Elektronische Bauelemente

TLT432B

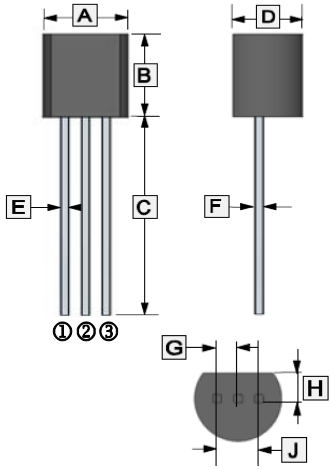
Adjustable Accurate Reference Source

RoHS Compliant Product
A suffix of "-C" specifies halogen or lead -free

DESCRIPTION

The TLT432B is a three-terminal Shunt Voltage Reference providing a highly accurance 1.24V. The TLT432B 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.

TO-92



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.30	4.70	F	0.36	0.51
B	4.30	4.70	G	1.27 TYP.	
C	14.10	14.50	H	1.10	1.40
D	3.30	3.70	J	2.44	2.64
E	0.38	0.55			

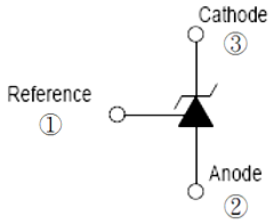
FEATURES

- Low dynamic output impedance
- Sink current capability of 0.1~100mA
- Low output noise voltage
- Fast on-state response
- The effective temperature compensation in the working range of full temperature

APPLICATIONS

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

MARKING



ORDER INFORMATION

Part Number	Type
TLT432B	Lead (Pb)-free
TLT432B-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Rating	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-Ambient	$R_{\theta JA}$	250	℃/W
Operating Junction Temperature Range	T_J	-40~125	℃
Storage Temperature Range	T_{STG}	-65~150	

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Reference Input Voltage (Fig.1)	V_{ref}	1.2276	-	1.2524	V	$V_{KA}=V_{ref}$, I_{KA}=10mA
Deviation of Reference Voltage Over Full Temperature [1] (Fig.1)	$\triangle V_{ref(DEV)}$	-	-	16	mV	$V_{KA}=V_{ref}$, I_{KA}=10mA 0℃ ≦T_A≦70℃
Ratio of Change in Reference Input Voltage to the Change in Cathode Voltage (Fig.2)	$\triangle V_{ref}/\triangle V_{KA}$	-	-	2.4	mV/V	I_{KA}=10mA, $\triangle V_{KA}$=1.25V~15V
Deviation of Reference Input Current Over Full Temperature Range (Fig.2)	$\triangle I_{ref}/\triangle T$	-	-	0.6	μA	I_{KA}=10mA, R_1=10kΩ, R_2=∞, 0℃ ≦T_A≦70℃
Minimum Cathode Current for Regulation (Fig.1)	$I_{KA(min)}$	-	-	0.1	mA	$V_{KA}=V_{ref}$
Off-State Cathode Current	$I_{KA(OFF)}$	-	-	0.5	μA	V_{KA}=15V, V_{ref}=0
Dynamic Impedance	Z_{KA}	-	-	0.5	Ω	$V_{KA}=V_{ref}$, I_{KA}=0.1~20mA, f≦1kHz

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

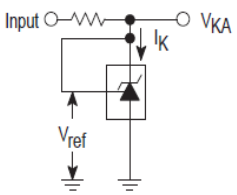


Figure 2. Test Circuit for $V_{KA}>V_{ref}$

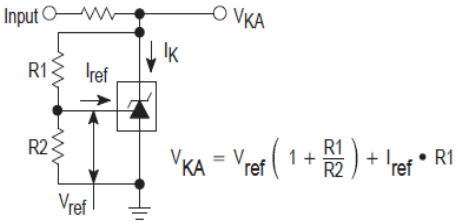
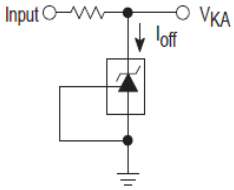


Figure 3. Test Circuit for I_{off}

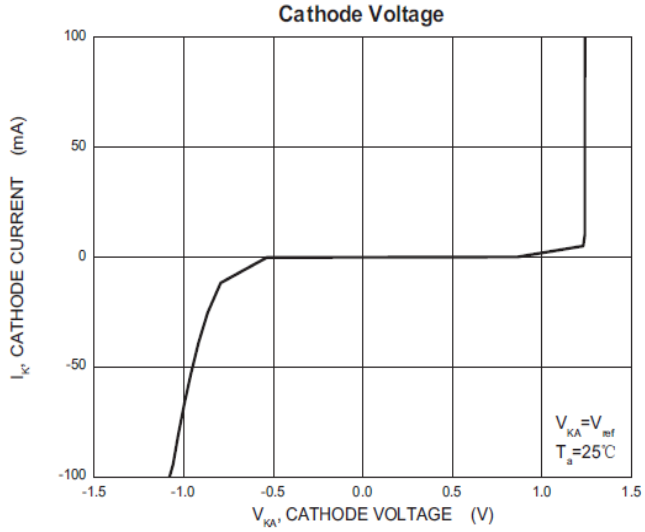


Note:

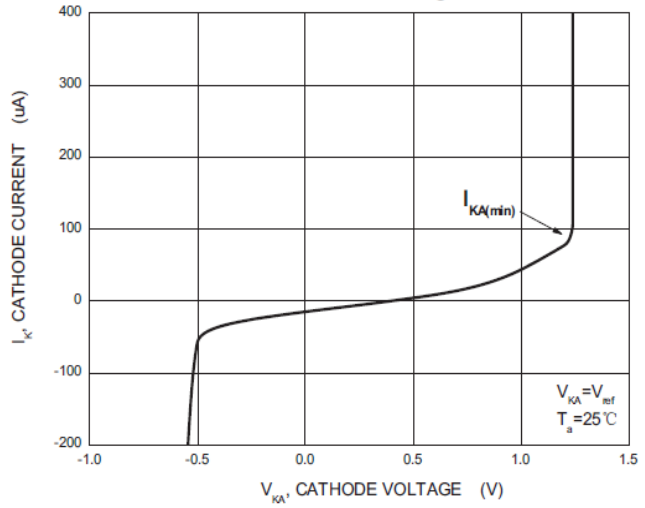
1. It is strongly recommended to connect a capacitor (value more than 0.1μF) at the output pin to smooth the output. The capacitor should be placed as close as possible to the output pin, with the shortest path to GND.

CHARACTERISTIC CURVE

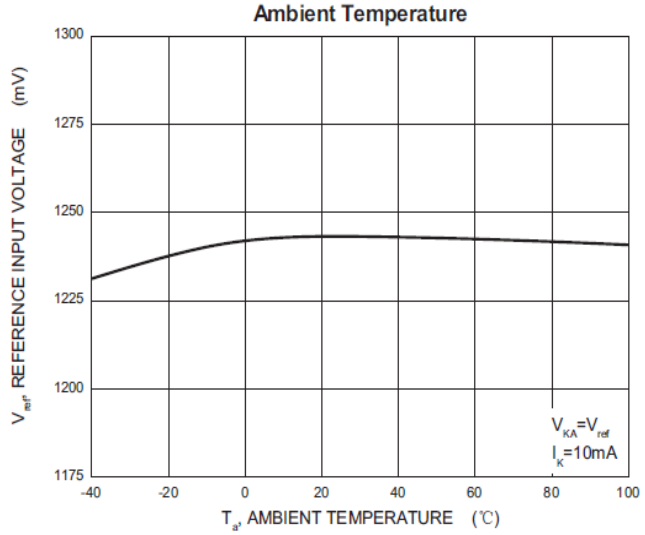
Cathode Current versus
Cathode Voltage

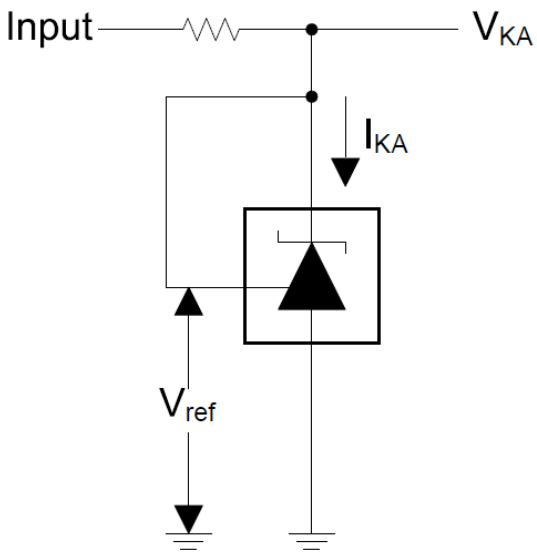


Cathode Current versus
Cathode Voltage



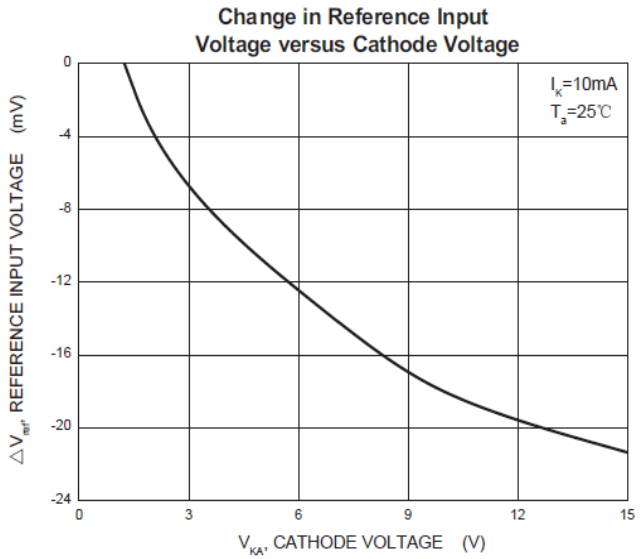
Reference Input Voltage versus
Ambient Temperature

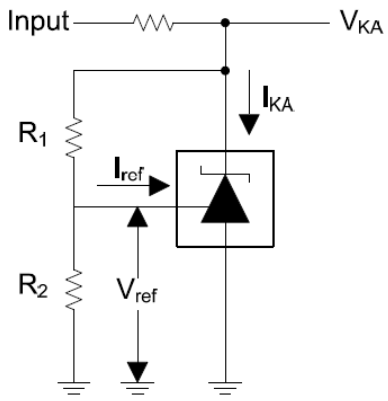




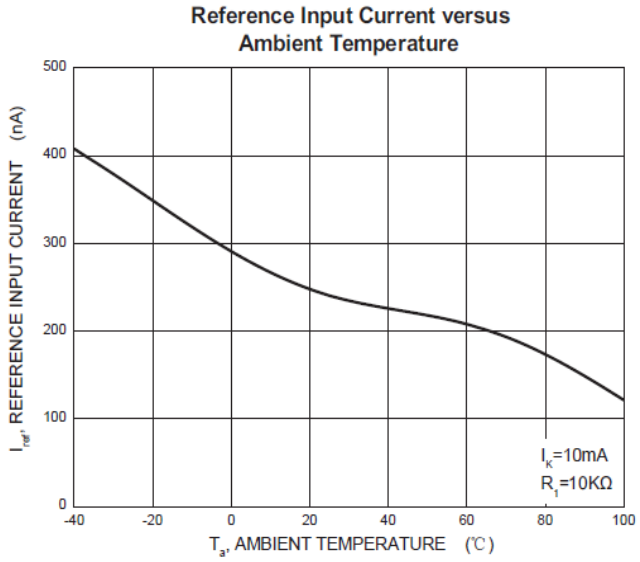
Test Circuit for $V_{KA}=V_{ref}$

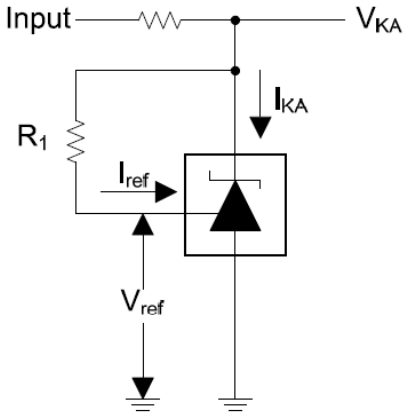
CHARACTERISTIC CURVE



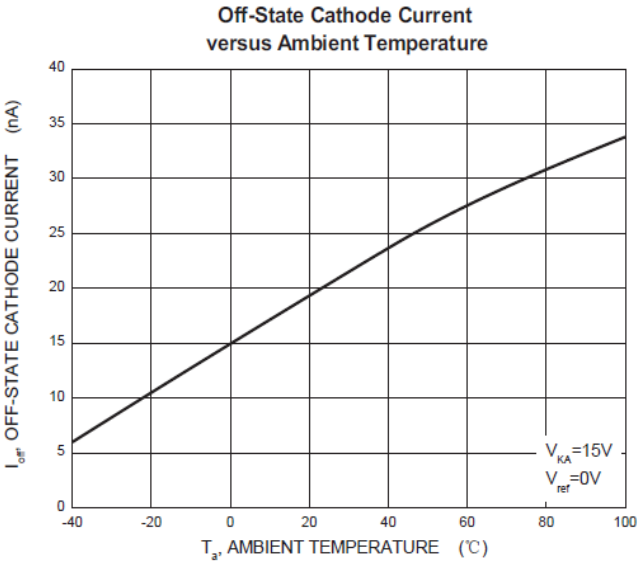


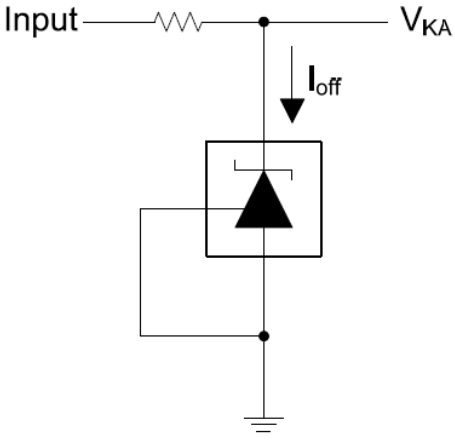
Test Circuit for $V_{KA}=V_{ref}(1+R1/R2)+R1*I_{ref}$





Test Circuit for I_{ref}





Test Circuit for I_{off}