

5 é / Descriptions

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

□ ª / Features

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'+) 7 ö Õ ä U´ Å } L k —) í D }ož
Precise reference voltage to 2.495V;guaranteed 0.5%,1% or 2% reference voltage Tolerance; sink
current capability,1.0mA 100mA;quick turn-on; adjustable Output voltage, V_O=V_{ref} 36V;low
operational cathode current,50 A typical; 0.15 typical output impedance, Qualified to AEC-Q100
Standards for High Reliability, HF Product.

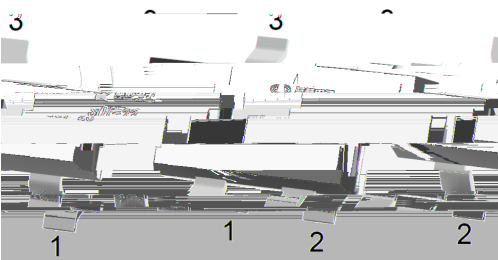
÷ / Applications

9 ¿ Å² ... ~ k U² - >y•¼ >k á V ñ• } Lož
Linear regulators, adjustable power supply, switching power supply, Meet the stringent requirements
of automotive applications.

Ã w]Ô· / Equivalent Circuit



•Û - æ / Pinning



PIN1 y R PIN 2 y K PIN 3 y A

, M V / Marking

Marking	Q431
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@ f Parameter	... Z Symbol	f > Rating	% y 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	150	
Storage Temperature Range	T _{stg}	-65 150	

@ f Parameter	... Z Symbol	y i Ú ^ Test Conditions	Â 4 > Min	Á ° > Typ	Â Ý > Max	% y Unit
Reference Input Voltage	V _{REF}	V _{KA} =V _{REF} I _K =10mA(A=0.5%)	2.483	2.495	2.507	V
		V _{KA} =V _{REF} I _K =10mA(B=1%)	2.470	2.495	2.520	V
		V _{KA} =V _{REF} I _K =10mA(2%)	2.445	2.495	2.545	V
Deviation of Reference Input Voltage Over-Temperature Ratio of Change in Reference Input Voltage	, V _{REF} / , T	V _{KA} =V _{REF} I _K =10mA T _A =-40 125		4.5	25	mV

Electrical Characteristic Curve

Fig 1 Cathode Current
Vs Cathode Voltage

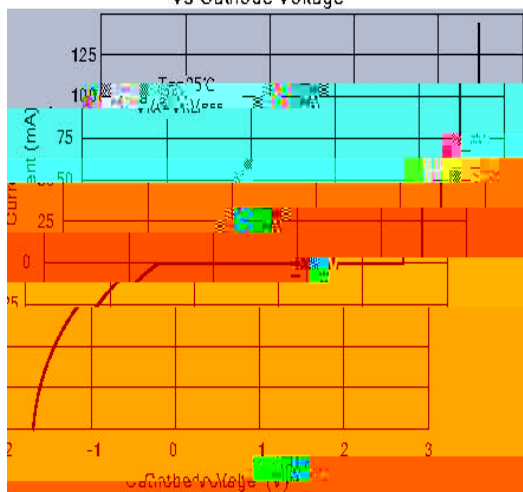


Fig 2 Cathode Current
Vs Cathode Voltage

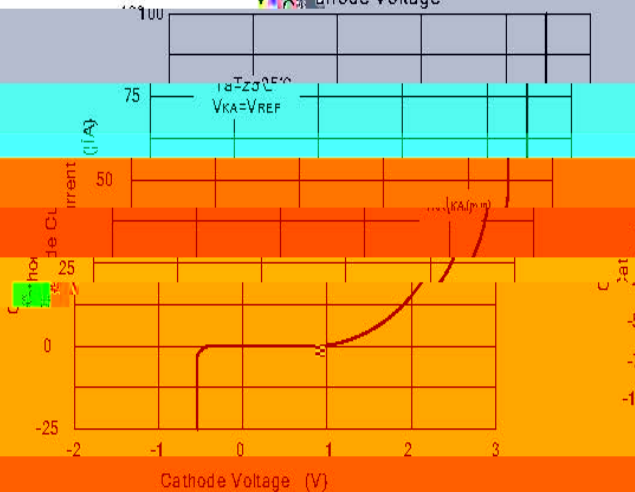


Fig 3 Change in Reference Input Voltage
Vs Cathode Voltage

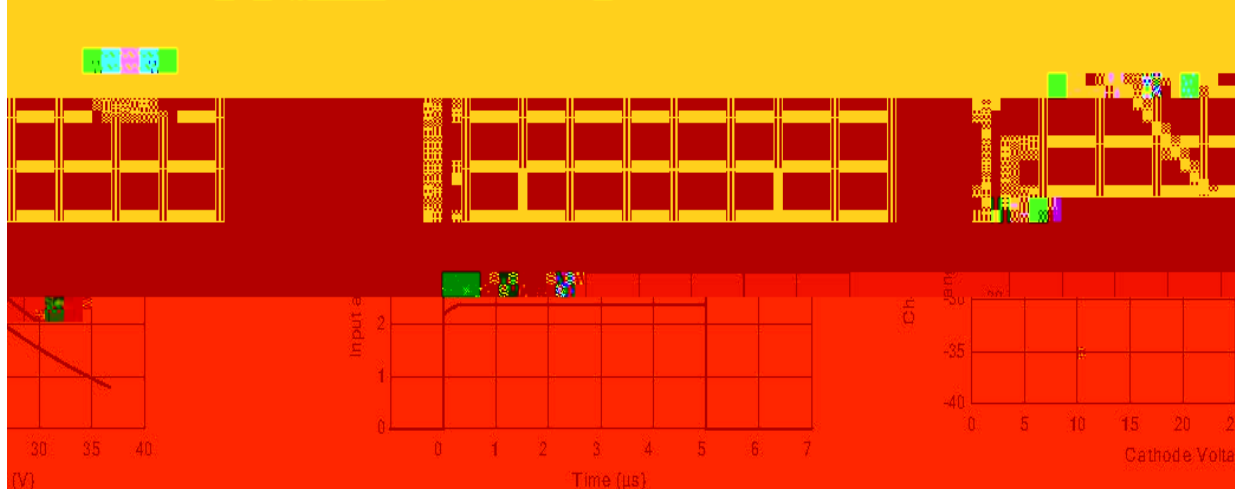


Fig 6 Small Signal Voltage
Amplification Vs Frequency

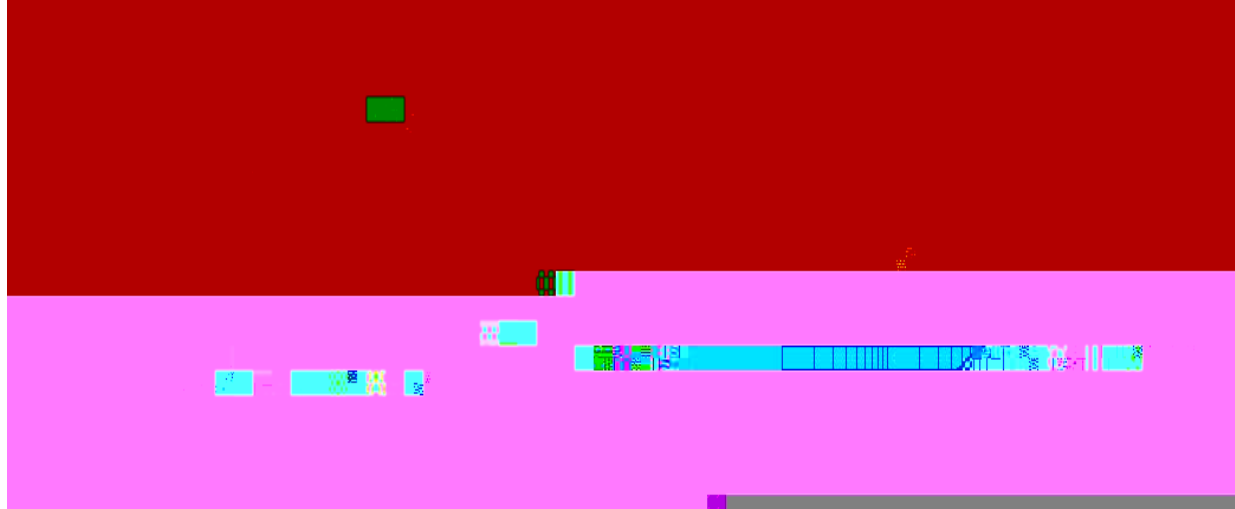
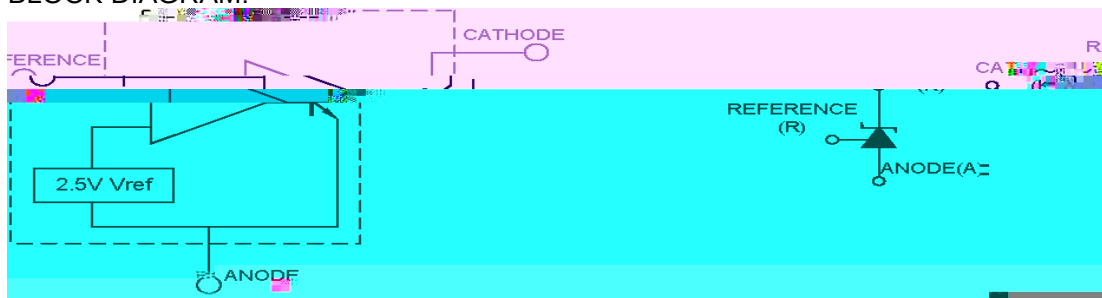


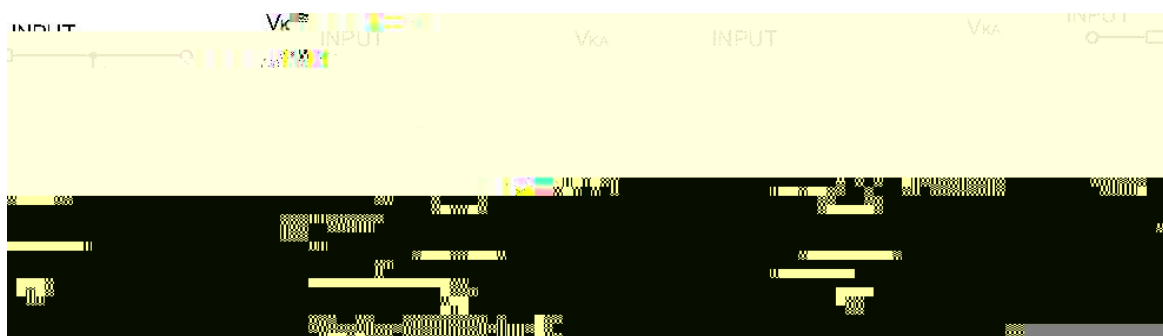
Fig 5 Dynamic Impedance
Vs Frequency

Test circuits&Typical Application

BLOCK DIAGRAM:



TEST CIRCUITS:

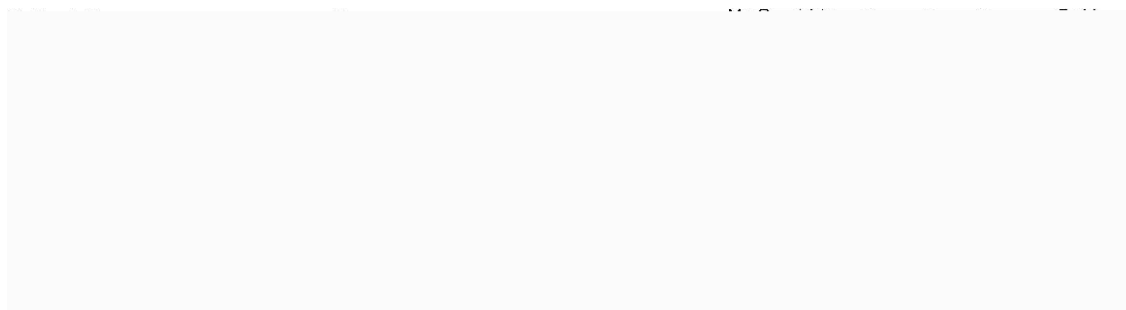


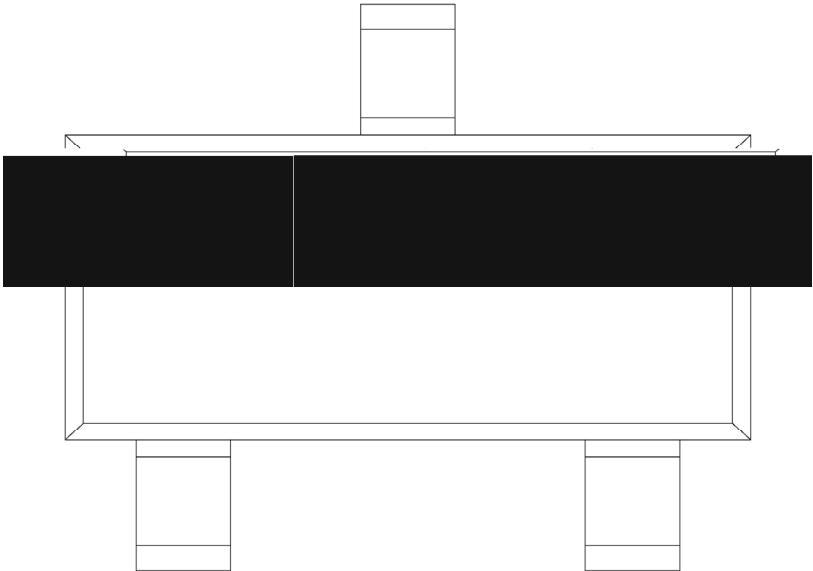
Test Circuit For VKA=VREF

Test Circuit for VKA • VREF

Test Circuit For IKA(OFF)

TYPICAL APPLICATION:





šWD t...•Žč (x/) / :KSVKXGZ[XK 6XULORK LUX /8 8KLRU] 9URJKXOTM 6

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Note:

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|--|---|
| 1o• Ä ½ “† 150 ½200 - k ž • 60 ½120sec; | 1.Preheating:150~200 - , Time:60~120sec. |
| 2o• Q > “† 255 r5 - k ž • 4 Ò 5 r0.5sec; | 2.Peak Temp.:255 r5 - , Duration:5 r0.5sec. |
| 3o•D N ò i Ò 0 ,† 2 ½10 - /sec. | 3. Cooling Speed: 2~10 - /sec. |

ÂD /Cã p ¯ »] / Resistance to Soldering Heat Test Conditions

“†y 260 r5 - ž •y 10 r1 sec. Temp.:260±5 Time:10±1 sec

G P á / Packaging SPEC.

2 & x / REEL

Package Type 7>û ~ E	Units ;>û !H	Dimension ;>û p . (unit Åmm³)
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