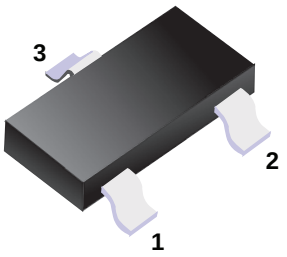
TL432

PROGRAMMABLE PRECISION REFERENCES

■ Features

- Low Voltage Operation : 1.24 V
- Programmable Out Voltage to 15V
- Sink Current Capability of 1 mA to 100 mA
- Equivalent Full-Range Temperature Coefficient of 50ppm/℃
- Temperature Compensated for Operation over Full Rated Operating Temperature Range
- Trimmed Bandgap to 5%



1.REFERENCE
2.CATHODE
3.ANODE

■ Simplified outline(SOT-23)

■ Marking

Marking	432

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Cathode Voltage	V_{KA}	15	V
Continuous Cathode Current Range	I_{KA}	100	mA
Reference Input Current Range	I_{REF}	-0.05 to 3	mA
Total Power Dissipation	P_D	370	mW
Junction Temperature	T_J	-40 to 150	℃
Operating Temperature	T_{OPR}	0 to 70	℃
Storage Temperature	T_{STG}	-65 to 150	℃

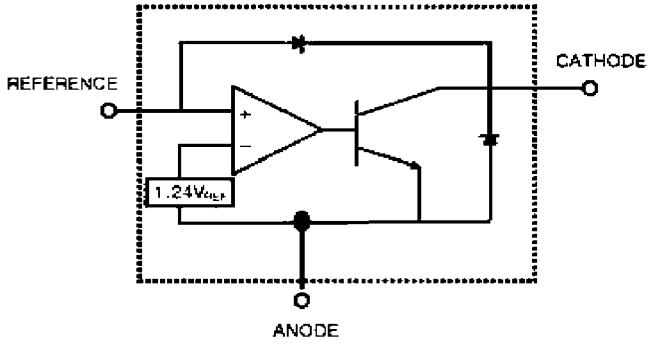
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Reference Input Voltage	Vref	$V_{KA}=V_{REF}$, I_{KA}=10mA	1.216	1.24	1.264	V
Deviation of reference Input Voltage Over Full Temperature Range	△Vref/△T	$V_{KA}=V_{REF}$, I_{KA}=10mA		10	25	mV
		TA=Full Range				
Ratio Of Change in Reference Input Voltage to the change in Cathode Voltage	$\triangle V_{ref}/\triangle V_{KA}$	V_{KA}=1.25V to 14.5V		1.0	2.7	mV/V
Reference input Current	Iref	R_1=10KΩ R2=∞		0.5	1	uA
Deviation Of Reference Input Current Over Full Temperature Range	△Iref/△T	R_1=10KΩ R2=∞ TA=fullTemperature		0.05	0.3	uA
Minimum cathode current for regulation	I_{KA}(min)	$V_{KA}=V_{REF}$		60	80	uA
Off-state cathode Current	$I_{KA(OFF)}$	V_{KA}=15V ,V_{REF}=0		0.04	0.5	uA
Dynamic impedance	Z_{KA}	$V_{KA}=V_{REF}$, I_{KA}=0.1 to 20mA f≤1.0KHz		0.2	0.4	Ω

■ CLASSIFICATION OF V_{ref}

Rank	0.5%	1%	2%
Range	1.2330~1.2460	1.2276~1.2524	1.2160~1.2640

■ Typical Characterisitics



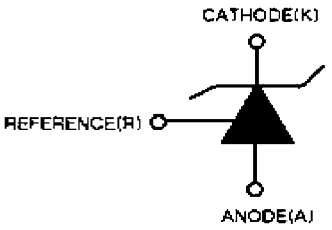
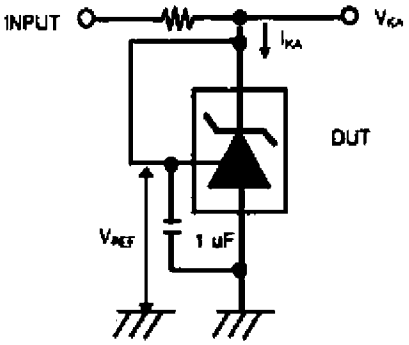


Fig. 1 Test Circuit for $V_{KA}=V_{REF}$

Fig. 2 Test Circuit for $V_{KA} \geq V_{REF}$



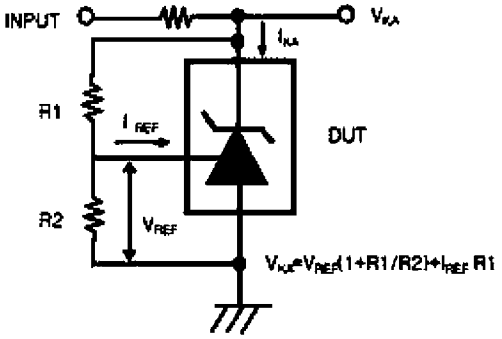
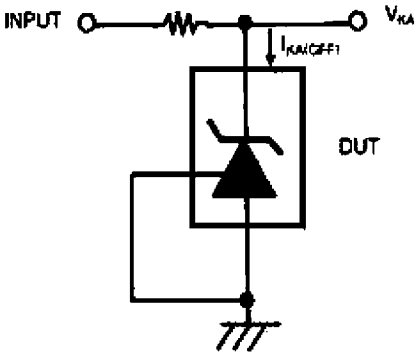
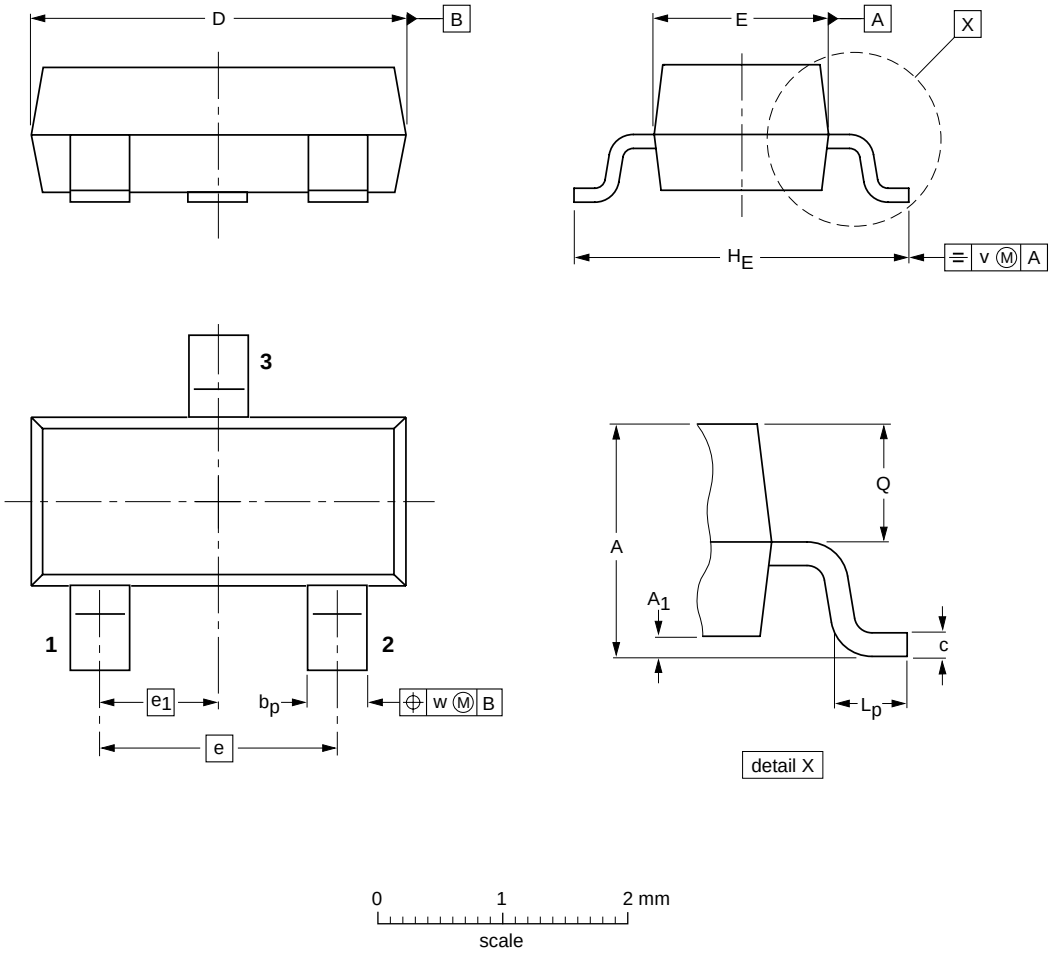


Fig. 3 Test Circuit for I_{KA} (off)



■ SOT-23 Dimension



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max.	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1