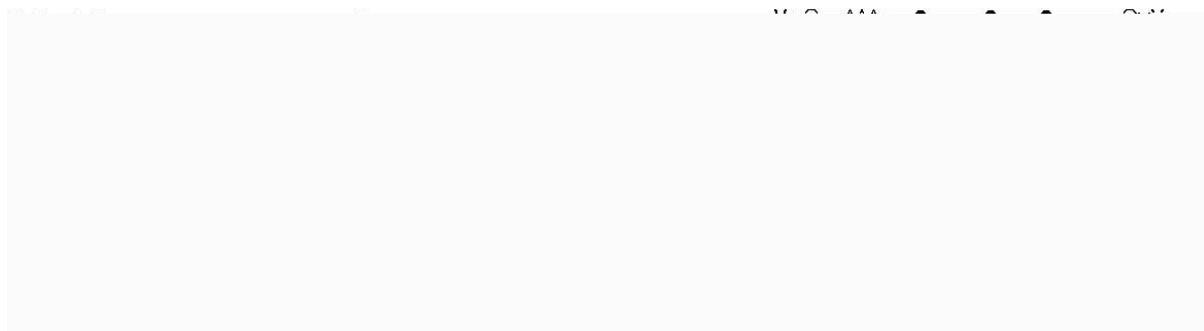
BLOCK DIAGRAM:



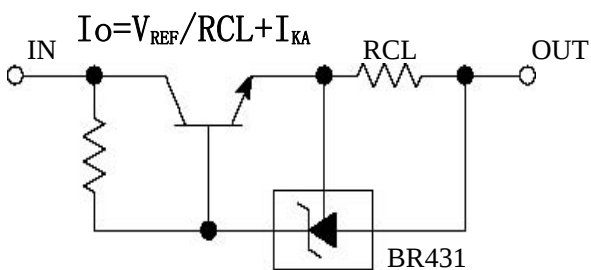
TEST CIRCUITS:



TYPICAL APPLICATION:

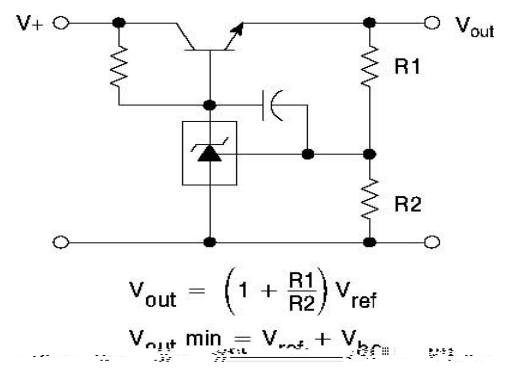


Shutdown Regulator



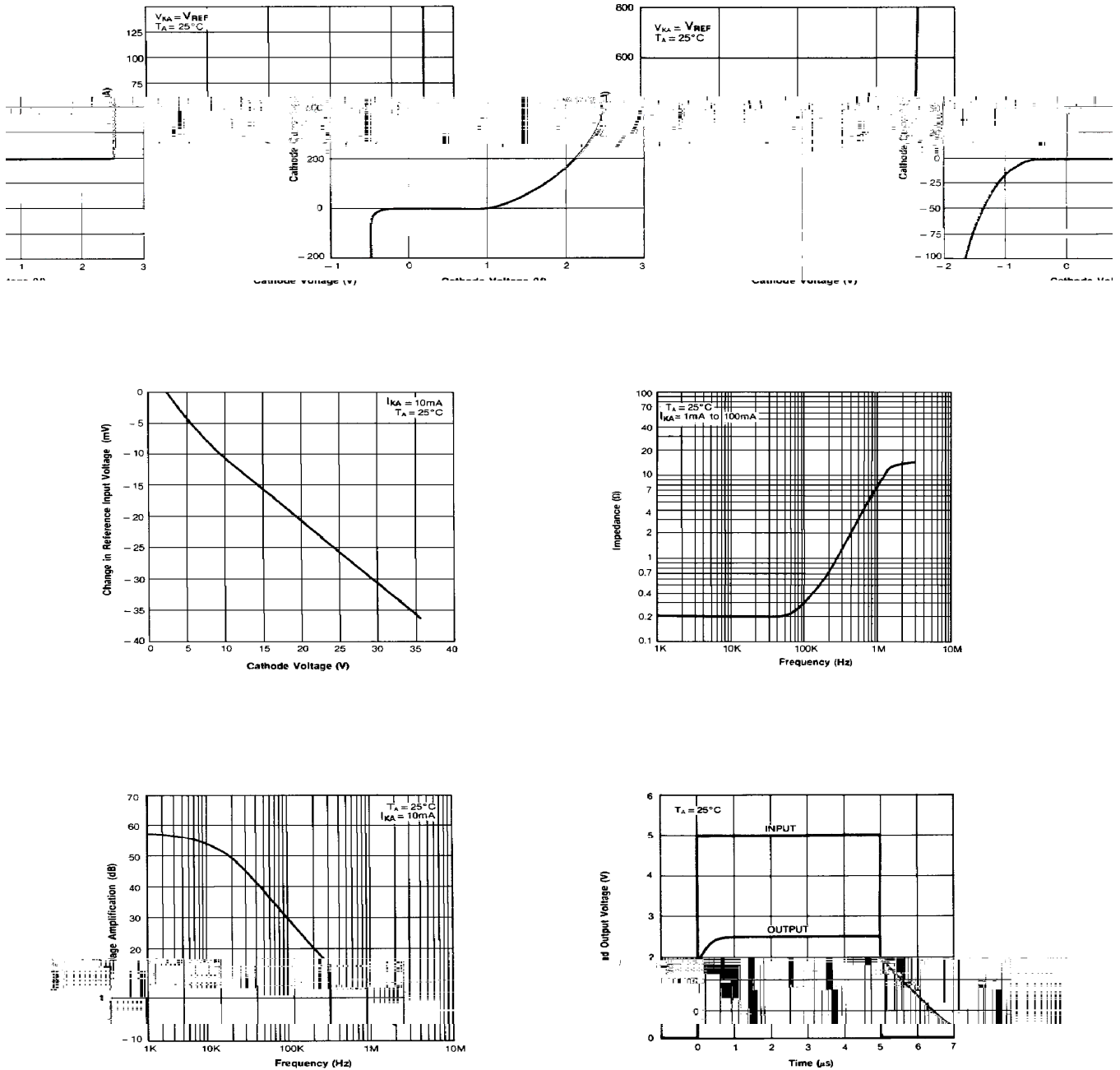
Constant Current Source

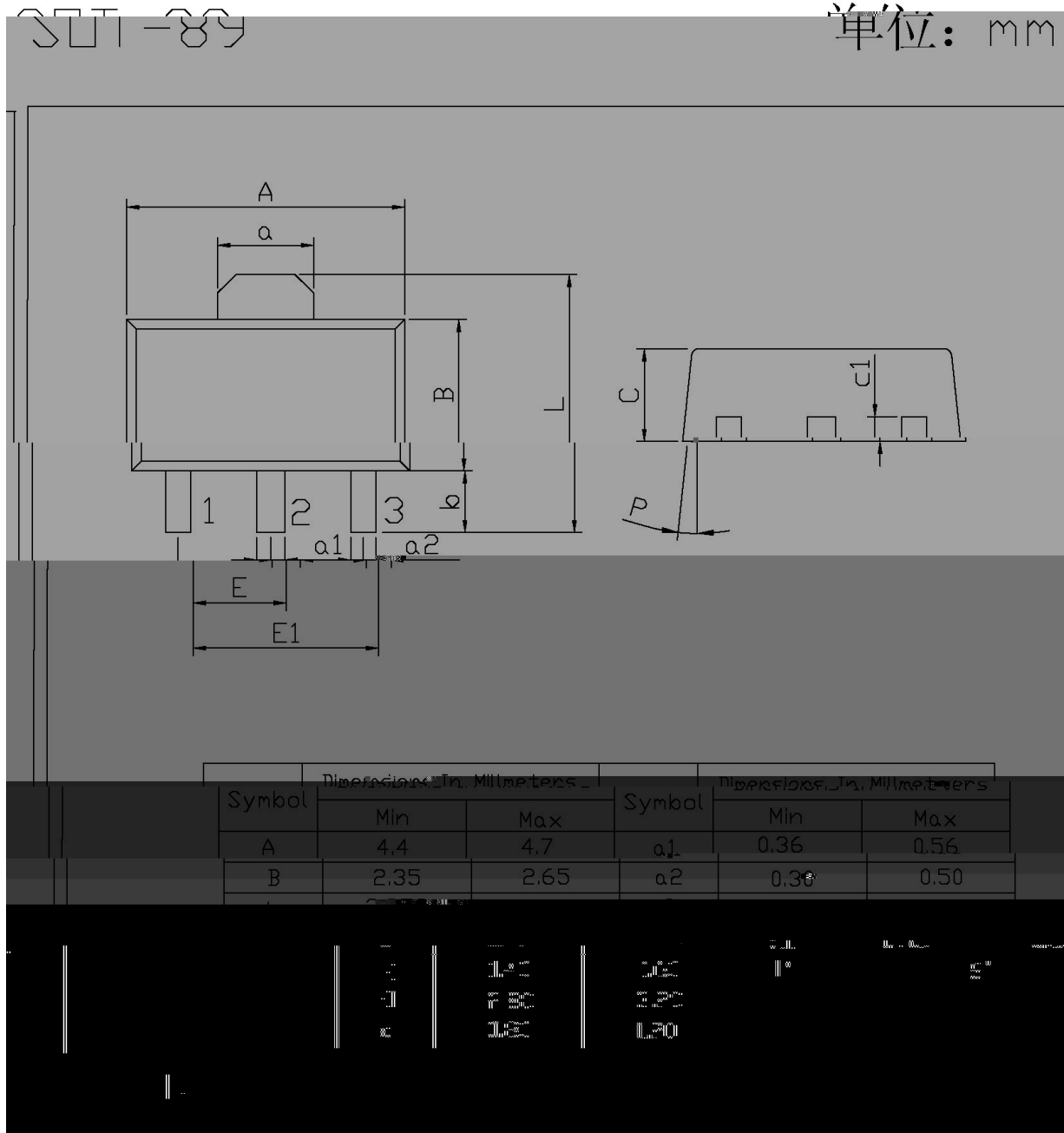
Higher-current Shunt

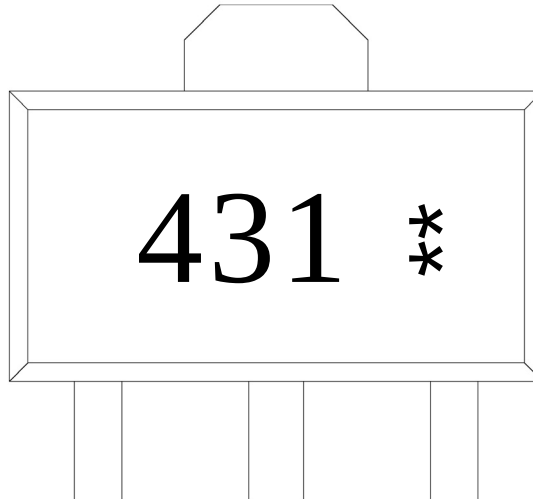


Series Pass Regulator

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431

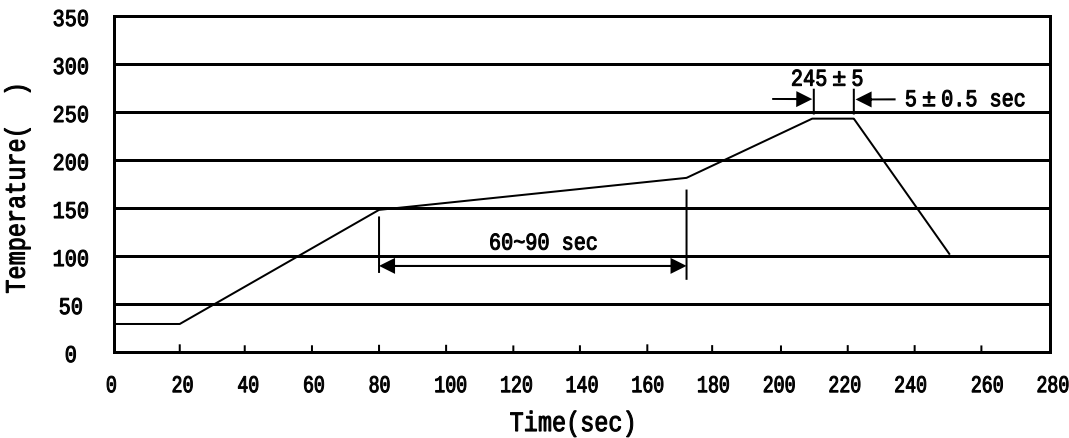
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Note:

431: Product Type Code

**: Lot No. Code, code change with Lot No

Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|----|-----------|---|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245±5 | | | 5±0.5sec; | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

260±5 10±1 sec. Temp.:260±5℃ Time:10±1 sec

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm³)		
	只 卷盘	卷盘 盒	只 盒	盒 箱	只 箱		盒	箱
						"		