

/ Descriptions

SOT-23

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

/ Features

1.240V

0.5% 1%

100uA 100mA

$$V_O = V_{ref} \quad 20V$$

(:55μA)

(:0.05Ω)

AEC-Q100

Precise reference voltage to 1.240V, guaranteed 0.5%, 1%, reference voltage Tolerance, sink current capability, 100uA 100mA, quick turn-on, adjustable output voltage, $V_O = V_{ref}$ 20V, low operational cathode current, 55uA typical, 0.05Ω typical output impedance, Qualified to AEC-Q100 Standards for High Reliability, HF Product.

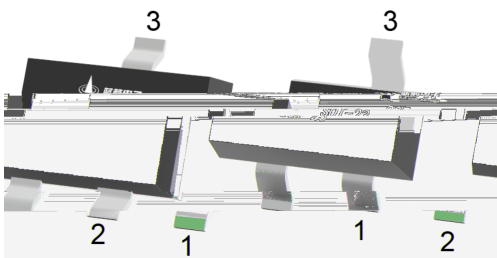
/ Applications

Linear regulators, adjustable power supply, switching power supply, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN1 R

PIN 2 K

PIN 3 A

/ Marking

Marking	Q432
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Parameter	Symbol	Rating	Unit
Cathode voltage	V_{KA}	20	V
Continuous cathode current range	I_K	-100 +100	mA
Reference current range	I_{REF}	10	mA
Power Dissipation	P_D	370	mW

/ Electrical Characteristic Curve

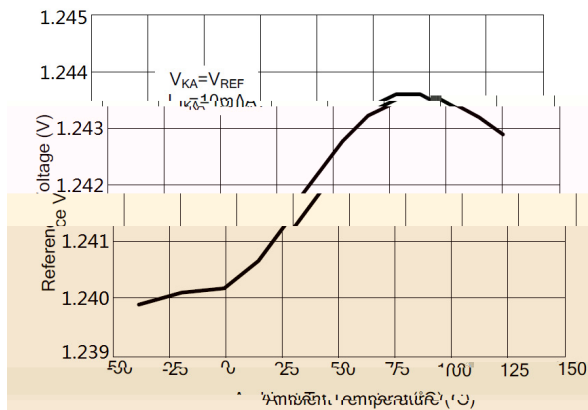


Figure 1. Reference Voltage VS. Ambient Temperature

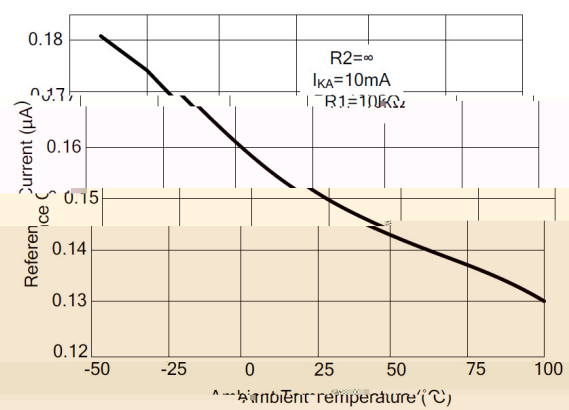


Figure 2 . Reference Current VS. Ambient Temperature

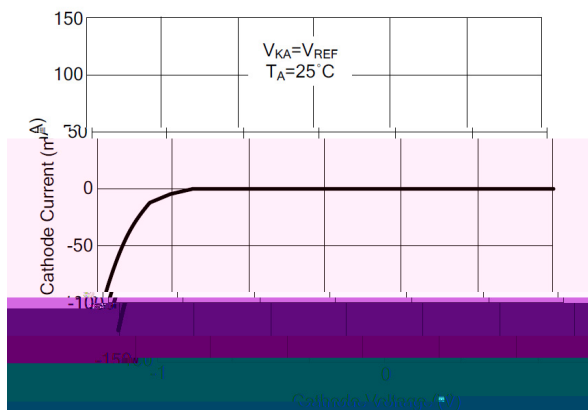


Figure 3: Cathode Current VS. Cathode Voltage

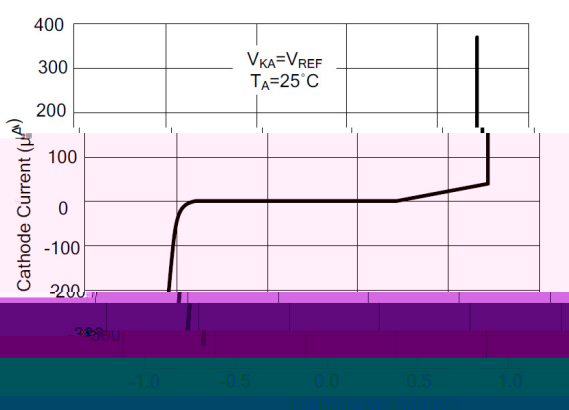
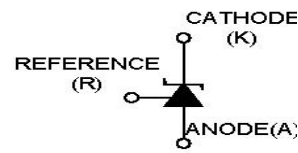
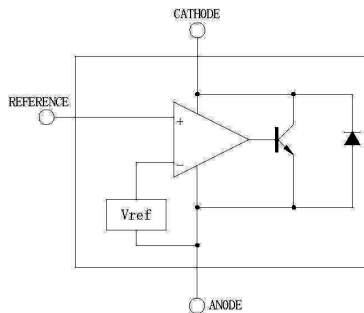


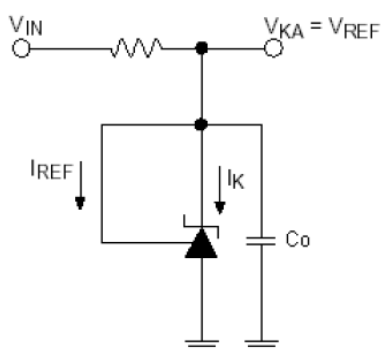
Figure 4: Cathode Current VS. Cathode Voltage

& Test circuits&Typical Application

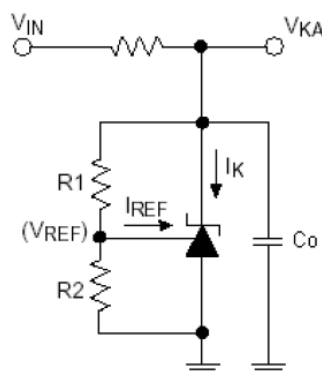
BLOCK DIAGRAM:



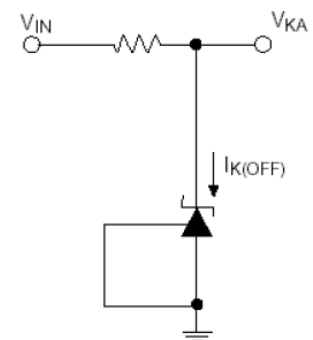
TEST CIRCUITS:



Test Circuit For $V_{KA}=V_{REF}$
 $C_o=0.1\mu F$



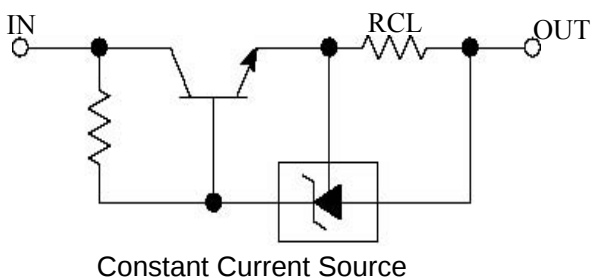
Test Circuit for $V_{KA}\geq V_{REF}$
 $C_o=0.1\mu F$



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

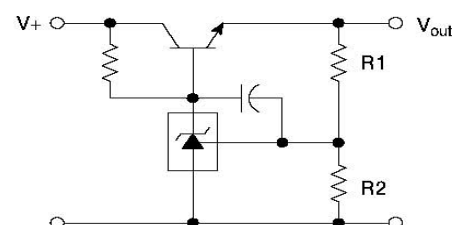
TYPICAL APPLICATIONS:

Shutdown Regulator



Constant Current Source

Higher-current Shunt



$$V_{out} = \left(1 + \frac{R_1}{R_2}\right) V_{ref}$$

$$V_{out\ min} = V_{ref} + V_{be}$$

Series Pass Regulator

/ Package Dimensions

SOT-23

单位: mm



Symbol	Dimensions in Inches		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	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E1	0.85	1.05	M	0.30MIN	
b	0.35	0.55	P	7°	

/ Marking Instructions



Q

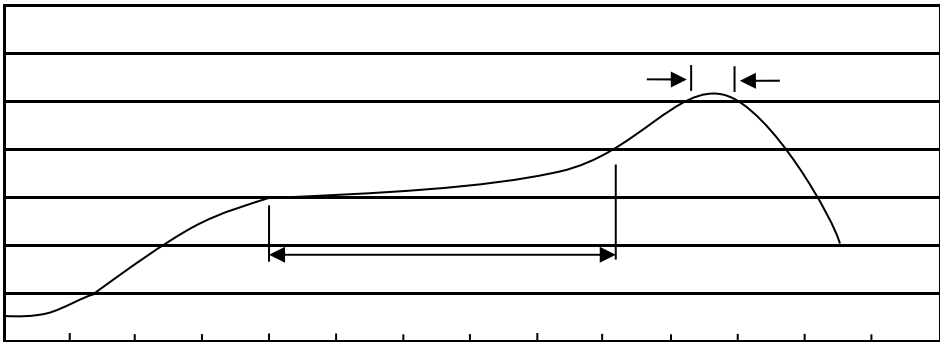
432

Note:

Q: Automobile halogen-free product Code

432: Product Type

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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 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