

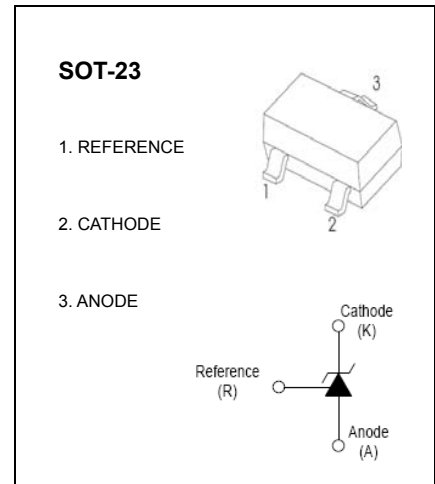
SOT-23 Encapsulate Adjustable Reference Source

DEVICE DESCRIPTION

The TL432 is a three-terminal Shunt Voltage Reference providing a highly accurate 1.24V. The TL432 thermal stability and wide operating current, makes it suitable 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 to 100mA



APPLICATION

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

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

Parameter	Symbol	Value	Units
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	350	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}C/W$
Operating Temperature	T_{opr}	0~+70	$^{\circ}C$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{stg}	-65~+150	$^{\circ}C$

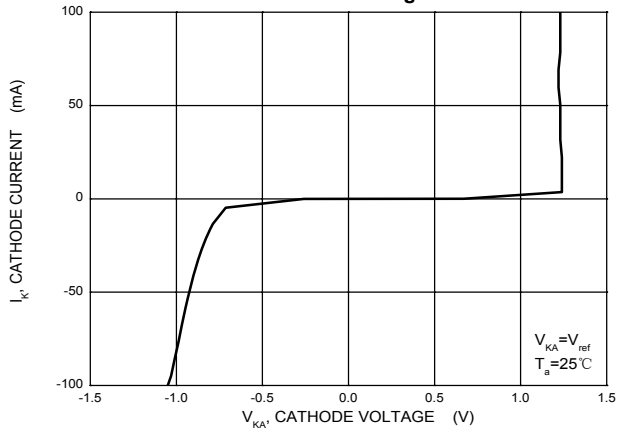
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

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

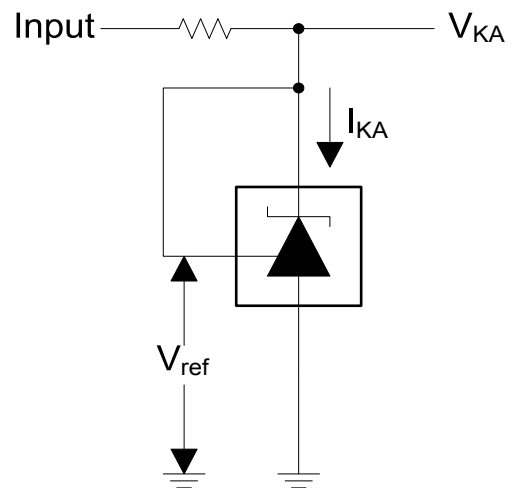
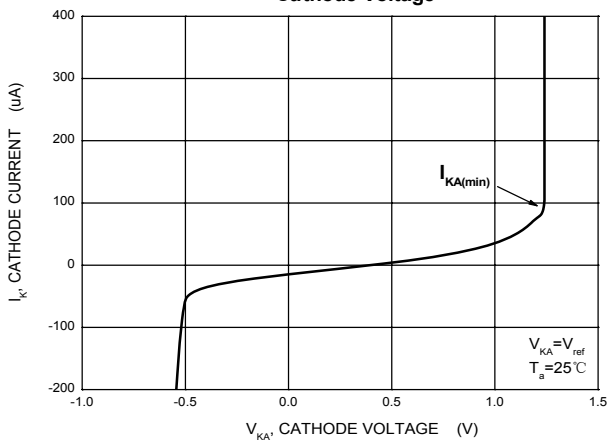
CLASSIFICATION OF V_{ref}

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

Cathode Current versus Cathode Voltage

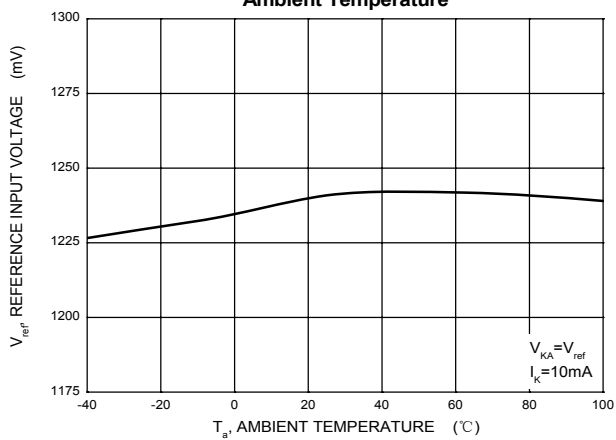


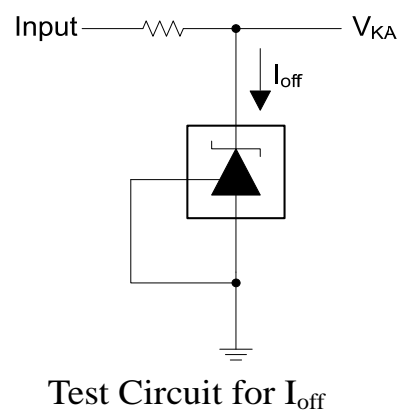
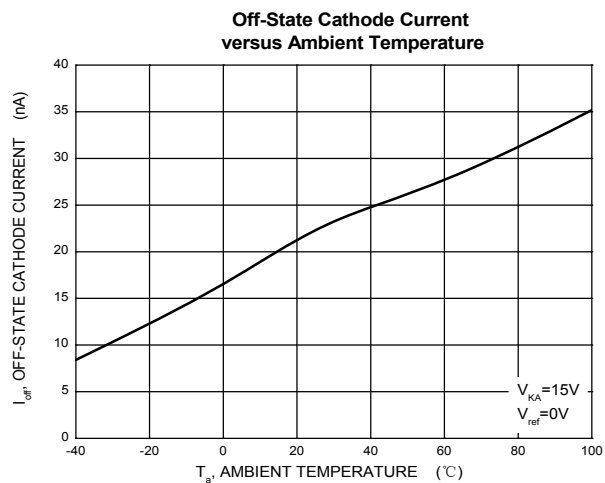
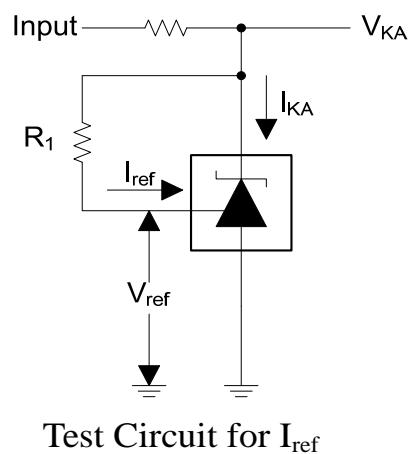
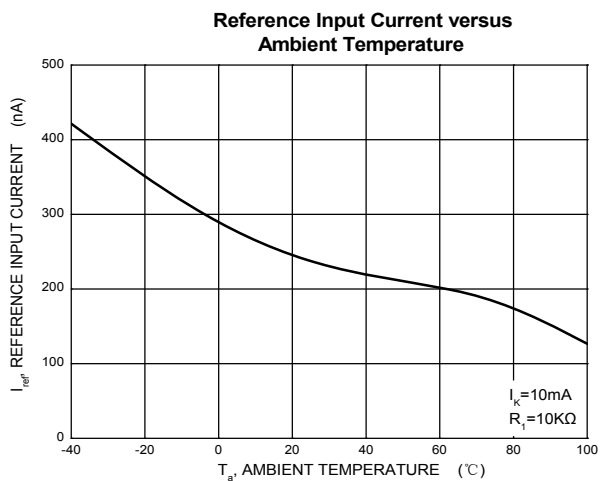
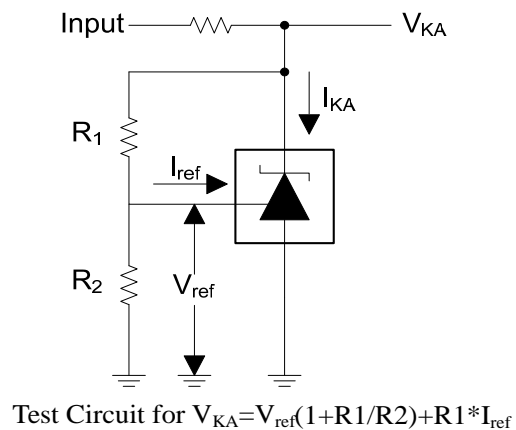
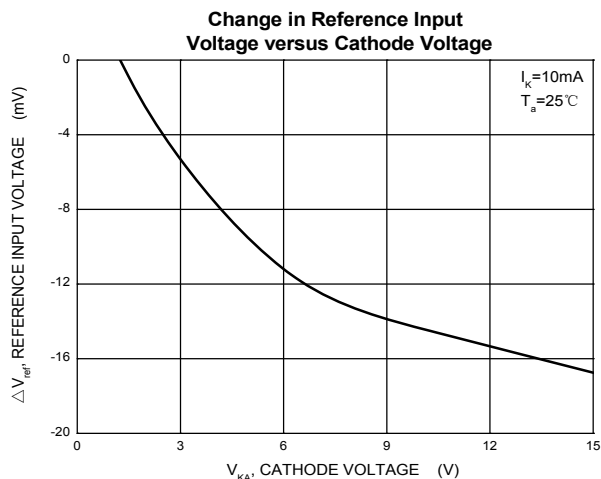
Cathode Current versus Cathode Voltage



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

Reference Input Voltage versus Ambient Temperature

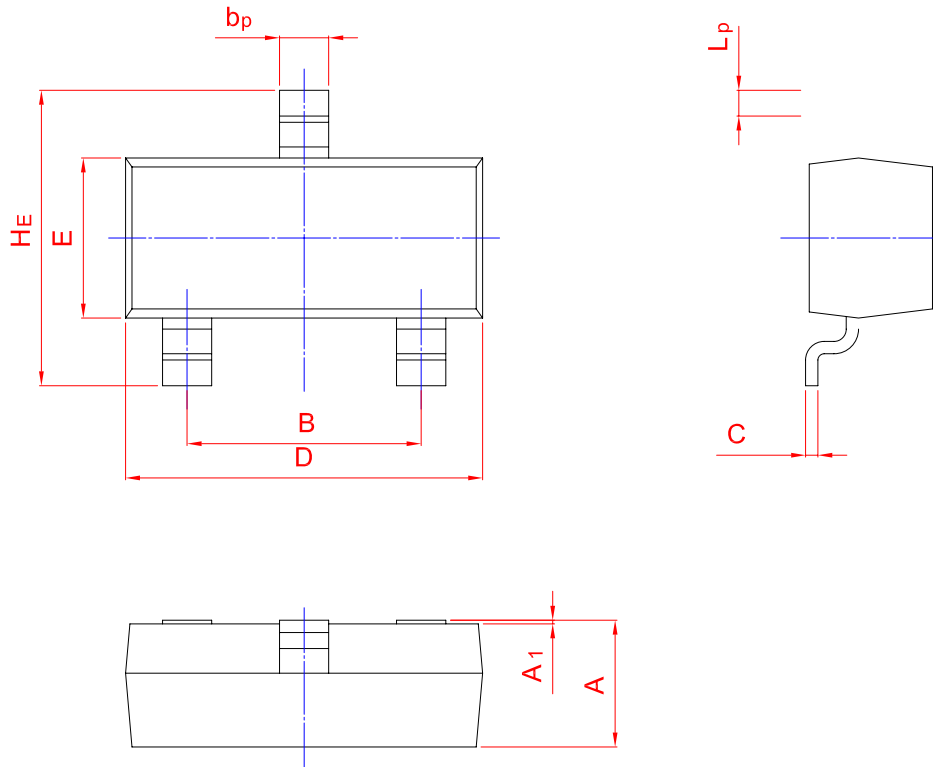
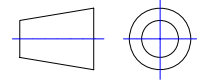




PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b _p	C	D	E	H _E	A ₁	L _p
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Voltage References](#) category:

Click to view products by [SLKORMICRO](#) manufacturer:

Other Similar products are found below :

[5962-8686103XC](#) [REF01J/883](#) [SC431ILPRAG](#) [AP432AQG-7](#) [LM4040B25QFTA](#) [EL5226IR](#) [EL5326IR](#) [EL5326IRZ](#) [ISL21007DFB825Z](#)
[ISL21009BFB812Z](#) [ISL21009CFB812Z](#) [ISL60002BIH312](#) [TS3320AMR](#) [TS3325AMR](#) [TS3330AMR](#) [TS3333AMR](#) [X60003CIG3-41](#)
[X60003DIG3Z-41T1](#) [X60250V8I](#) [REF3025TB-GT3](#) [SC432BVSNT1G](#) [TL431CPG](#) [LM336Z-5.0](#) [MMTL432](#) [TL431A](#) [LR432ATLT1G](#)
[TL432](#) [TL431A](#) [TL431NSG-AE2-R](#) [TL432](#) [TL431](#) [TL431](#) [CD431A](#) [TL432](#) [LM285M3-2.5/TR](#) [TL432AIM3/TR](#) [LM431AIM3/TR](#)
[MC1403MM/TR](#) [TL431CM3/TR](#) [HT432ARTZ](#) [TL431Z-AST](#) [LTL431APKLT1G](#) [JD431A](#) [431S](#) [TL432](#) [WD431NTR-BG](#) [CJ431](#) [CD431](#)
[TL431A 0.4%](#) [TL4050B25QDBZR](#)