

/ Descriptions

SOT-23

Precision adjustable shunt regulator in a SOT-23 Plastic Package.

/ Features

2.495V; 0.5%,1% 2%; 1.0mA 100mA; ;
 $V_O = V_{ref} \pm 36V$; (:50 μ A); (:0.15)

Precise reference voltage to 2.495V;guaranteed 0.5%,1% or 2% reference voltage Tolerance; sink current capability,1.0mA 100mA;quick turn-on; adjustable Output voltage, $V_O = V_{ref} \pm 36V$;low operational cathode current,50 μ A typical; 0.15 typical output impedance.

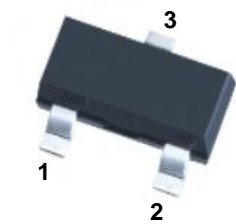
/ Applications

Linear regulators, adjustable power supply, switching power supply.

/ Equivalent Circuit



/ Pinning



PIN1 R PIN 2 K PIN 3 A

/ h_{FE} Classifications & Marking

Marking	H431
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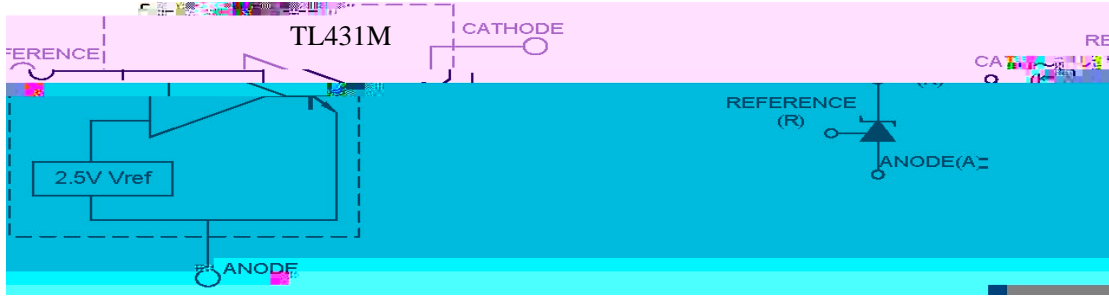
Parameter	Symbol	Rating	Unit
Cathode to Anode Voltage	V_{KA}	37	V
Cathode Current Range, Continuous	I_K	-100 +100	mA
Reference Input Current Range, Continuous	I_{REF}	0.05 +10	mA
Power Dissipation	P_D	370	mW
Operating Ambient Temperature	T_{amb}	-40 125	
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-65 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
		$V_{KA}=V_{REF}$ $I_K=10mA(A=0.5\%)$	2.483	2.495	2.507	V
		$V_{KA}=V_{REF}$ $I_K=10mA(B=1\%)$	2.470	2.495	2.520	V

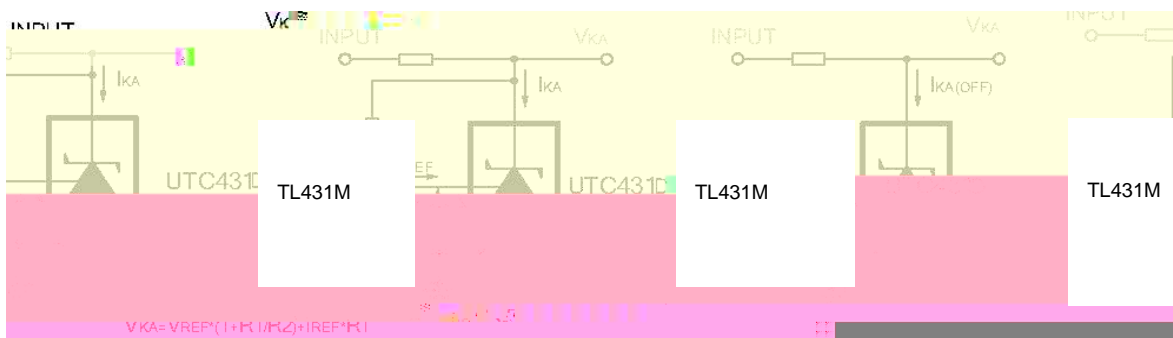
=10m

& Test circuitsypicApplication

BLOCK DIAGRAM:



TEST CIRCUITS:

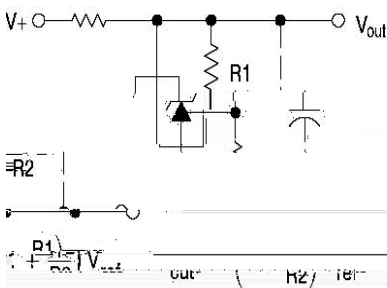


Test Circuit For $V_{KA}=V_{REF}$

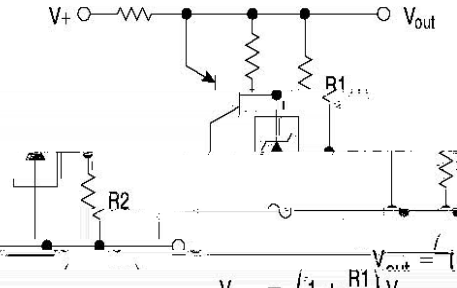
Test Circuit for $V_{KA} = V_{REF}$

Test Circuit For $I_{KA}(OFF)$

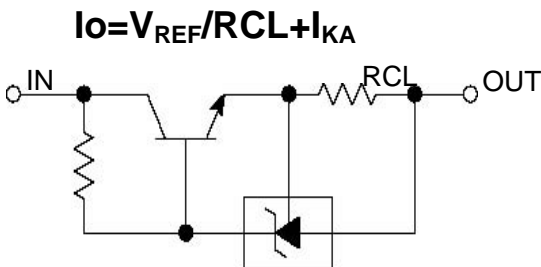
TYPICAL APPLICATION:



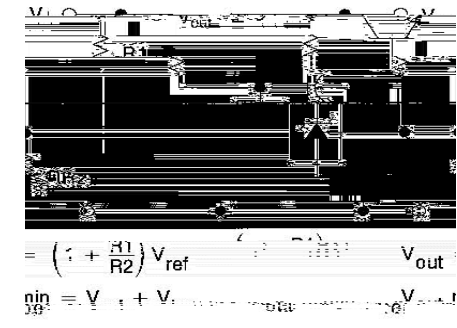
Shutdown Regulator



Higher-current Shunt



Constant Current Source TL431M

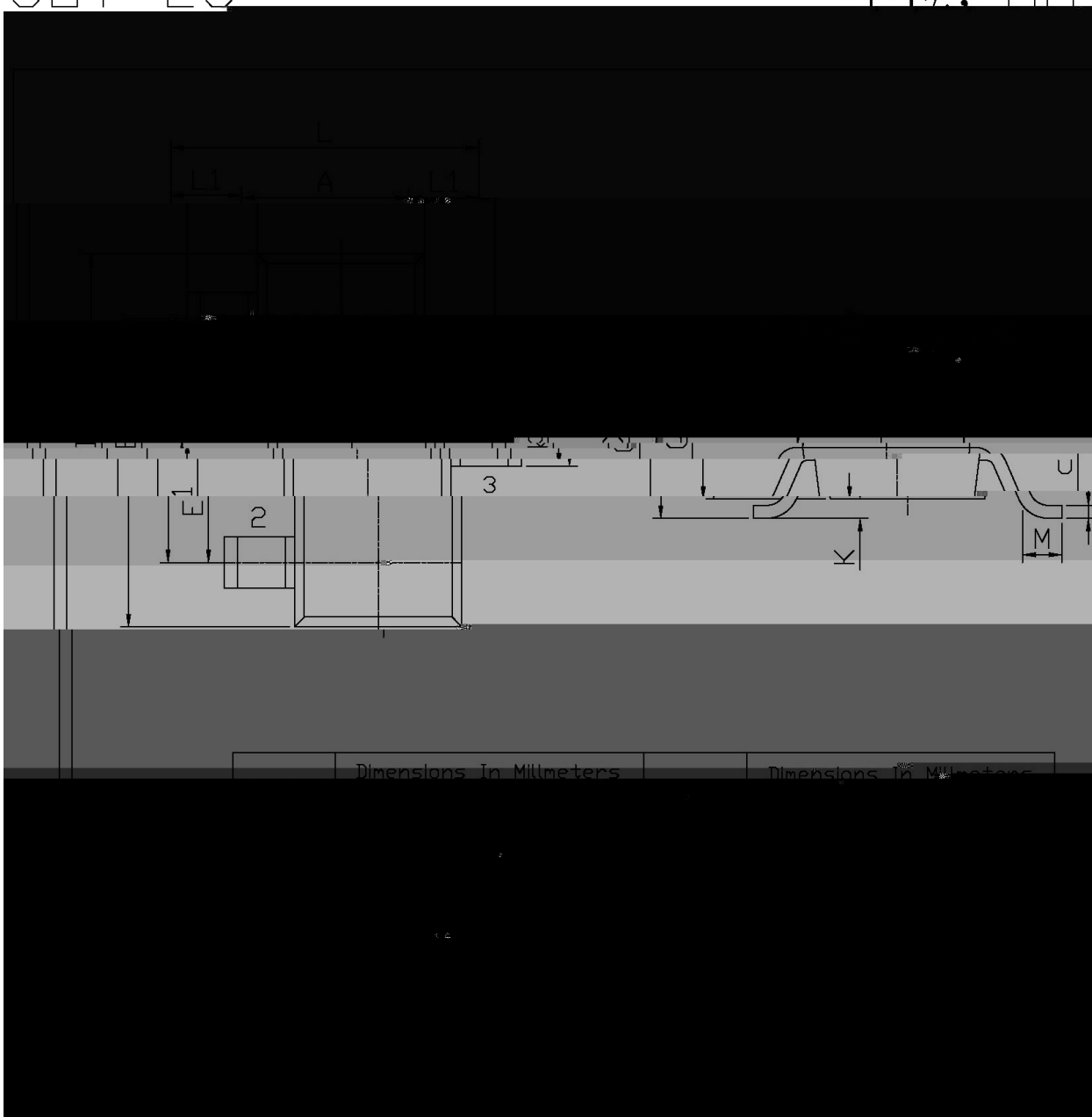


Series Pass Regulator

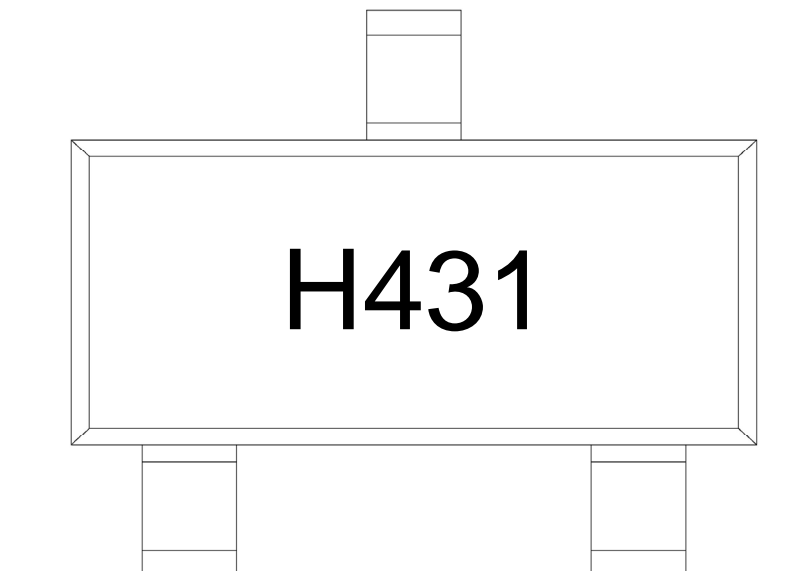
/ Package Dimensions

SOT-23

单位: mm



/ Marking Instructions



H

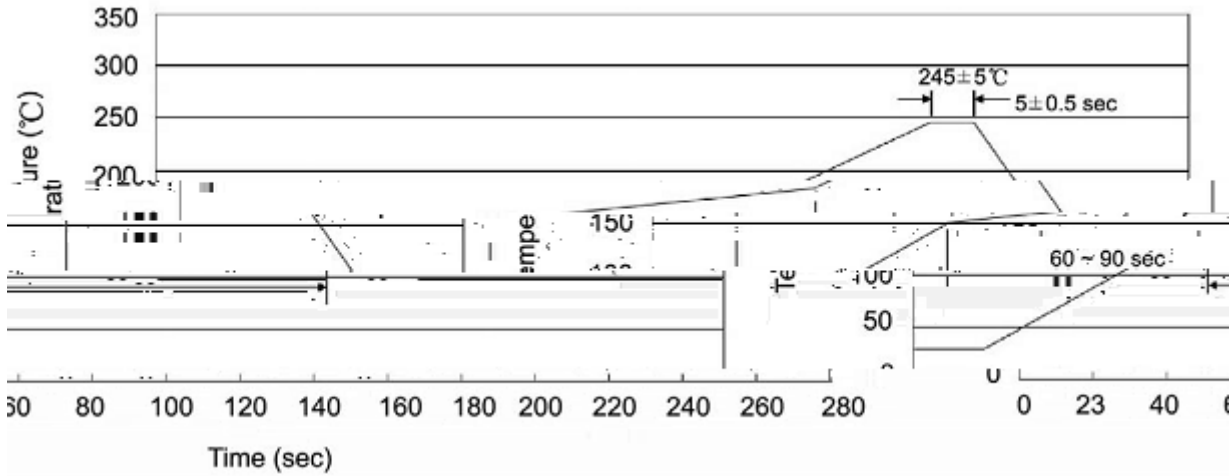
431

Note:

H: Company Code.

431: Product Type.

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-------|--------|---|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 245±5 | | 5±0.5 | sec; | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-23	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205