

/ Revised record

E	2017-4				
F	2020-5	1			
A	2022-8-18	all	Q AEC-Q100 , BR Q 245±5°C 5± 0.5sec 255± 5°C 5±0.5sec	.	

/ Descriptions

SOT-23

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

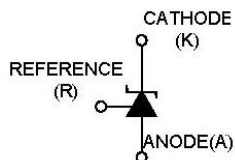
/ Features

2.500V; 0.4%,0.8%; 1.0mA 100mA; ;
 $V_O = V_{ref} \sim 37V$; (:400 μA); (:0.15 Ω)
 AEC-Q100
 Precise reference voltage to 2.500V;guaranteed 0.4%,0.8% reference voltage Tolerance; sink current capability,1.0mA $\sim$ 100mA;quick turn-on; adjustable Output voltage, $V_O = V_{ref} \sim 37V$;low operational cathode current,400 μA typical; 0.15 Ω typical output impedance,Qualified to AEC-Q100 Standards for High Reliability, HF Product.

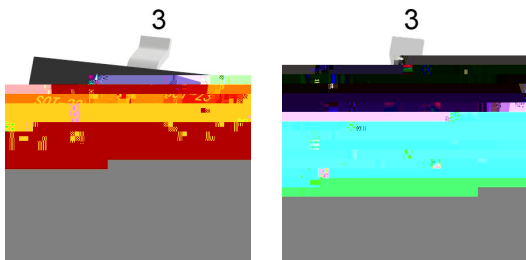
/ Applications

Unlinear regulators, adjustable power supply, switching power supply, Veet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN1 R PIN 2 K PIN 3 A

/ Marking

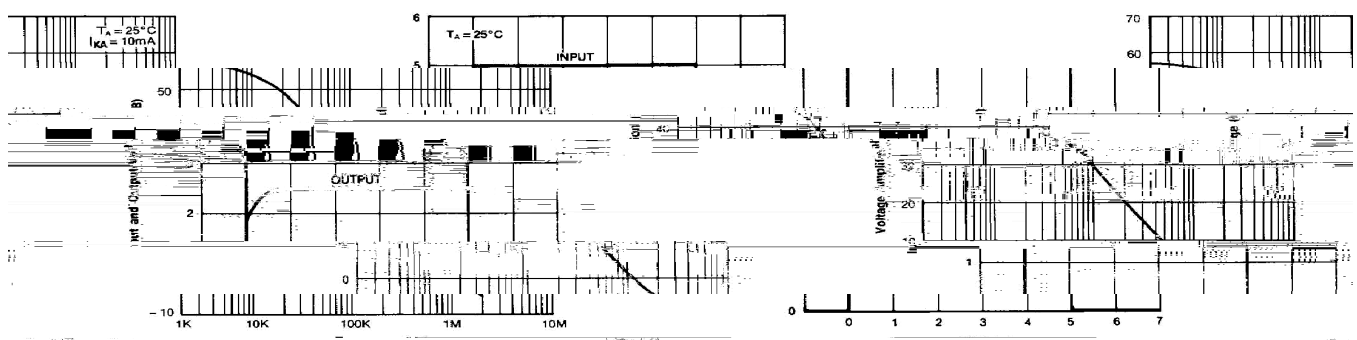
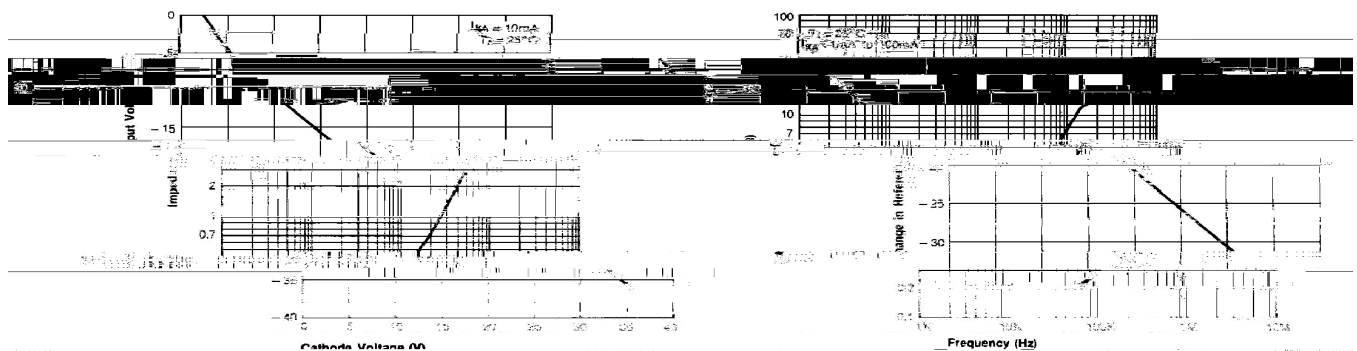
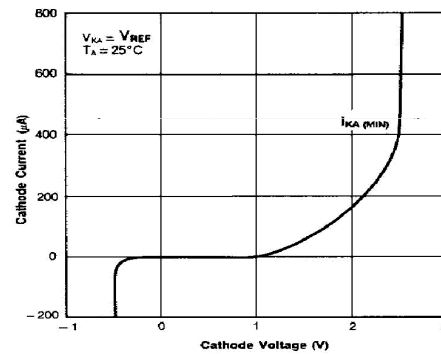
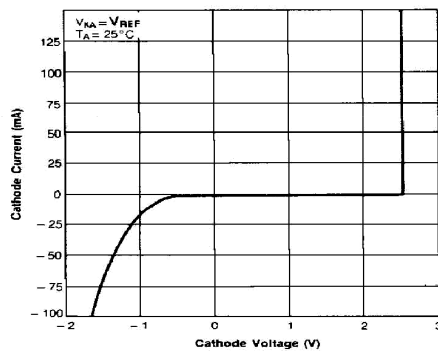
Varking	Q431
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Parameter	Symbol	Rating	Unit
Cathode to Anode Voltage	V_{KA}	37	V
Cathode Current Range, Continuous	I_K	-100~+100	mA
Reference Input Current Range, Continuous	I_{REF}	0.05~+10	mA
Power Dissipation	P_D	370	mW
Operating Ambient Temperature	T_{amb}	-40~125	°C
Junction Temperature	T_j	160	°C
Storage Temperature Range	T_{stg}	-65~150	°C

Parameter	Symbol	Typ	Vax	Unit
Reference Input voltage	V_{REF}	2.5	5.00	V

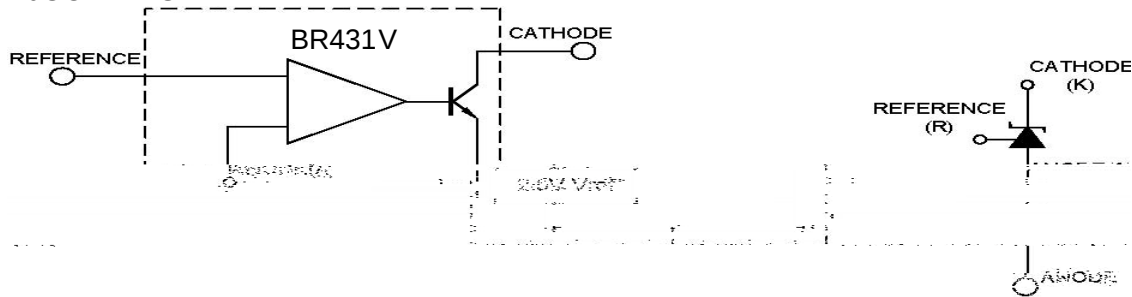


/ Electrical Characteristic Curve

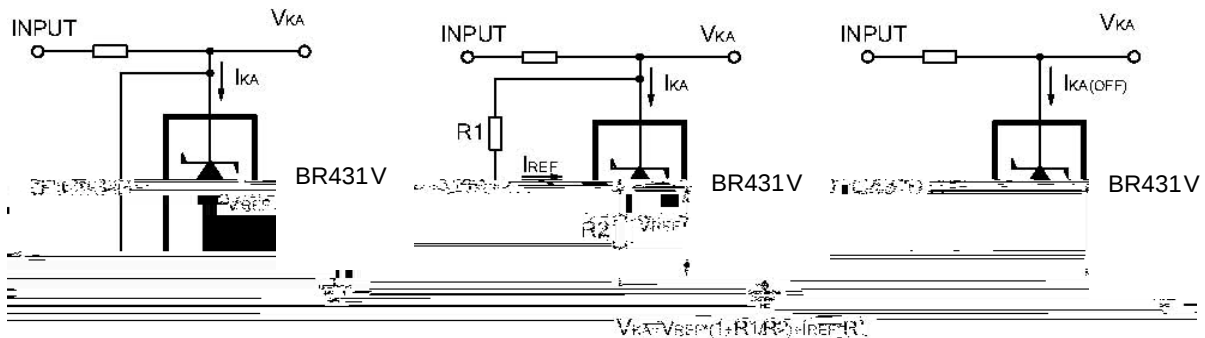


& Test circuits&Typical Application

BUOCK DIAGRAV:



TEST CIRCUITS:

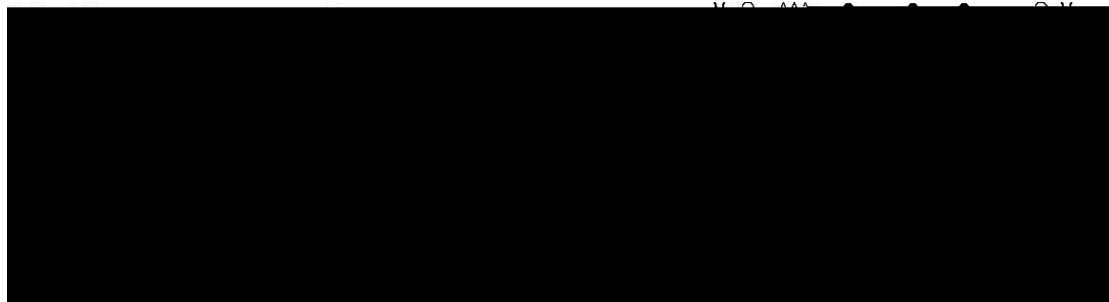


Test Circuit For $V_{KA}=V_{REF}$

Test Circuit for $V_{KA} \geq V_{REF}$

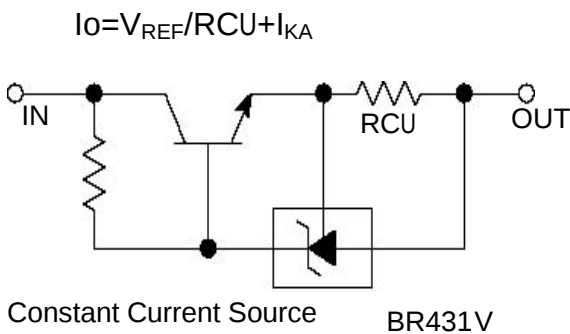
Test Circuit For $I_{KA} \text{ OFF}$

TYPICAU APPUICATION:



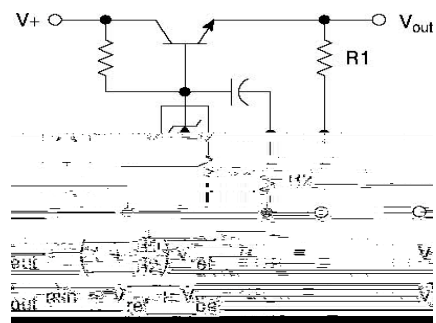
Shutdown Regulator

Higher-current Shunt



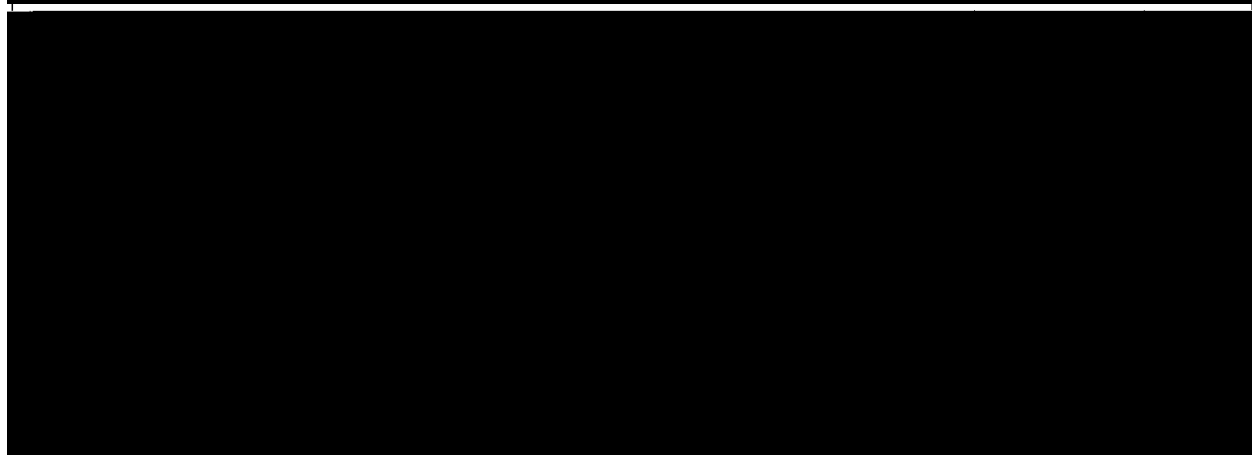
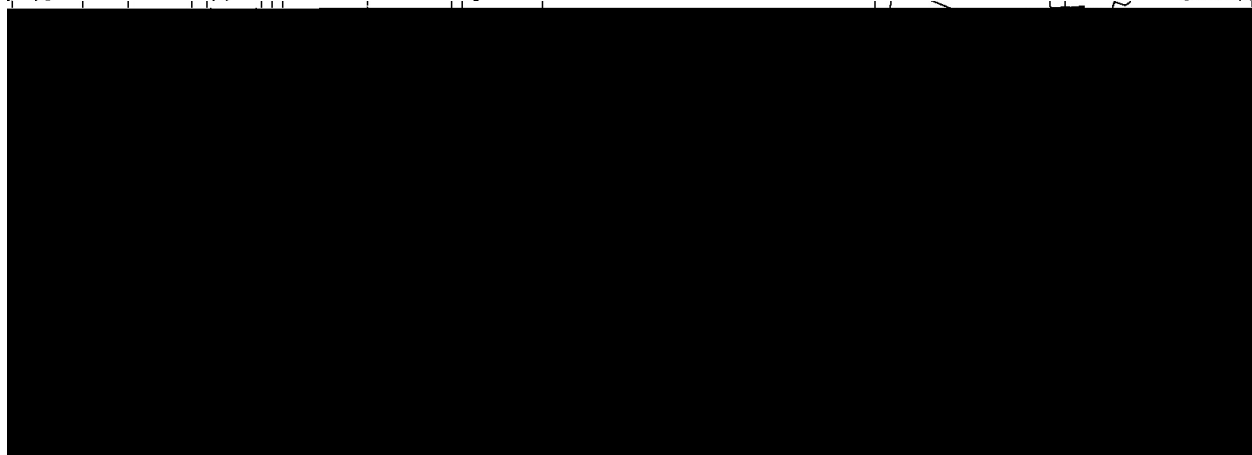
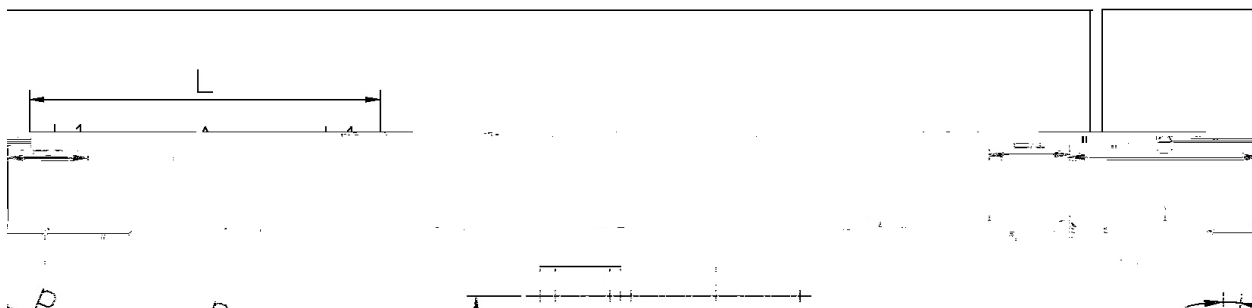
Constant Current Source

BR431V



Series Pass Regulator

/ Package Dimensions



/ Marking Instructions



Q

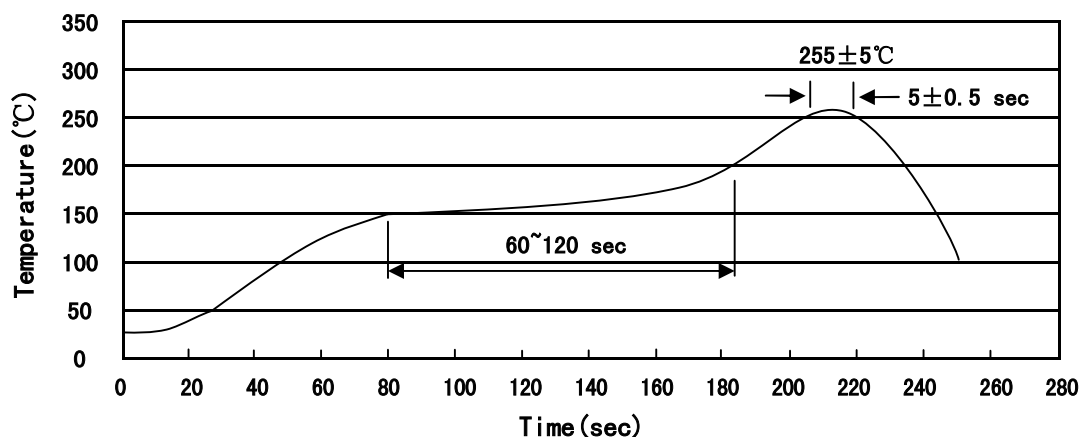
431

Note:

Q: Automobile halogen-free product Code

431: Product Type

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



Note:

- 150 200 60 120sec; 1.Preheating:150~200°C, Time:60~120sec.
- 255±5 5±0.5sec; 2.Peak Temp.:255±5°C, Duration:5±0.5sec.
- 2 10°C/sec. 3. Cooling Speed: 2~10°C/sec.

/ **Resistance to Soldering Heat Test Conditions**

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

/ **Packaging SPEC.**

/ REEU

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 aunit: 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

/ **Notices**