

/ Descriptions

SOT-23

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

/ Features

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 A typical; 0.15 typical output impedance.

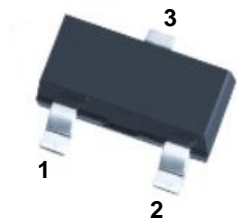
/ Applications

Linear regulators, adjustable power supply, switching power supply.

/ Equivalent Circuit



/ Pinning



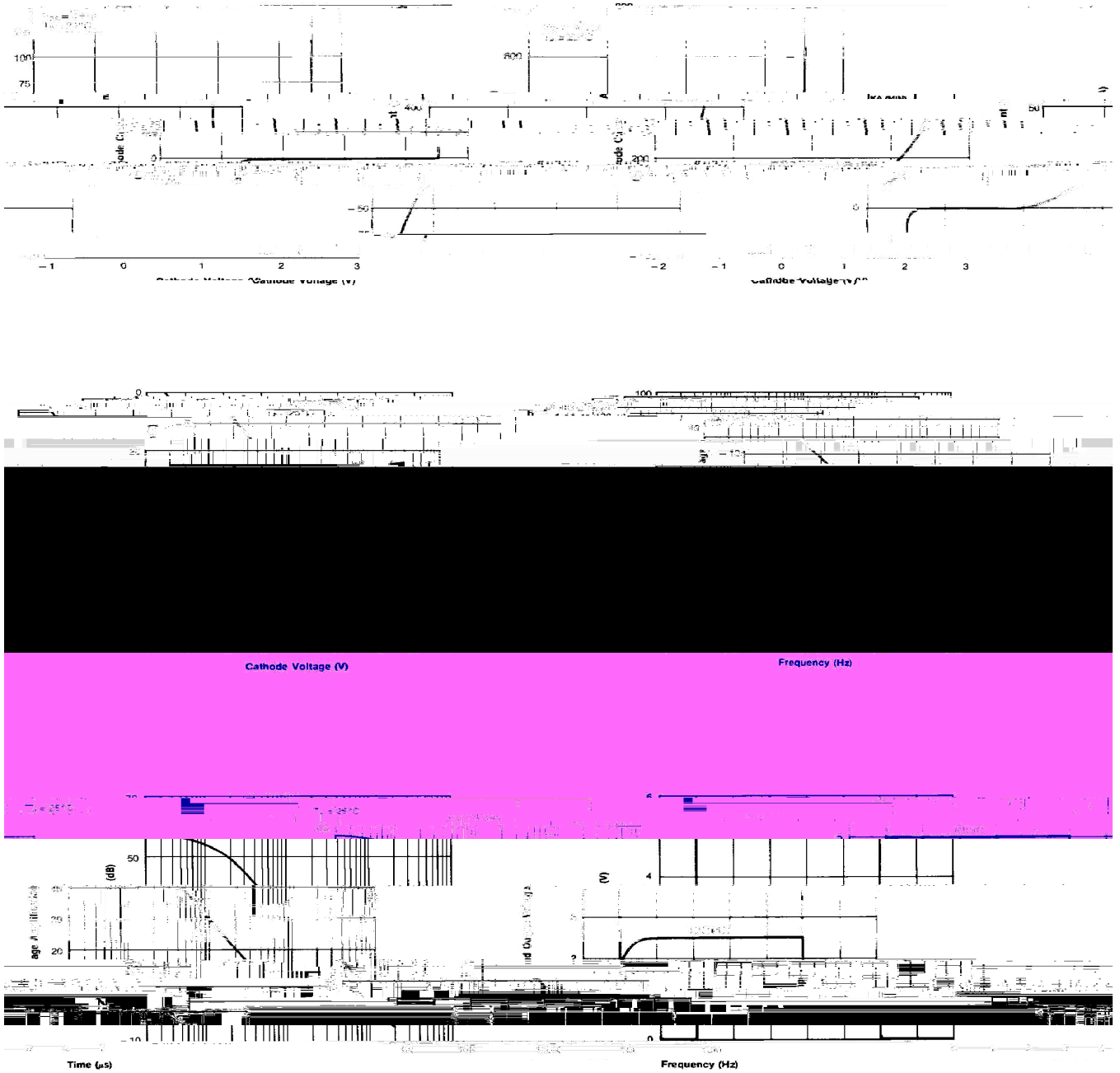
PIN1 R PIN 2 K PIN 3 A

/ h_{FE} Classifications & Marking

Marking	BR431
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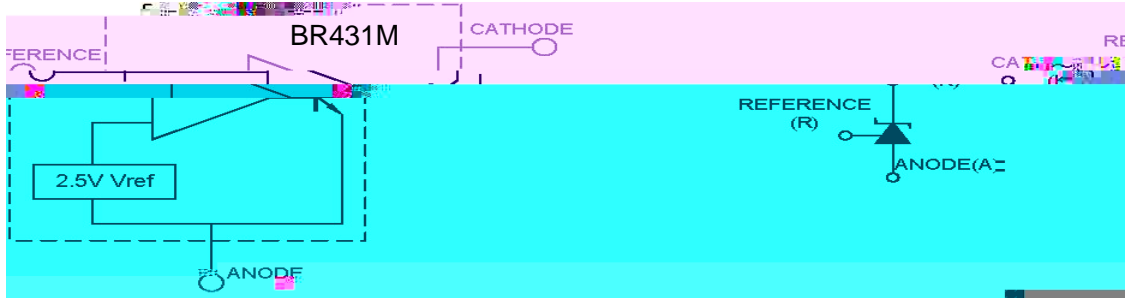
Parameter	Symbol	Rating	Unit
Cathode to Anode Voltage	V_{KA}	37	V
Cathode Current Range, Continuous	I_K	-100 +100	mA
Reference Input Current Range, Continuous	I_{REF}	0.05 +10	mA
Power Dissipation	P_D		

/ Electrical Characteristic Curve

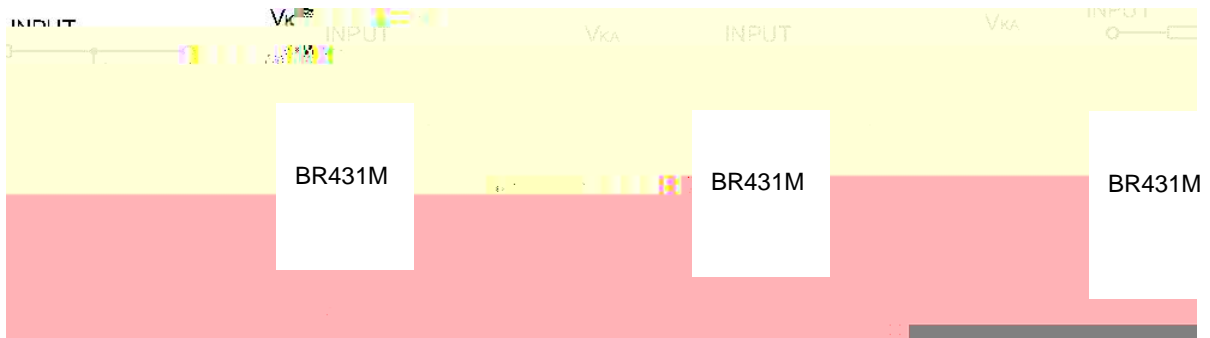


& Test circuits&Typical Application

BLOCK DIAGRAM:



TEST CIRCUITS:

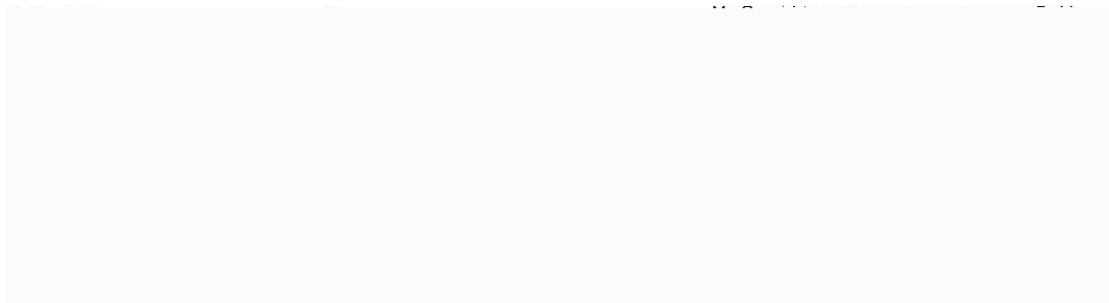


Test Circuit For VKA=VREF

Test Circuit for VKA VREF

Test Circuit For IKA(OFF)

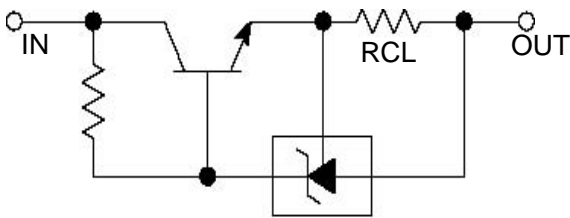
TYPICAL APPLICATION:



Shutdown Regulator

Higher-current Shunt

$$I_O = V_{REF}/R_{CL} + I_{KA}$$



Constant Current Source

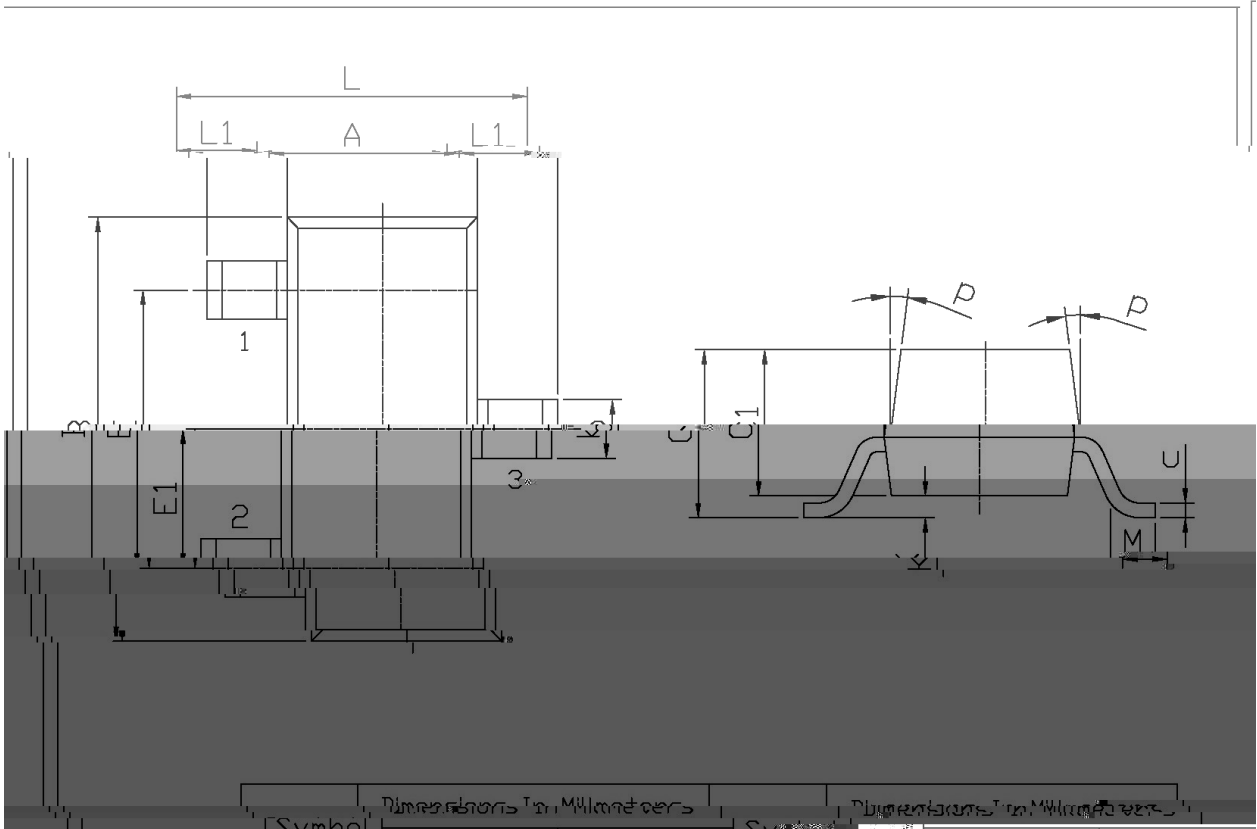
BR431M

Series Pass Regulator

/ Package Dimensions

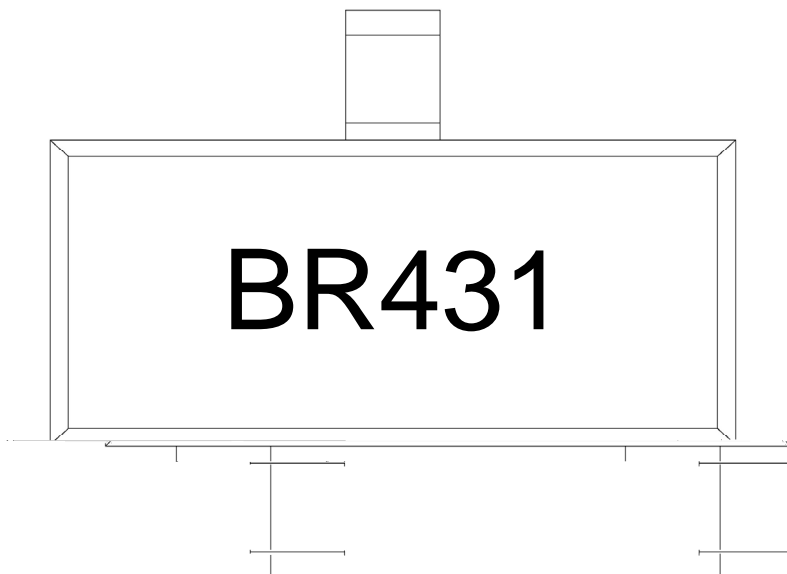
SOT-23

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	K	0.05	0.20
B	2.70	3.10	M	0.20MIN	
E	1.70	2.10	P	7°	
E1	0.85	1.05	U	0.10	

/ Marking Instructions



BR

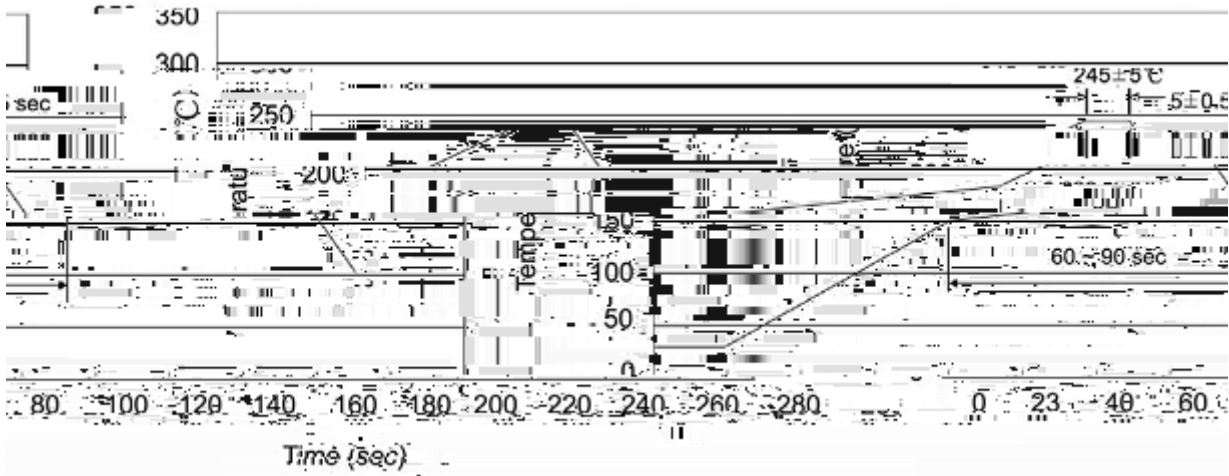
431

Note:

BR: 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	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205

/ Notices