

## Programmable Shunt Regulator

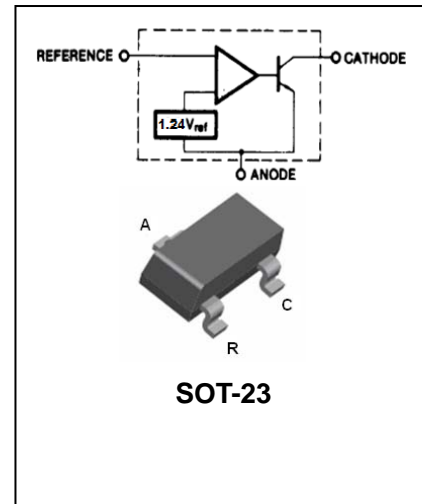
## BL432

### FEATURES

- Low dynamic output impedance 0.20 typical
- Sink current capability of 1.0 to 100mA
- Equivalent full-range temperature coefficient of 50ppm/°C typical
- Temperature compensated for operation over full rated Operating temperature range
- Low output noise voltage
- Fast turn-on response



Lead-free



### ORDERING INFORMATION

Type No.	Marking	Package Code
BL432	432	SOT-23

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Parameter	symbol	limits	unit
Cathode Voltage	$V_{KA}$	15	V
Cathode current Range(Continuous)	$I_{KA}$	100	mA
Reference Input Current Range	$I_{REF}$	-0.05 to +3	mA
Power dissipation	$P_D$	330	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	350	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	155	°C/W
Operating Temperature Range	$T_{OPR}$	0 to 70	°C
Operating Junction Range	$T_J$	-40 to +150	°C
Storage temperature Range	$T_{STG}$	-65 to +150	°C

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### Recommended Operating Conditions

Parameter	symbol	Min	Typ	Max	Unit
Cathode Voltage	$V_{KA}$	$V_{REF}$	-	15	V
Cathode Current	$I_{KA}$	1.0	-	100	mA

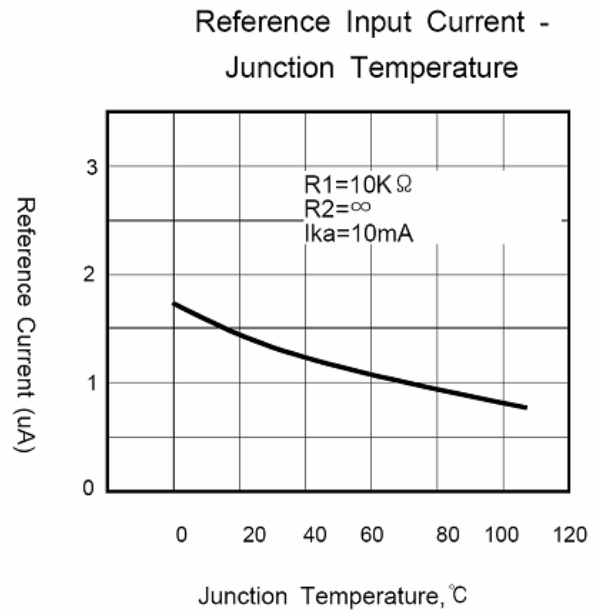
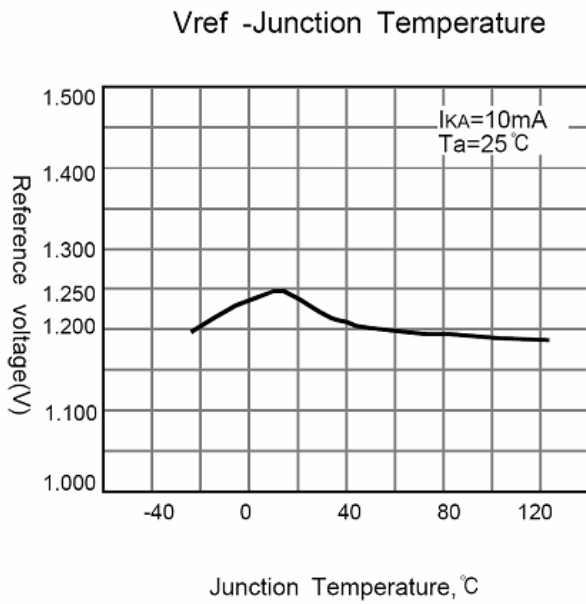
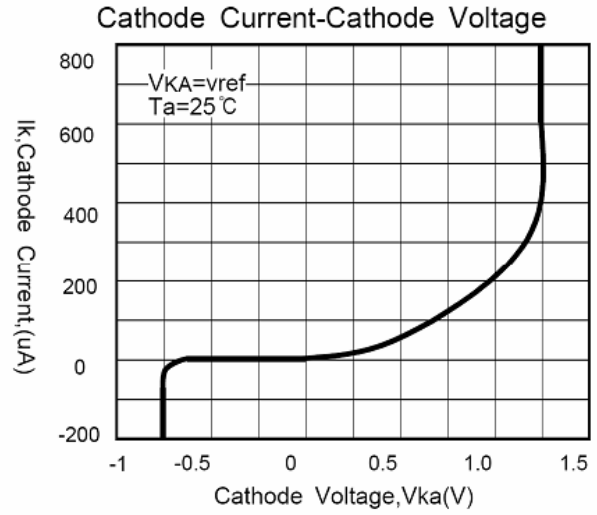
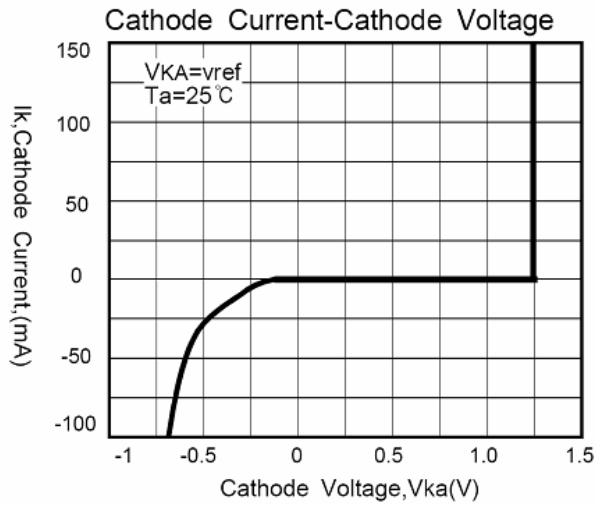
### ELECTRICAL CHARACTERISTICS @ $T_a=25^{\circ}\text{C}$ unless otherwise specified

Parameter	symbol	conditions	Min.	Typ.	Max.	unit
Refer Input Voltage	$V_{REF}$	$V_{KA}=V_{REF}, I_{KA}=10\text{mA}$	0.5%	1.228	1.24	1.252
			1%	1.233		1.247
			2%	1.215		1.265
Deviation of Reference Input Voltage Over Full Temperature Range	$\frac{\Delta V_{REF}}{\Delta T}$	$V_{KA}=V_{REF}, I_{KA}=10\text{mA}$ $T_A=\text{Full Range}$		10	25	mV
Ratio of Change in Reference Input Voltage to the Change in Cathode Voltage	$\frac{\Delta V_{REF}}{\Delta V_{KA}}$	$V_{KA}=1.25\text{V to }14.5\text{V}$		1.0	2.7	mV/V
Reverse Input current	$I_{REF}$	$R_1=10\text{K}\Omega, R_2=\infty$		0.5	1	$\mu\text{A}$
Deviation of Reference Input Current Over Full Temperature Range	$\frac{\Delta I_{REF}}{\Delta T}$	$R_1=10\text{K}\Omega, R_2=\infty$ $T_A=\text{Full Range}$		0.05	0.3	$\mu\text{A}$
Minimum Cathode Current for Regulation	$I_{KA(MIN)}$	$V_{KA}=V_{REF}$		60	80	$\mu\text{A}$
Off-Stage Cathode Current	$I_{KA(OFF)}$	$V_{KA}=15\text{V}, V_{REF}=0$		0.04	0.5	$\mu\text{A}$
Dynamic Impedance(Note2)	$Z_{ZA}$	$V_{KA}=V_{REF}, I_K=0.1\text{ mA}\sim 20\text{ mA}$ $f\leq 1.0\text{kHz}$		0.2	0.4	$\Omega$

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TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



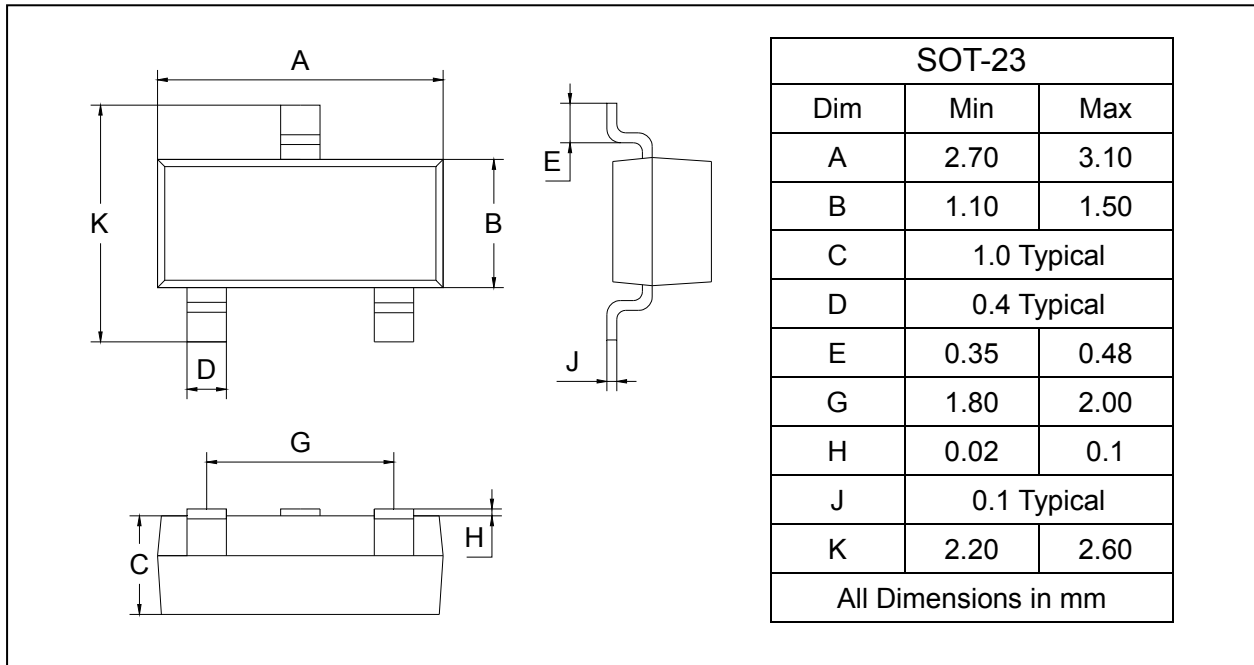
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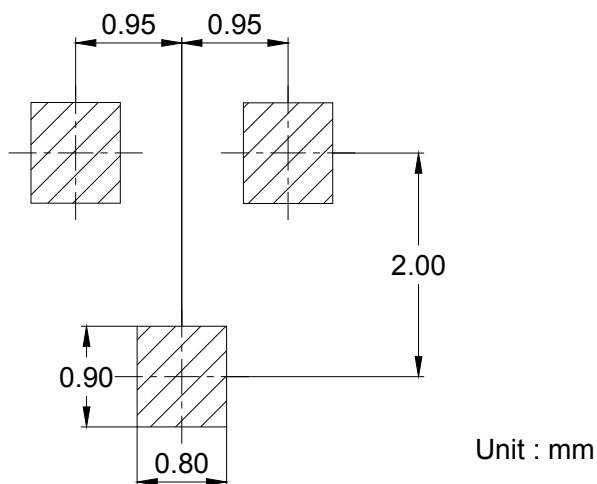
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
BL432	SOT-23	3000/Tape&Reel