LR432AALT1G LINEAR INTEGRATED CIRCUIT

PROGRAMMABLE PRECISION REFERENCE

LR432AALT1G



SOT-23

SOT-23 1: Ref; 2: Cathode; 3: Anode

Description

The LRC LR432AALT1G is a three-terminal adjustable regulator with a guaranteed thermal stability over applicable temperature ranges.The output voltage may be set to any value between V_{REF} (approximately 1.24V) and 18V with two external resistors. It provides very wide applications,including shunt regulator,series regulator,switching regulator,voltage reference and others.

Features:

- Precise Reference Voltage to 1.24V
- Guaranteed 0.5% Reference Voltage Tolerance
- Sink Current Capability, 80μA to100mA
- Quick Turn-on
- Adjustable Output Voltage, V_o=V_{REF} to 18V
- 0.2 Ω Typical Output Impedance
- Marking:EA

We declare that the material of product is ROHS compliant and does not contain any Br, Cl, and Sb203

Ordering Information

Device	Marking	Shipping
LR432AALT1G	EA	3000/Tape & Reel
LR432AALT3G	EA	10000/Tape & Reel

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Absolute Maximum Ratings

Symbol	Parameter	Rating	Unit
V_{KA}	Cathode voltage	18	V
I_K	Continuous cathode current range	100	mA
I_{REF}	Reference current range	3	mA
Tj	Operating Junction Temperature Range	150	℃
T_{opr}	Operating Ambient Temperature	- 40 to 105	℃

Electrical Characteristics T_A= 25°C (unless otherwise noted)

Symbol	Parameter	Test Conditions	LR432AALT1G			Unit
			Min	Typ	Max	
V_{REF}	Reference voltage	$V_{KA}=V_{REF}$, I_K=10mA (Fig. 1) T_A =25°C	1.233	1.240	1.246	V
V_{DEV}	V_{REF} Temp Deviation	T_A=full range(see Note1) $V_{KA}=V_{REF}$, I_K=10mA(Fig. 1)		10	25	mV
$\Delta V_{REF}/\Delta V_{KA}$	Ratio of Change in V_{REF} to Change in Cathode Voltage	!$_K$=10mA, V_{KA}=18V to V_{REF} (Fig. 2)		-1	-2.7	mV / V
I_{REF}	Reference Input Current	I_K=10mA, R_1 =10kΩ R_2=∞ (Fig.2)		0.25	0.5	μA
$I_{REF(DEV)}$	I_{REF} Temp Deviation	T_K=full range (see Note 1), R_1 =10kΩ, R_2=∞, I_K=10mA (Fig. 2)		0.05	0.3	μA
Ik(off)	Off-state cathode current	V_{REF}=0 V,(Fig.3) V_k=18V		0.04	0.5	μA
Zka	Dynamic Output Impedance	$V_{ka}=V_{ref}$, I_k=1mA to 100mA F ≤1kHz (Fig. 1)		0.2	0.4	Ω
$I_{K(MIN)}$	Minimum Operating Current	$V_{KA}=V_{REF}$(Fig. 1)		60	80	μA

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TEST CIRCUITS

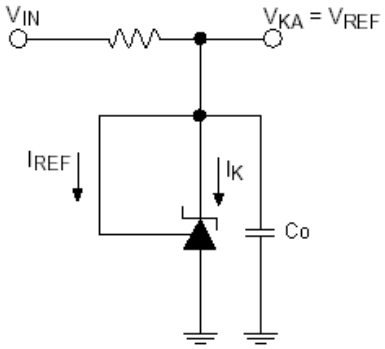


Fig.1 Test Circuit for Vka=Vref, Vo=Vka=Vref, Co=0.1μF

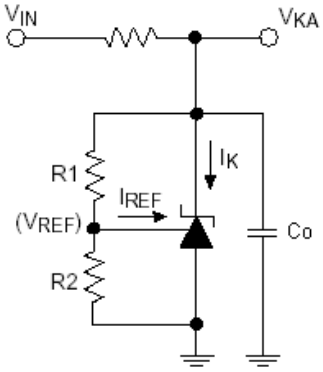


Fig.2 Test Circuit for Vka>Vref, Vo=Vka=Vref·(1+R1/R2)+Iref·R1, Co=0.1μF

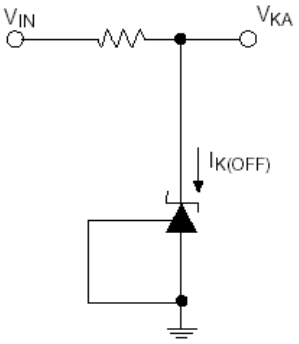
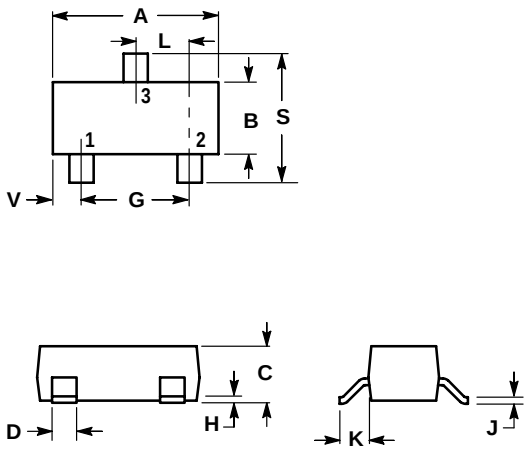


Fig.3 Test Circuit for Ik(off)

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NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

