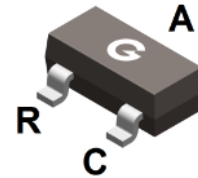
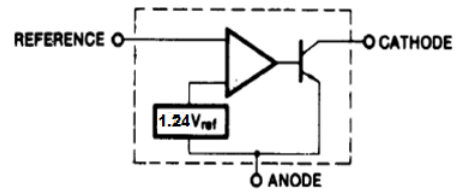


### Features

- Low dynamic output impedance 0.05Ω typical
- Sink current capability of 0.1 to 100mA
- Equivalent full-range temperature coefficient of 20ppm/°C typical
- Temperature compensated for operation over full rated operating temperature range
- Low output noise voltage
- Fast turn-on response
- RoHS compliant with Halogen-free

HF



SOT-23

### Mechanical Data

- Case: SOT-23
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

### Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BL432	SOT-23	3000 pcs / Tape & Reel	432
BL432-A	SOT-23	3000 pcs / Tape & Reel	432
BL432-B	SOT-23	3000 pcs / Tape & Reel	432

### Maximum Ratings (@ T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Cathode Voltage	V <sub>KA</sub>	20	V
Cathode Current Range(Continuous)	I <sub>KA</sub>	100	mA
Reference Input Current Range	I <sub>REF</sub>	10	mA
Power Dissipation	P <sub>D</sub>	330	mW
Operating Temperature Range	T <sub>OPR</sub>	-40 ~ +125	°C
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>STG</sub>	-65 ~ +150	°C

### Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Air	R <sub>θJA</sub>	350	°C/W
Thermal Resistance Junction-to-Case	R <sub>θJC</sub>	155	°C/W

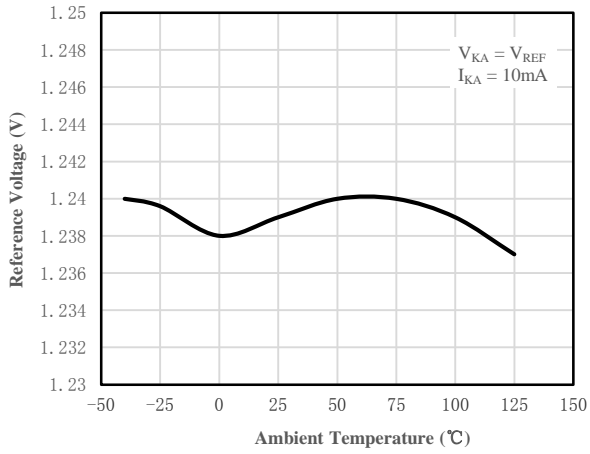
### Recommended Operating Condition

Parameter	Symbol	Min.	Typ.	Max.	Unit
Cathode Voltage	$V_{KA}$	$V_{REF}$	-	18	V
Cathode Current	$I_{KA}$	0.1	-	100	mA

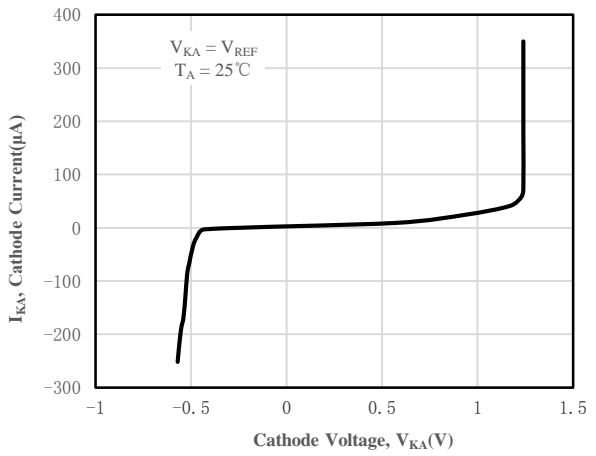
### Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reference voltage	$V_{REF}$	$V_{KA} = V_{REF}$ , $I_{KA} = 10\text{mA}$ BL432-A (0.5%) BL432 (1%) BL432-B (2%)	1.234 1.228 1.215	1.240 1.240 1.240	1.246 1.252 1.265	V
Deviation of Reference Voltage Over Full Temperature Range	$\Delta V_{REF}/\Delta V_T$	$V_{KA} = V_{REF}$ , $I_{KA} = 10\text{mA}$ , $0 \leq T_A \leq 70^\circ\text{C}$	-	2	10	mV
		$V_{KA} = V_{REF}$ , $I_{KA} = 10\text{mA}$ , $-40 \leq T_A \leq 85^\circ\text{C}$	-	3	10	mV
		$V_{KA} = V_{REF}$ , $I_{KA} = 10\text{mA}$ , $-40 \leq T_A \leq 125^\circ\text{C}$	-	4	15	mV
Ratio of Change in Reference Voltage to the Change in Cathode Voltage	$\Delta V_{REF}/\Delta V_{KA}$	$I_{KA} = 10\text{mA}$ $\Delta V_{KA}: V_{REF} \text{ to } 16\text{V}$	-	-0.5	-1.5	mV/V
Reference Current	$I_{REF}$	$I_{KA} = 10\text{mA}$ , $R_1 = 10\text{k}\Omega$ , $R_2 = \infty$	-	0.15	0.4	$\mu\text{A}$
Deviation of Reference Current Over Full Temperature Range	$\Delta I_{REF}$	$I_{KA} = 10\text{mA}$ , $R_1 = 10\text{k}\Omega$ , $R_2 = \infty$ $-40 \leq T_A \leq 125^\circ\text{C}$	-	0.1	0.4	$\mu\text{A}$
Minimum Cathode Current for Regulation	$I_{KA(MIN)}$	$V_{KA} = V_{REF}$	-	55	80	$\mu\text{A}$
Off-state Cathode Current	$I_{KA(OFF)}$	$V_{KA} = 18\text{V}$ , $V_{REF} = 0$	-	0.04	0.1	$\mu\text{A}$
		$V_{KA} = 6\text{V}$ , $V_{REF} = 0$	-	0.01	0.05	$\mu\text{A}$
Dynamic Impedance	$Z_{KA}$	$V_{KA} = V_{REF}$ , $f \leq 1\text{kHz}$ $I_{KA} = 1 \text{ to } 100\text{mA}$	-	0.05	0.15	$\Omega$

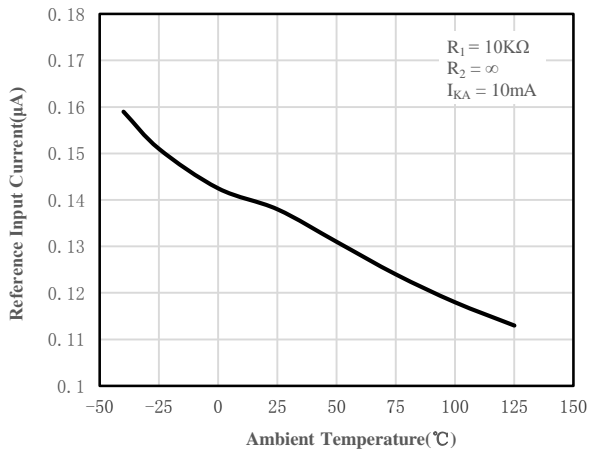
**TYPICAL CHARACTERISTICS** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)



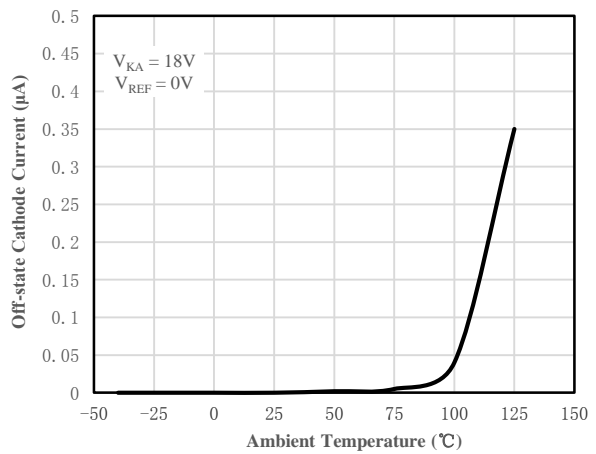
**Fig 1 Reference Voltage vs. Ambient Temperature**



**Fig 2 Cathode Current vs. Cathode Voltage**

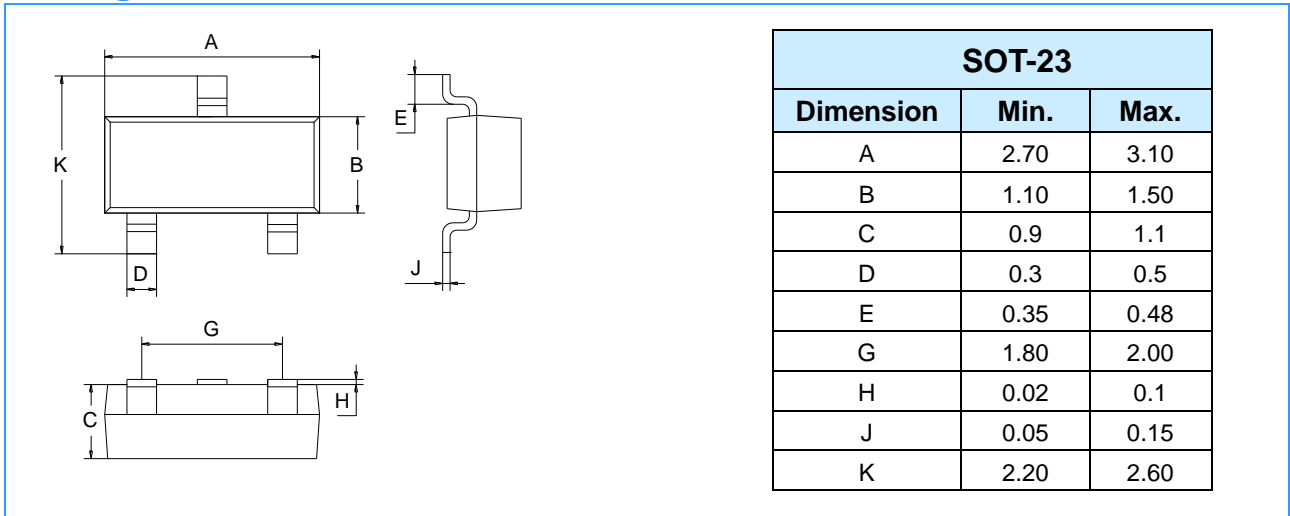


**Fig 3 Reference Input Current vs. Ambient Temperature**



**Fig 4 Off-state Cathode Current vs. Ambient Temperature**

**Package Outline Dimensions** (Unit: mm)



**Package Outline Dimensions** (Unit: mm)

