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

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}

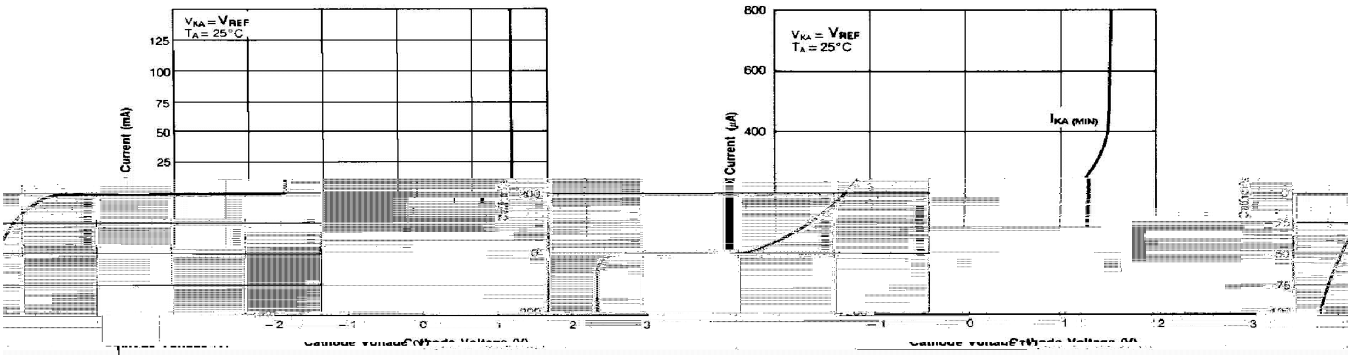
/ Absolute Maximum Ratings(Ta=25)

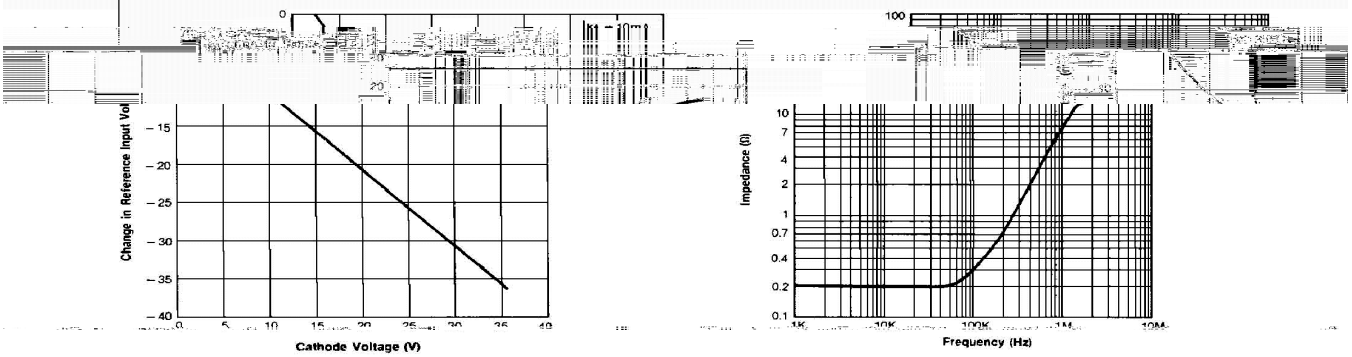
Parameter	Symbol	Rating	Unit
Cathode to Anode Voltage	V_{KA}	37	V
Cathode Current Range, Continuous	I_K	-100 +100	mA
Reference Input Current Range, Continuous	I_{REF}	0.05 +10	mA
Power Dissipation	P_D	370	mW
Operating Ambient Temperature	T_{amb}	-40 125	
Junction Temperature	T_j	160	
Storage Temperature Range	T_{stg}	-65 150	

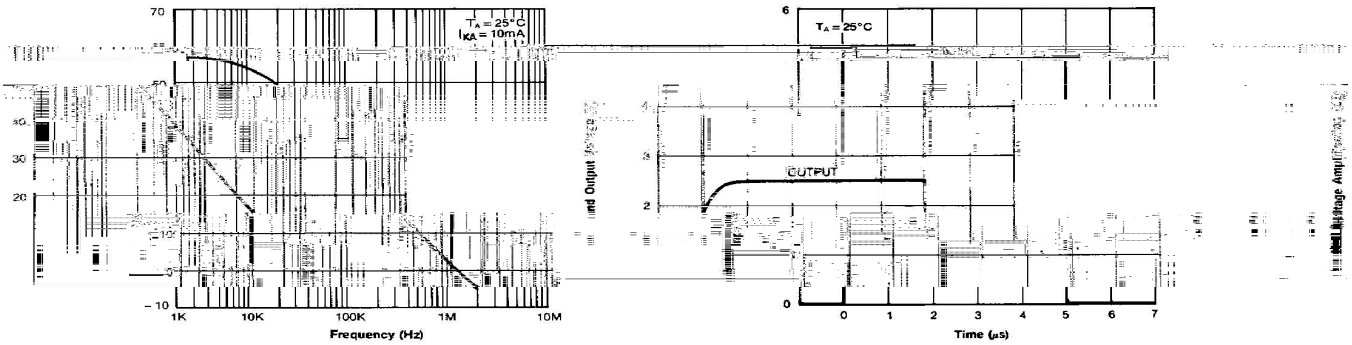
/ Electrical Characteristics(Ta=25)

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=10 R_2=open		1.0	4.0	A
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	A
Minimum Cathode Current for Regulation	$I_{K(min)}$	$V_{KA}=V_{REF}$		0.4	1	mA
Off-state cathode current	$I_{K(off)}$	V_{KA}=36V V_{REF}=0V		0.05	1.0	A
Dynamic impedance	$\|Z_{KA}\|$	$V_{KA}=V_{REF}$ I_K=1mA to 100mA f 1.0KHz		0.15	0.5	

/ Electrical Characteristic Curve

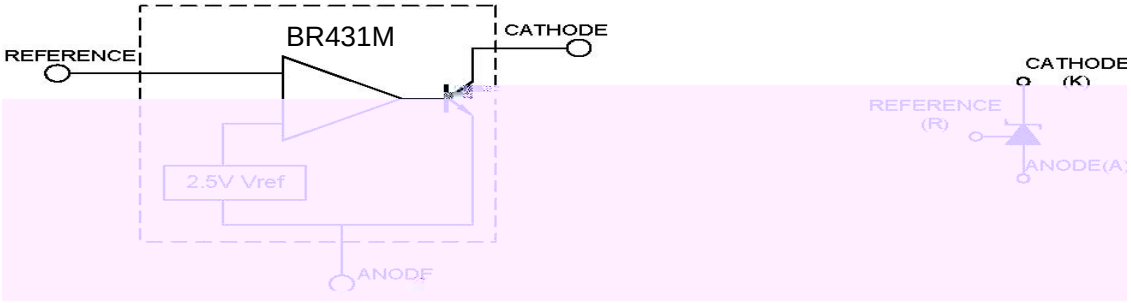




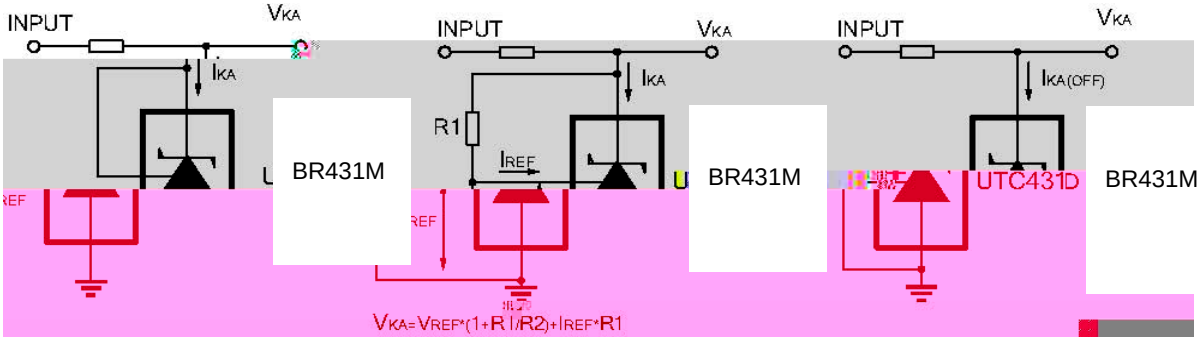


& Test circuits&Typical Application

BLOCK DIAGRAM:



TEST CIRCUITS:

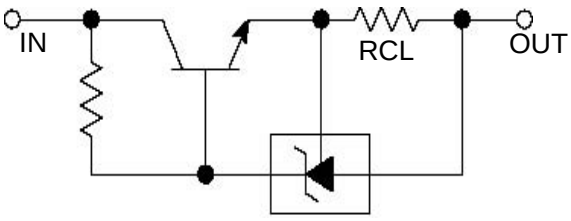


Test Circuit For VKA=VREF Test Circuit for VKA VREF Test Circuit For IKA(OFF)

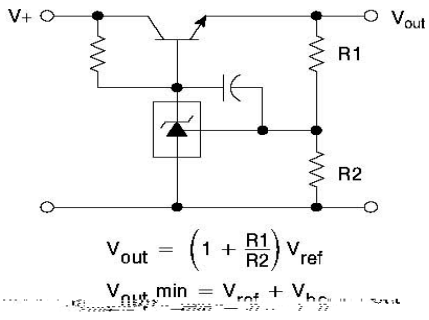
TYPICAL APPLICATION:

Shutdown Regulator Higher-current Shunt

$Io=V_{REF}/RCL+I_{KA}$



Constant Current Source BR431M

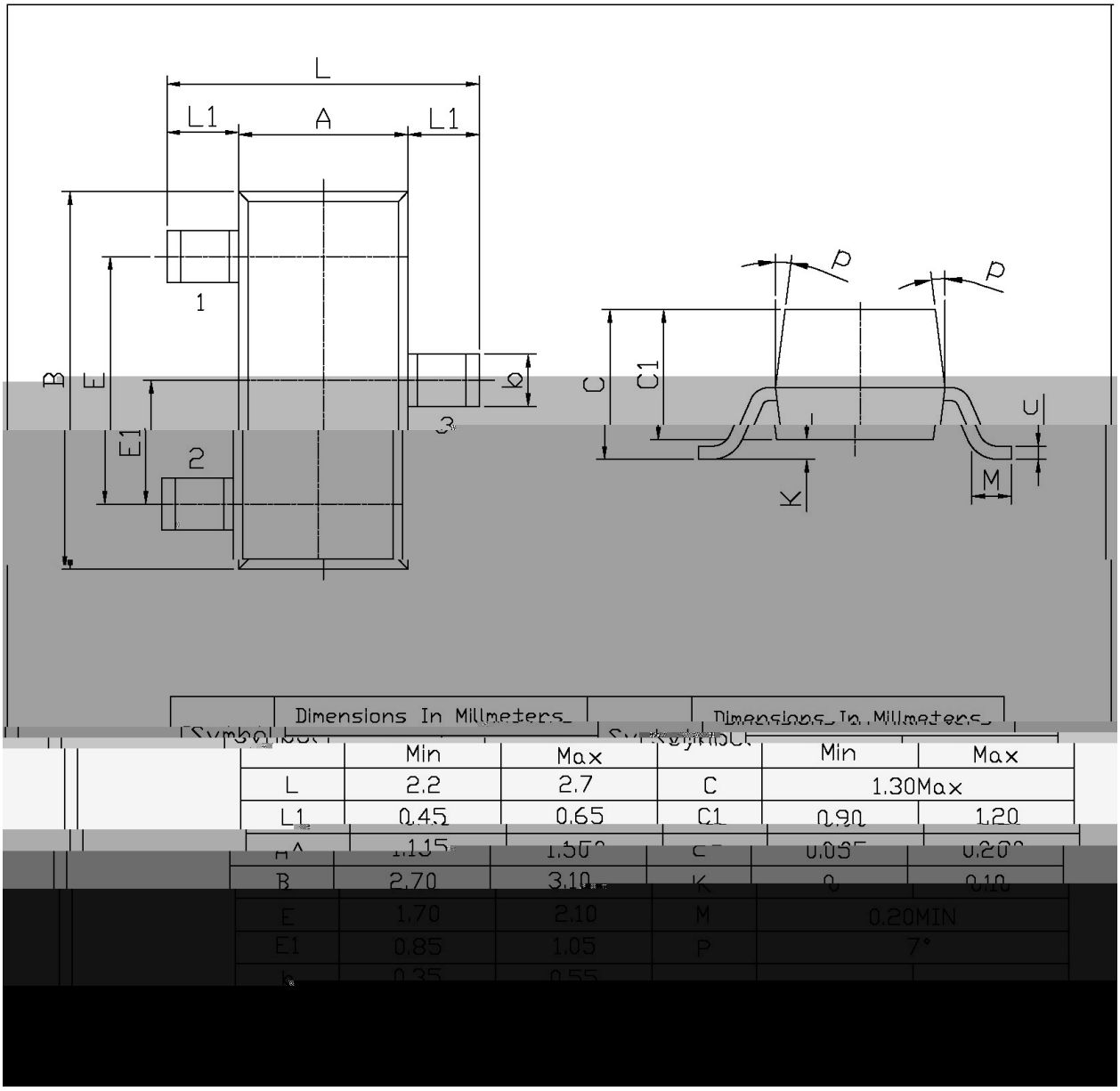


Series Pass Regulator

/ Package Dimensions

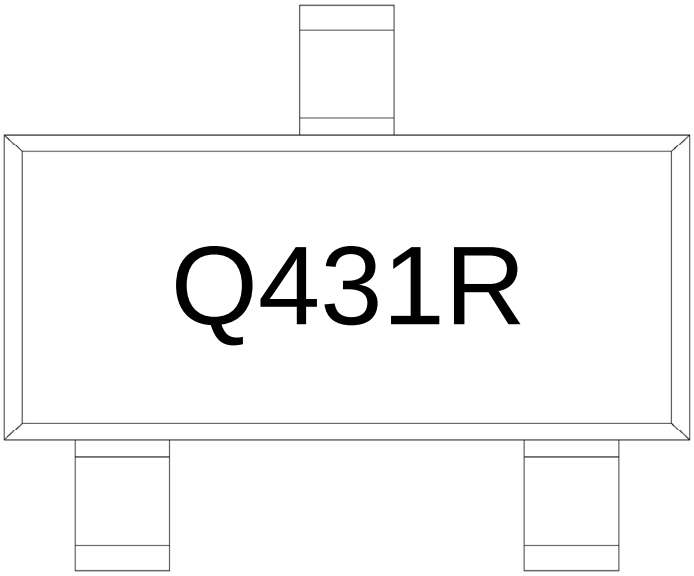
SOT-23

单位：mm



Dimensions In Millmeters			Dimensions In Millmeters		
Symbol	Min	Max	Symbol	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	J	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
e	0.35	0.55			

/ Marking Instructions



Q

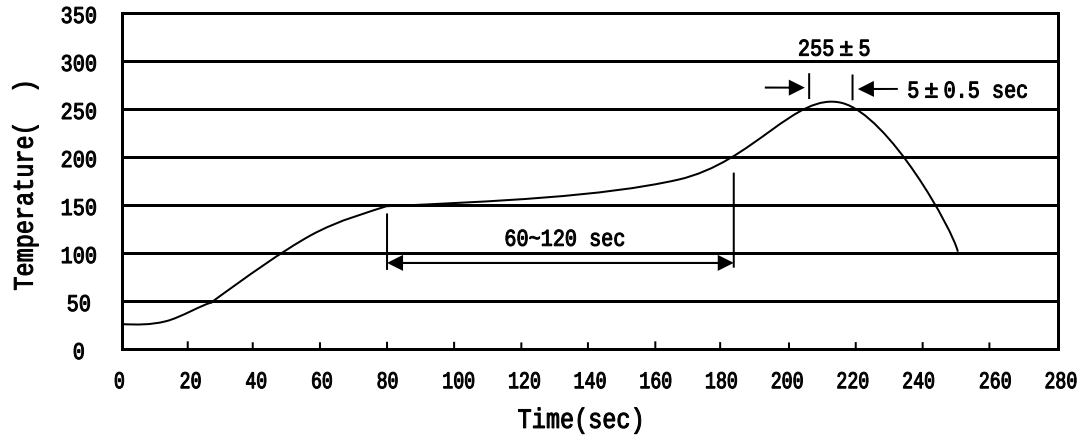
Note:

Q: Automobile halogen-free product Code

431: Product Type

R: It represents the opposite arrangement of R and K to BR431M

( ) /



Note:

1	150 200 60 120sec;	1.Preheating:150~200 , Time:60~120sec.
2	255 5 5 0.5sec;	2.Peak Temp.:255 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 mm³)
	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