

Rev.A Dec.-2022

SOT-89

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

2.500V; 0.4%,0.8%; 1.0mA 100mA; ;
 $V_O = V_{ref} \pm 37V$; (:400 μ A); (:0.15)

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, $V_O = V_{ref} \pm 37V$;low operational cathode current,400 μ A typical; 0.15 typical output impedance, HF product.

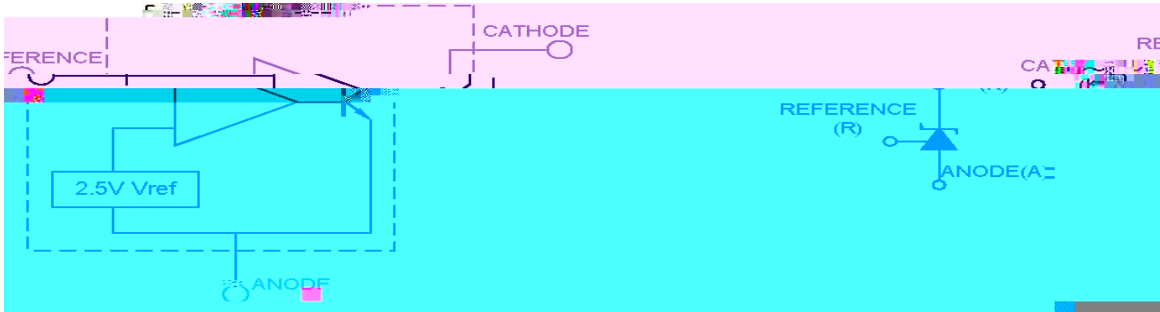
Linear regulators, adjustable power L1 Tf0 -4.28 TD@aff04df09(42.72 433. i c0 Tw449.66 40.40af8ge)52 5Tw449.6

| 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 | |
| Junction Temperature | T_j | 160 | |
| Storage Temperature Range | T_{stg} | -65 150 | |

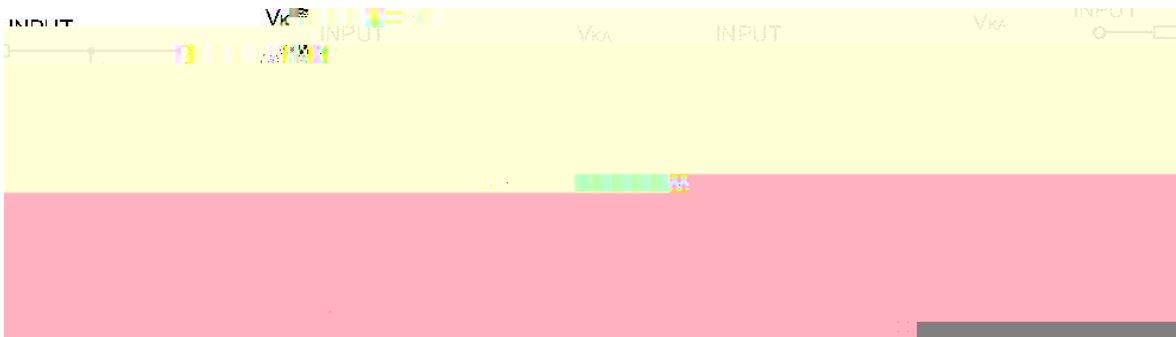
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|------------------|---|-------|-------|-------|---------|
| Reference Input voltage | V_{REF} | $V_{KA}=V_{REF}$ $I_K=10mA(A=0.4\%)$ | 2.490 | 2.500 | 2.510 | V |
| | | $V_{KA}=V_{REF}$ $I_K=10mA(B=0.8\%)$ | 2.480 | 2.500 | 2.520 | V |
| Deviation of Reference Input Voltage Over-Temperature | V_{REF}/T | $V_{KA}=V_{REF}$ $I_K=10mA$ $T_A=-25$ 85 | | 4.5 | 17 | mV |
| Ratio of Change in Reference Input Voltage to the Change in Cathode Voltage | V_{REF}/V_{KA} | $I_K=10mA$ $V_{KA}=10V$ to V_{REF} | | -1 | -2.7 | mV/V |
| | | $I_K=10mA$ $V_{KA}=36V$ 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 | μA |
| Deviation of Reference Input Current Over Full Temperature Range | I_{REF}/T | $I_K=10mA$ $R_1=10K$, $R_2=open$ $T_A=-40$ 125 | | 0.4 | 1.2 | μA |
| 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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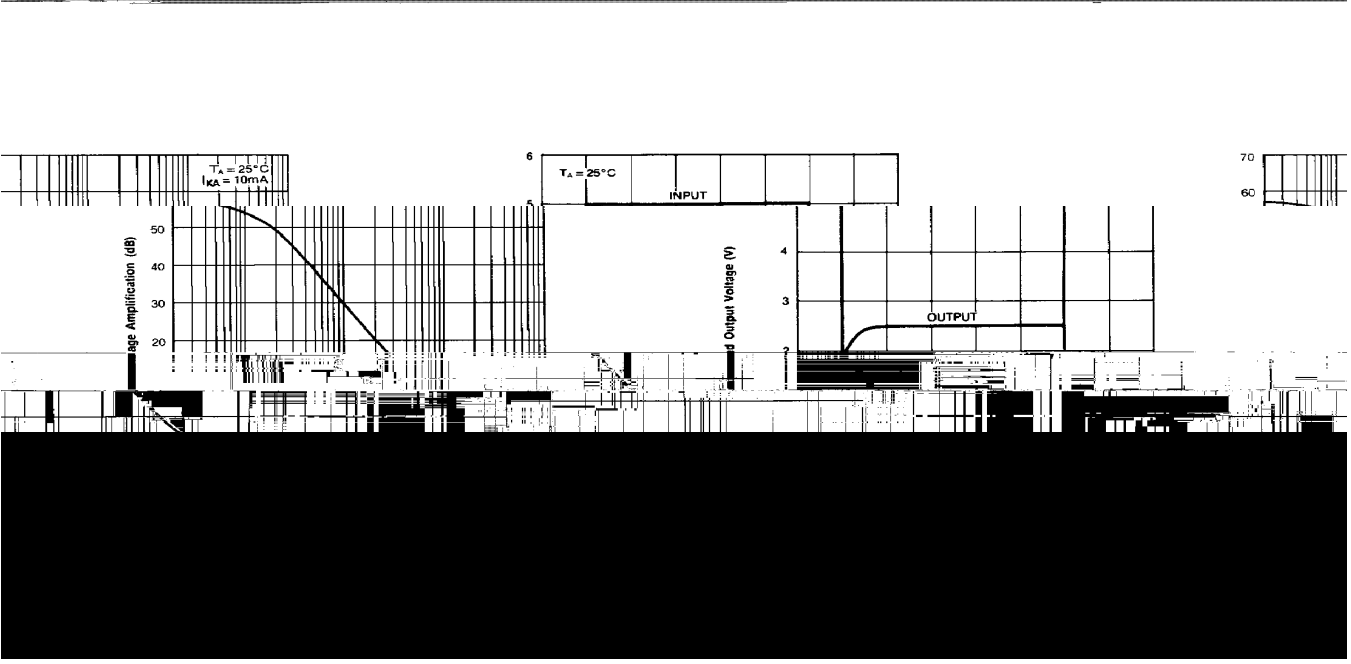
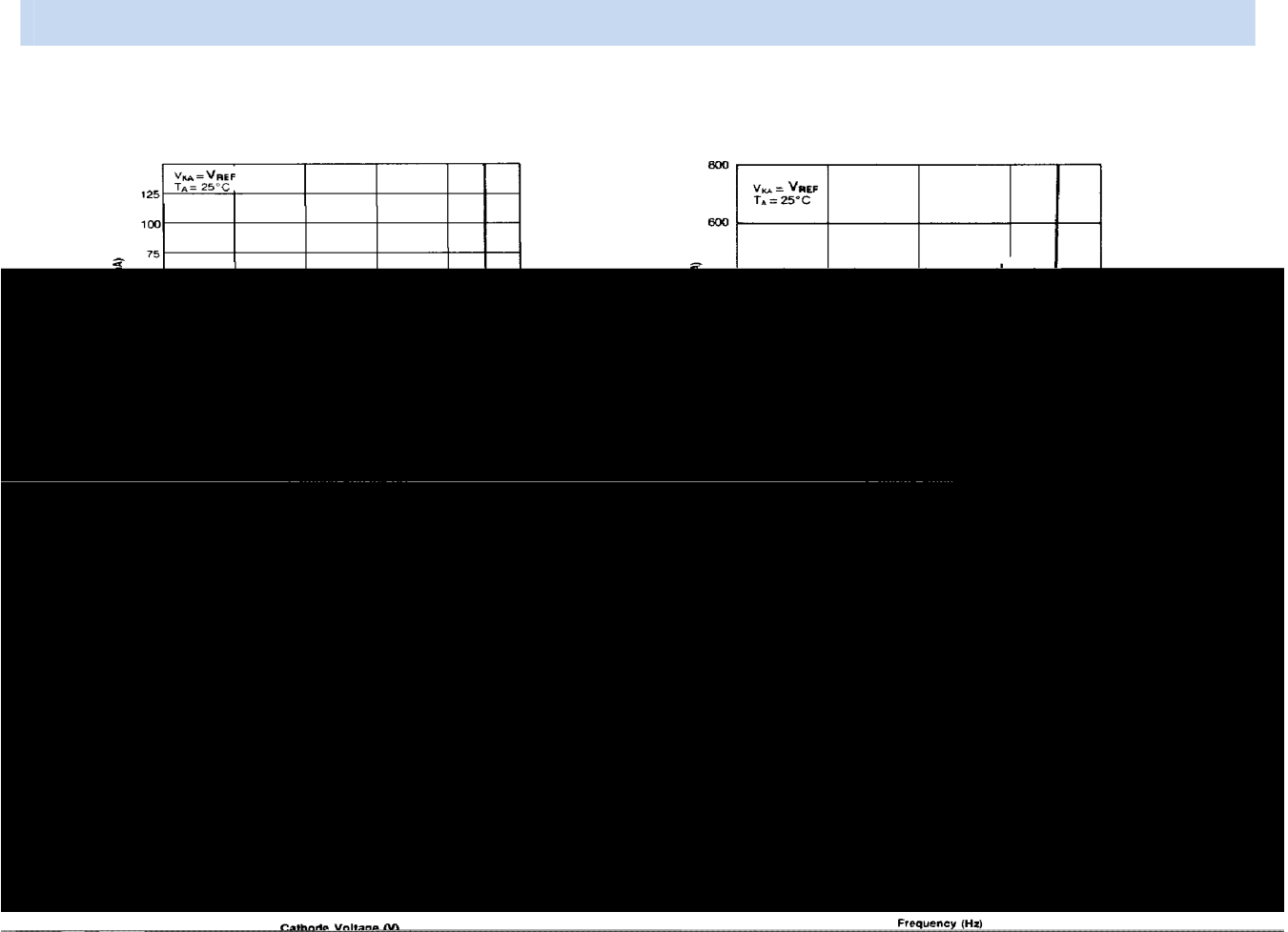
BLOCK DIAGRAM:

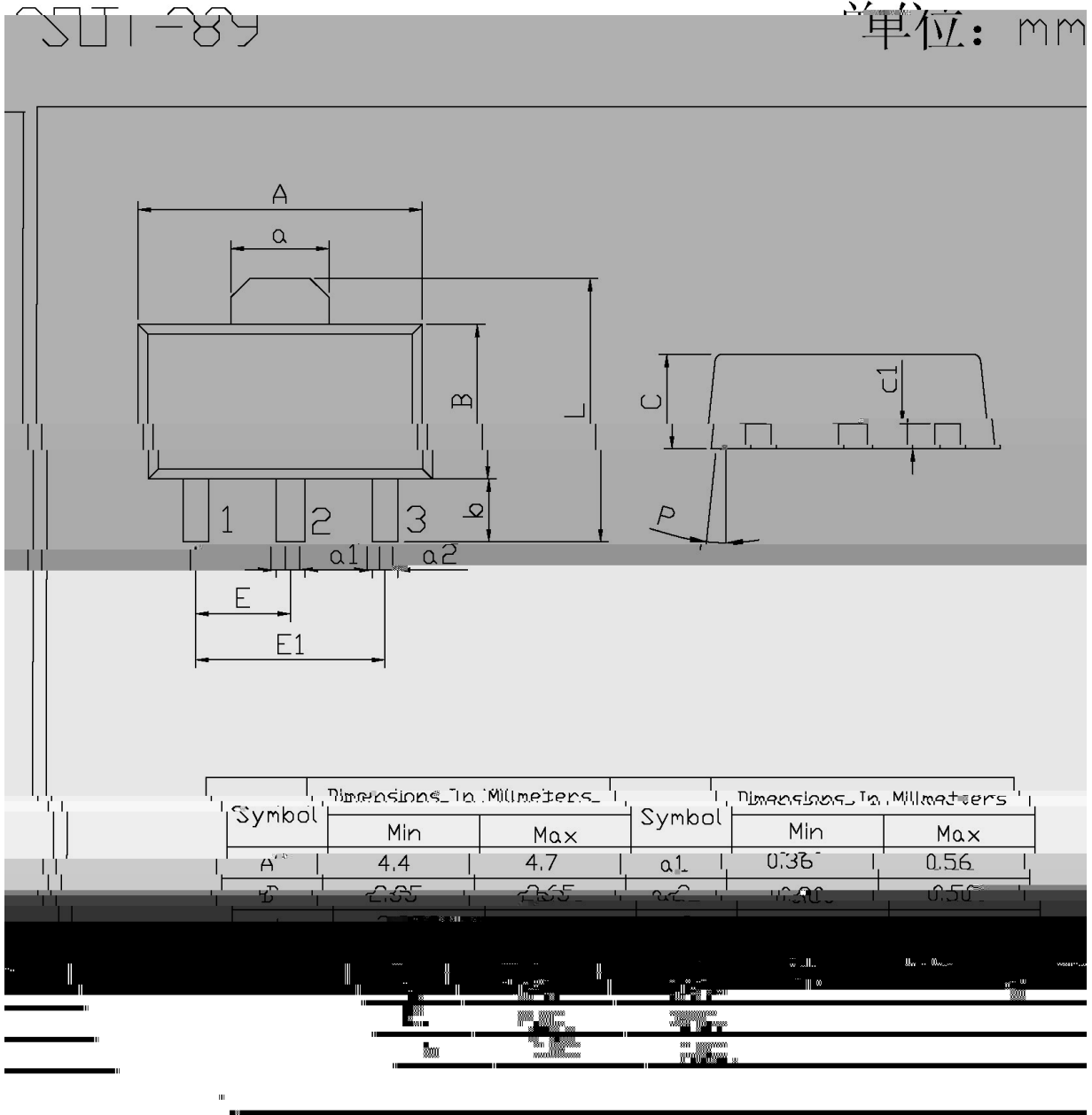


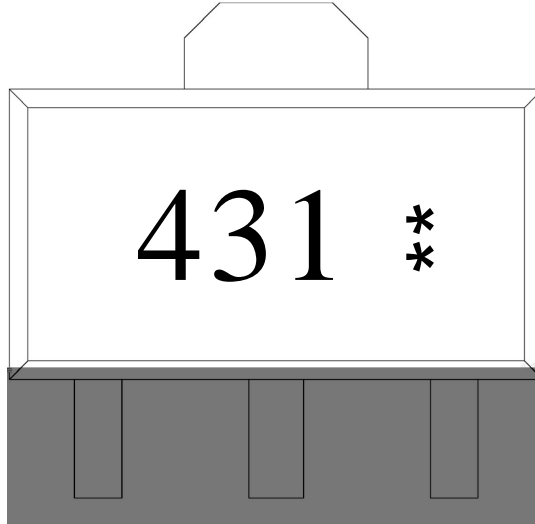
TEST CIRCUITS:



Test Circuit For VKA=VREF







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)

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Note:

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|---|---------|-----------|---|
| 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 | Units | Dimension | (unit mm ³) |
|--------------|-------|-----------|-------------------------|
|--------------|-------|-----------|-------------------------|