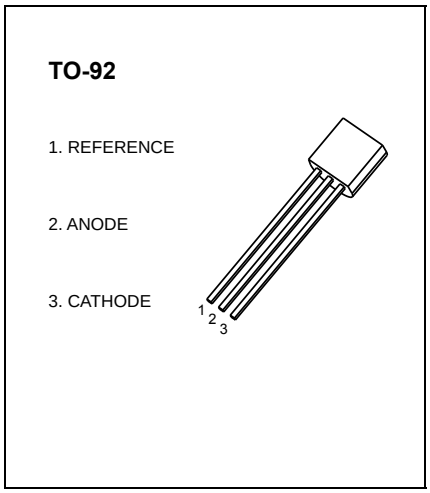
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-92 Encapsulate Adjustable Reference Source

CJ432 Adjustable Accurate Reference Source

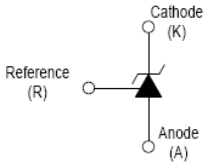


DEVICE DESCRIPSION

The CJ432 is a three-terminal Shunt Voltage Reference providing a highly accurance 1.24V. The CJ432 thermal stability and wide operating current, makes is sritable for all variety of applications that are looking for a low cost solution with high performance.

FEATURES

- Low dynamic output impedance
- The effective temperature compensation in the working range of full temperature
- Low output noise voltage
- Fast on -state response
- Sink current capability of 0.1mA to100mA



APPLICATION

- Shunt Regulator
- High-Current Shunt Regulator
- Precision Current Limiter

ABSOLUTE MAXIMUM RATINGS (Operating temperature rangeapplies unless otherwise specified)

Parameter	Symbol	Value	Unit
Cathode Voltage	V_{KA}	18	V
Cathode Current Range (continuous)	I_{KA}	100	mA
Reference Input Current Range	I_{ref}	6	μA
Power Dissipation	P_D	500	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	250	℃/W
Operating Temperature	T_{opr}	0~+70	℃
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-65~+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reference input voltage (Fig 1)	V_{ref}	$V_{KA}=V_{REF}$, I_{KA}=10mA	1.2214		1.2586	V
Deviation of reference voltage over full temperature range (Fig 1)	$\triangle V_{ref(DEV)}$	$V_{KA}=V_{REF}$, I_{KA}=10mA 0℃≤T_a≤70℃			16	mV
Ratio of change in reference input voltage to the change in cathode voltage (Fig 2)	$\triangle V_{ref}/\triangle V_{KA}$	I_{KA}=10mA, $\triangle V_{KA}$=1.25V~15V			2.4	mV/V
Deviation of reference input current over full temperature range (Fig 2)	$\triangle I_{ref}/\triangle T$	I_{KA}=10mA, R_1=10KΩ, R_2=∞, 0℃≤T_a≤70℃			0.6	μA
Minimum cathode current for regulation (Fig 1)	$I_{KA(min)}$	$V_{KA}=V_{REF}$			0.1	mA
Off-state cathode current (Fig 3)	I_{off}	V_{KA}=15V,V_{REF}=0			0.5	μA
Dynamic impedance	Z_{KA}	$V_{KA}=V_{REF}$, I_{KA}=0.1~20mA, f≤1.0kHz			0.5	Ω

CLASSIFICATION of V_{ref}

Rank	1%	1.5%
Range	1.2276~1.2524	1.2214~1.2586

Figure 1. Test Circuit for V_{KA} = V_{ref}

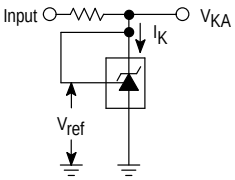


Figure 2. Test Circuit for V_{KA} > V_{ref}

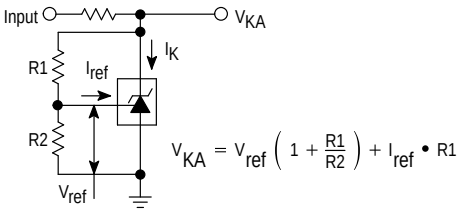
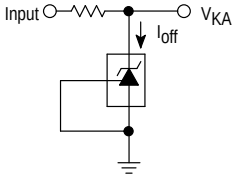
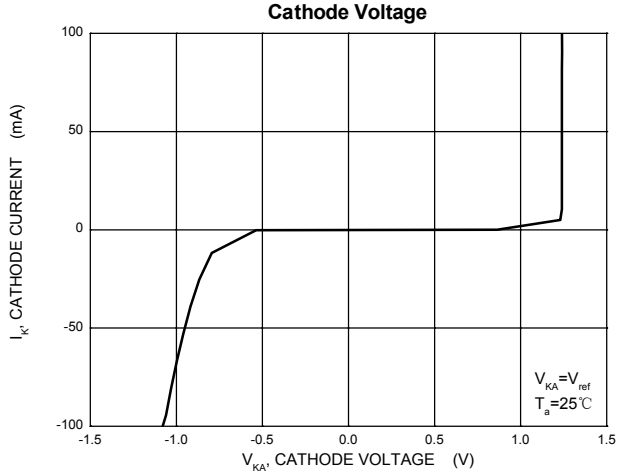


Figure 3. Test Circuit for I_{off}

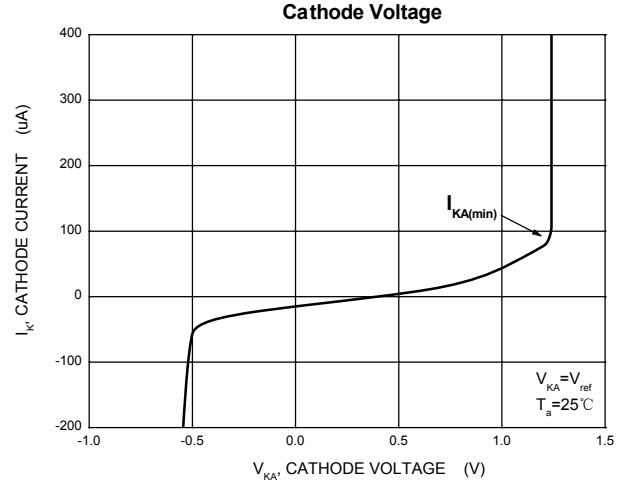


Typical Characteristics

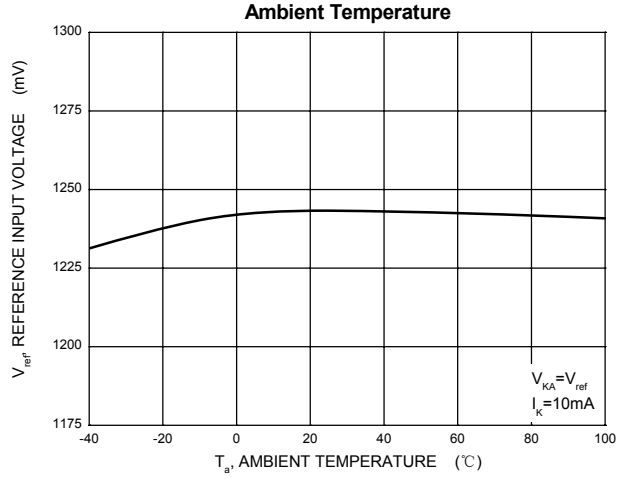
Cathode Current versus Cathode Voltage

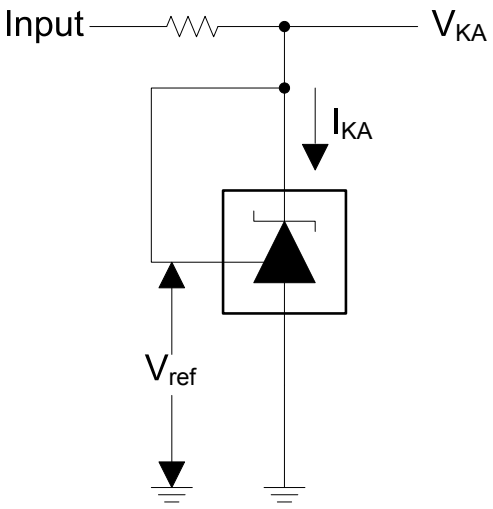


Cathode Current versus Cathode Voltage



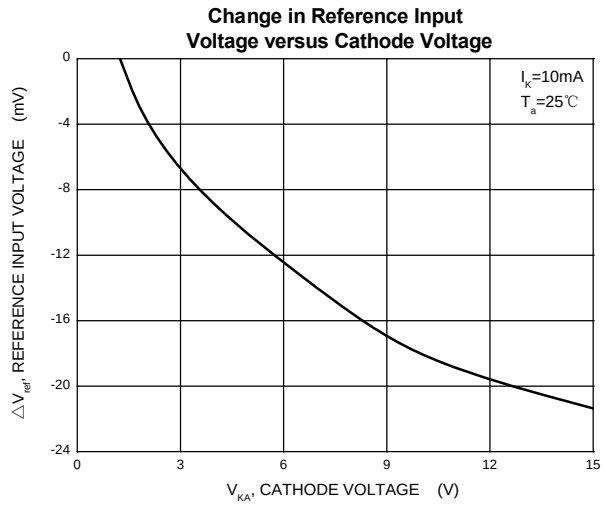
Reference Input Voltage versus Ambient Temperature

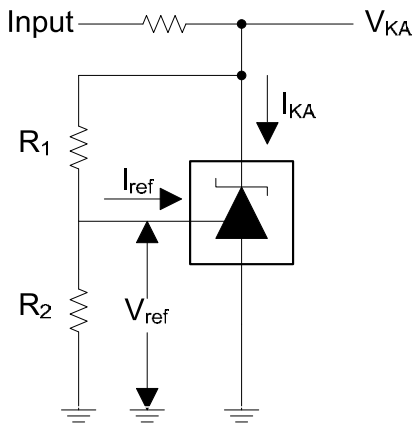




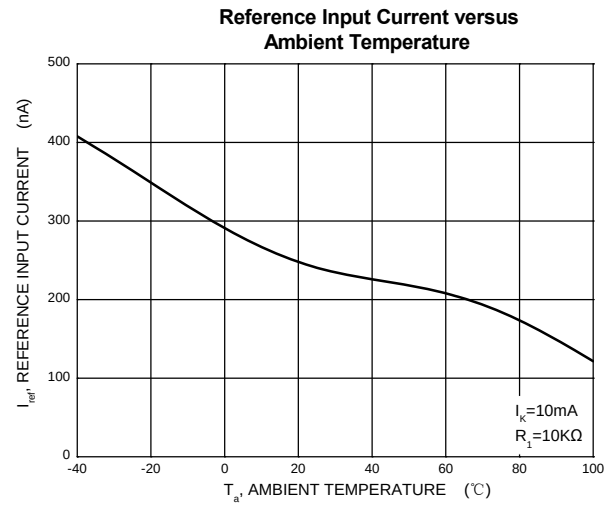
Test Circuit for $V_{KA}=V_{ref}$

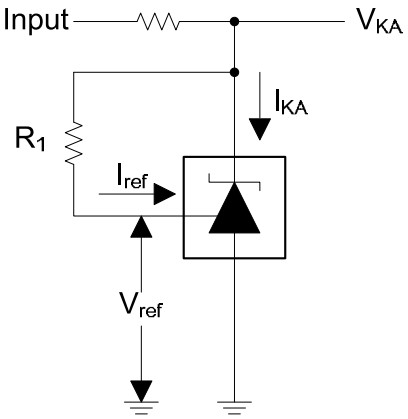
Typical Characteristics



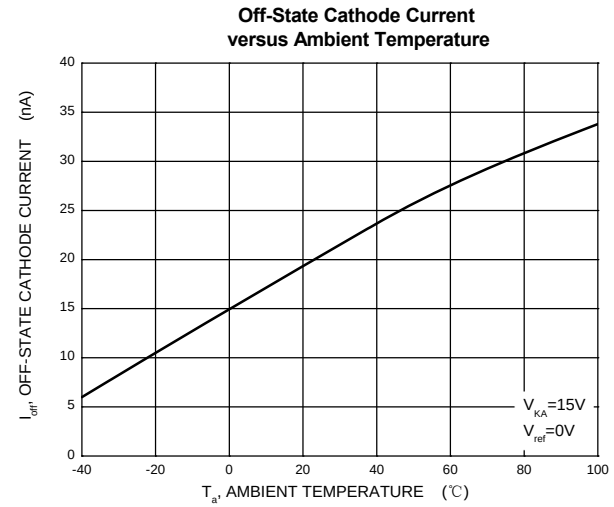


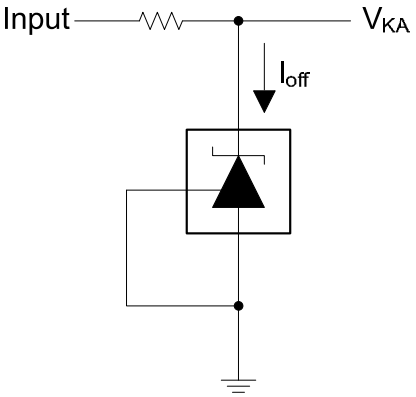
Test Circuit for $V_{KA}=V_{ref}(1+R1/R2)-R1*I_{ref}$





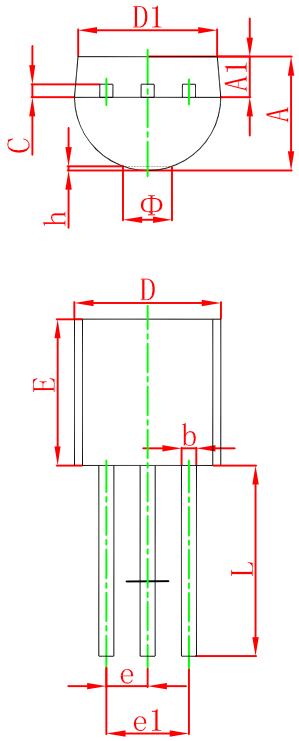
Test Circuit for I_{ref}





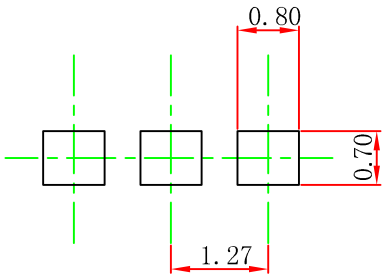
Test Circuit for I_{off}

TO-92 Package Outline Dimensions



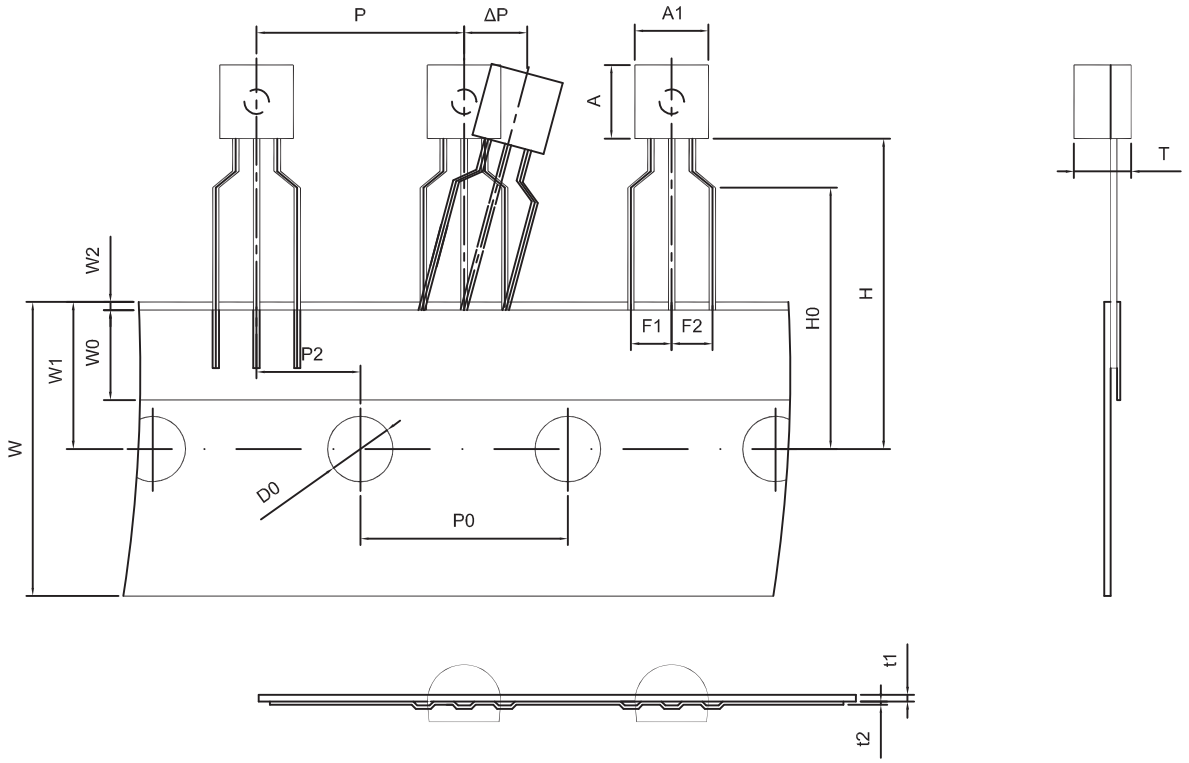
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100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

TO-92 Suggested Pad Layout

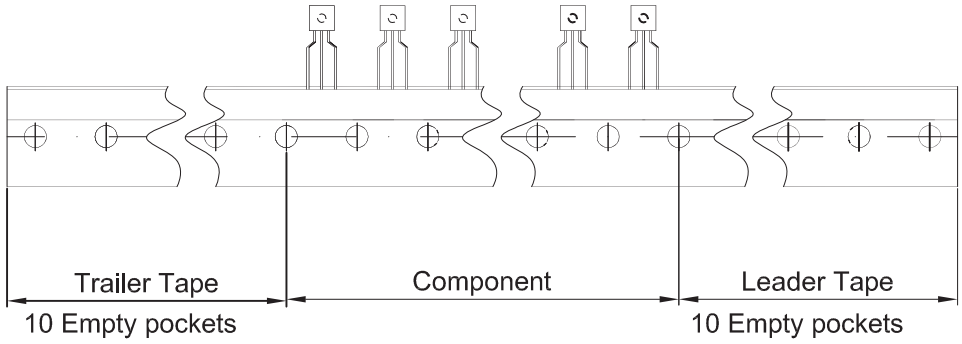


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250