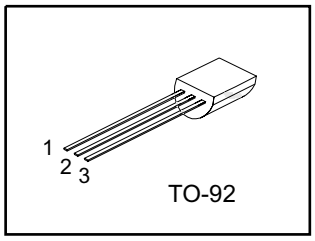
Low Voltage Adjustable Precision Shunt Regulator

LR432xH

Features:

- Precise Reference Voltage to 1.24V
- Guaranteed 1% Reference Voltage Tolerance
- Sink Current Capability, 80μA to100mA
- Quick Turn-on
- Adjustable Output Voltage, V_o=V_{REF} to 12V
- 0.2 Ω Typical Output Impedance
- ESD: 4000V HBM



TO-92 1: Ref ; 2: Anode; 3: Cathode

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

Absolute Maximum Ratings

Symbol	Parameter	Rating	Unit
V_{KA}	Cathode voltage	12	V
I_K	Continuous cathode current range	100	mA
I_{REF}	Reference current range	3	mA
Tj	Operating Junction Temperature Range	- 40 to 150	°C

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

Symbol	Parameter	Test Conditions	LR432AH			Unit
			Min	Typ	Max	
V_{RFF}	Reference voltage	V_{KA}=V_{REF}, I_K=10mA (Fig. 1) T_A =25°C	1.228	1.240	1.252	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}=12V 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)		0.5	1	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=12V		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
IK(MIN)	Minimum Operating Current	V_{KA}=V_{REF}(Fig. 1)		60	80	μA

Notes: 1. Full temperature range is -40°C to 105°C for LR432AH

Test Figures

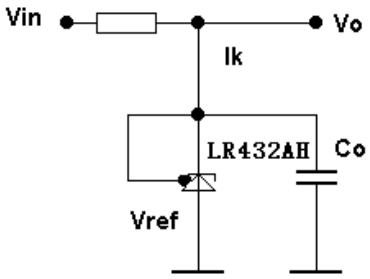


Figure 1. Test Circuit for Vka=Vref,
Vo=Vka=Vref Co=1uF*

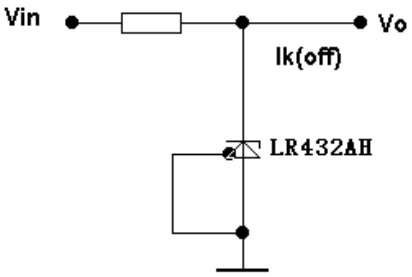


Figure 3. Test Circuit for Ik(off)

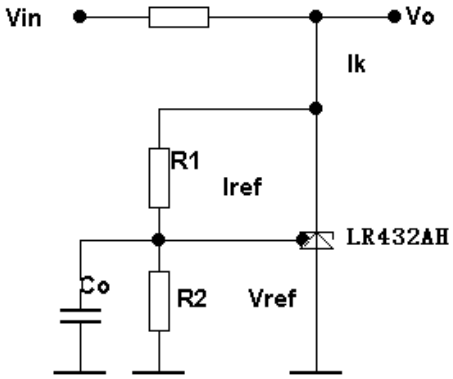
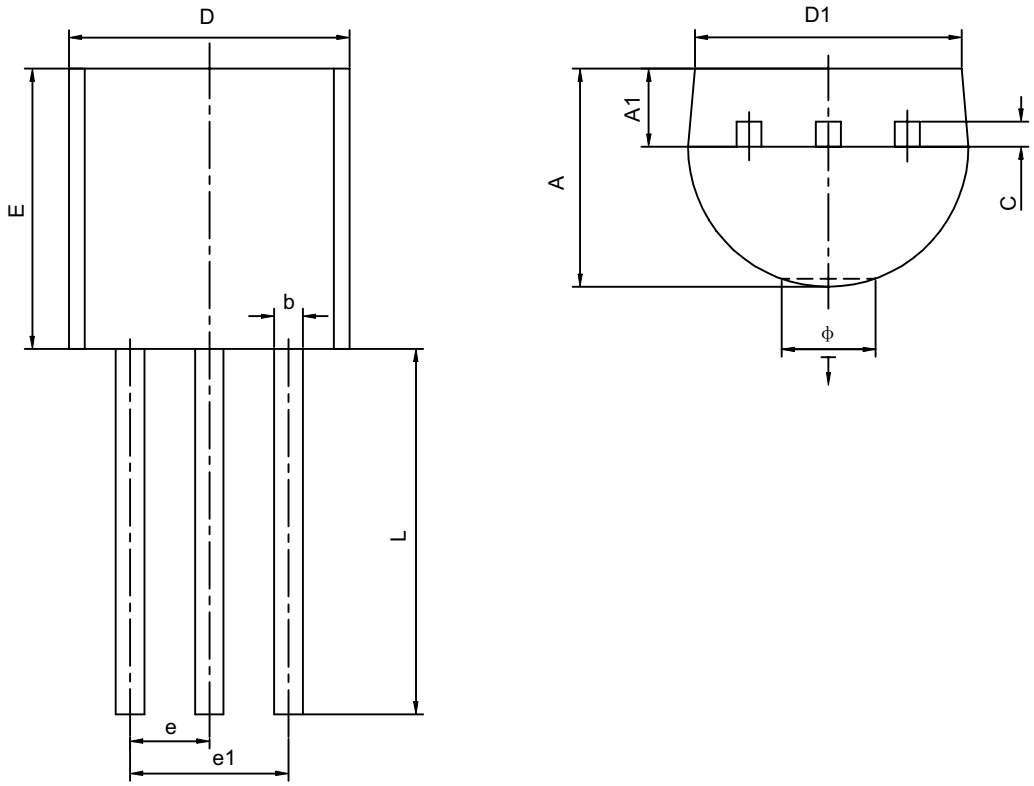


Figure 2. Test Circuit for Vka>Vref,
Vo=Vka=Vref * (1+R1/R2)+Iref1*R1
Co=1uF*

LR432AH

TO-92 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.400	4.700	0.173	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270TYP		0.050TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
ϕ		1.600		0.063
T	0.000	0.380	0.000	0.015