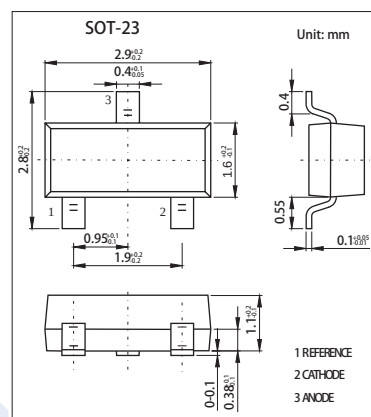


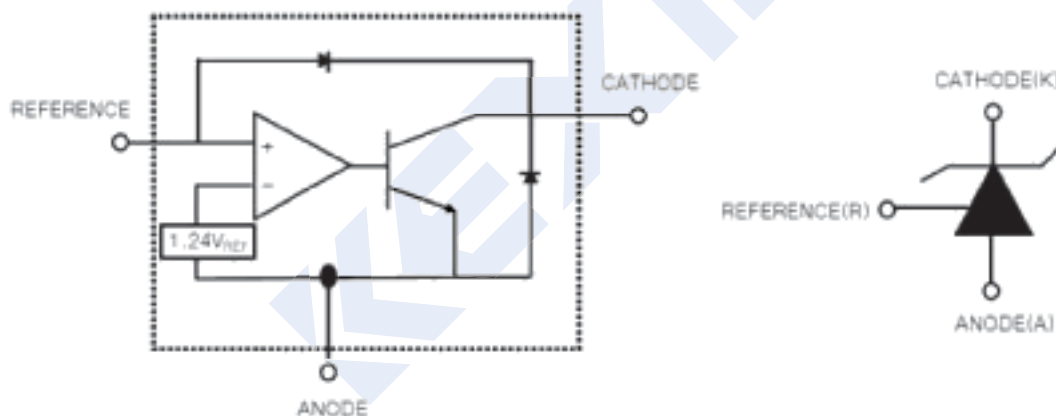
Low Voltage Adjustable Precision Shunt Regulator KA000Q432

■ 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/°C
- Temperature Compensated for Operation over Full Rated
Operating Temperature Range
- Trimmed Bandgap to 5%
- Reference Input Voltage: $1.24 \pm 0.5\%$



■ Function Block Diagram



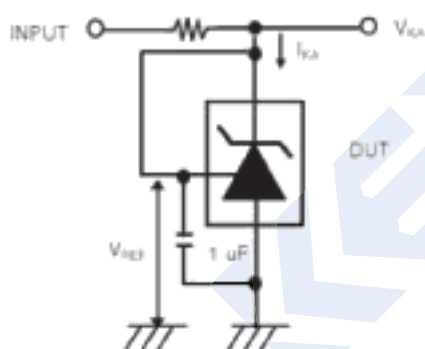
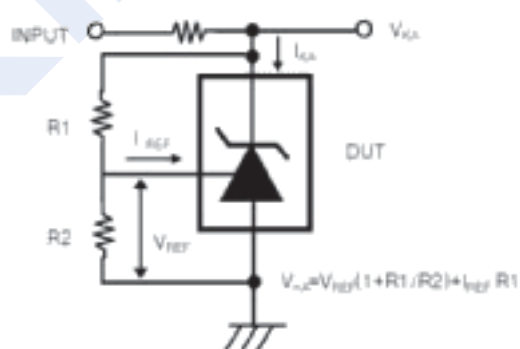
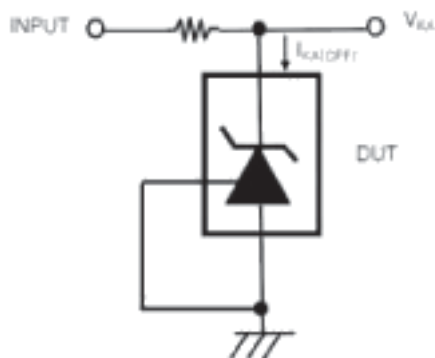
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

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	°C
Operating Temperature	T_{OPR}	0 to 70	°C
Storage Temperature	T_{STG}	-65 to 150	°C

KA000Q432

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Reference Input Voltage	V_{ref}	$V_{\text{KA}}=V_{\text{REF}}, I_{\text{KA}}=10\text{mA}$	1.233	1.24	1.247	V
Deviation of reference Input Voltage Over Full Temperature Range	$\Delta V_{\text{ref}}/\Delta T$	$V_{\text{KA}}=V_{\text{REF}}, I_{\text{KA}}=10\text{mA}$ $T_A=\text{Full Range}$		10	25	mV
Ratio Of Change in Reference Input Voltage to the change in Cathode Voltage	$\Delta V_{\text{ref}}/\Delta V_{\text{KA}}$	$V_{\text{KA}}=1.25\text{V to }14.5\text{V}$		1.0	2.7	mV/V
Reference input Current	I_{ref}	$R_1=10\text{K}\Omega, R_2=\infty$		0.5	1	μA
Deviation Of Reference Input Current Over Full Temperature Range	$\Delta I_{\text{ref}}/\Delta T$	$R_1=10\text{K}\Omega, R_2=\infty$ $T_A=\text{full Temperature}$		0.05	0.3	μA
Minimum cathode current for regulation	$I_{\text{KA}}(\text{min})$	$V_{\text{KA}}=V_{\text{REF}}$		60	80	μA
Off-state cathode Current	$I_{\text{KA}}(\text{OFF})$	$V_{\text{KA}}=15\text{V}, V_{\text{REF}}=0$		0.04	0.5	μA
Dynamic impedance	Z_{KA}	$V_{\text{KA}}=V_{\text{REF}}, I_{\text{KA}}=0.1\text{ to }20\text{mA}, f\leq 1.0\text{KHz}$		0.2	0.4	Ω

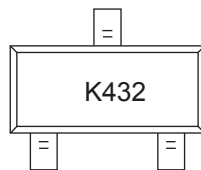
Fig. 1 Test Circuit for $V_{\text{KA}}=V_{\text{REF}}$ Fig. 2 Test Circuit for $V_{\text{KA}}\geq V_{\text{REF}}$ Fig. 3 Test Circuit for $I_{\text{KA}}(\text{off})$ 

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■ Ordering Information

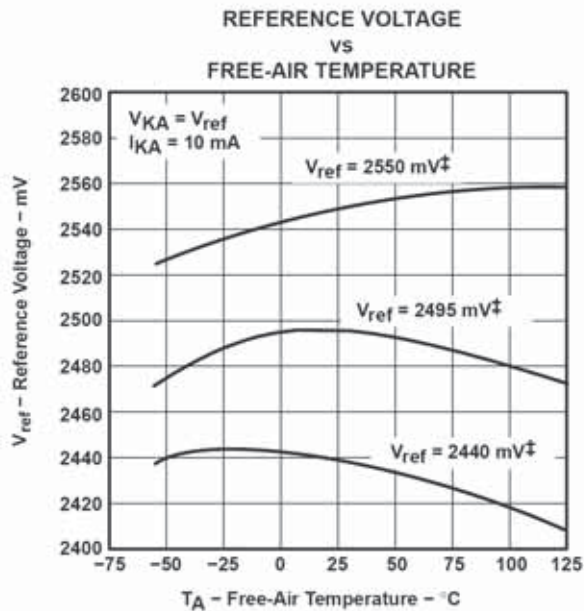
Deiece	Packaging	Shipping
KA000Q432	SOT23	3000/Tape & Reel

■ Marking Information

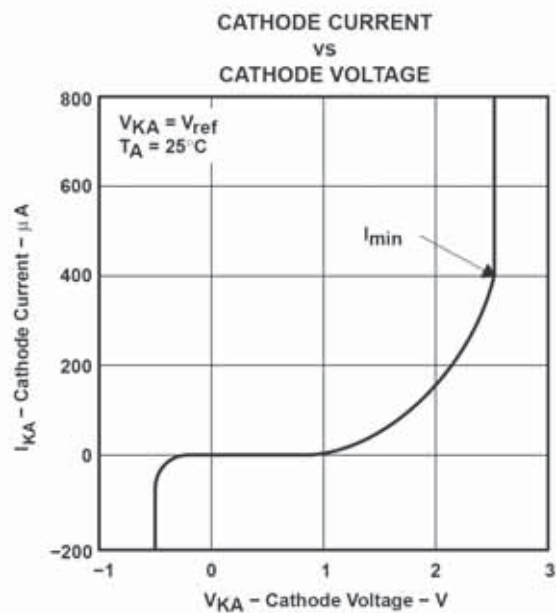
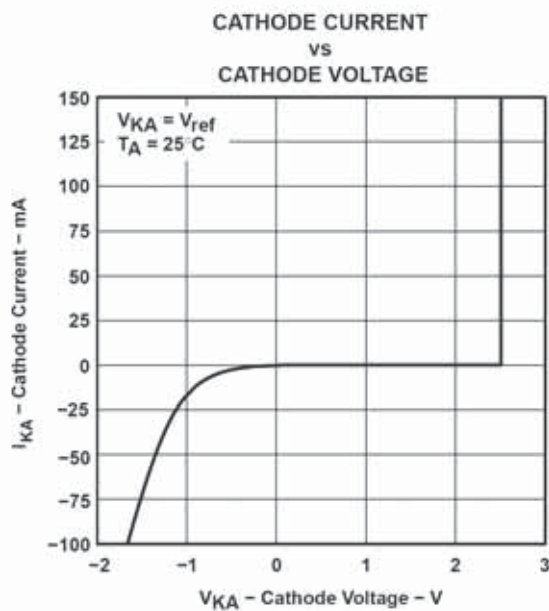
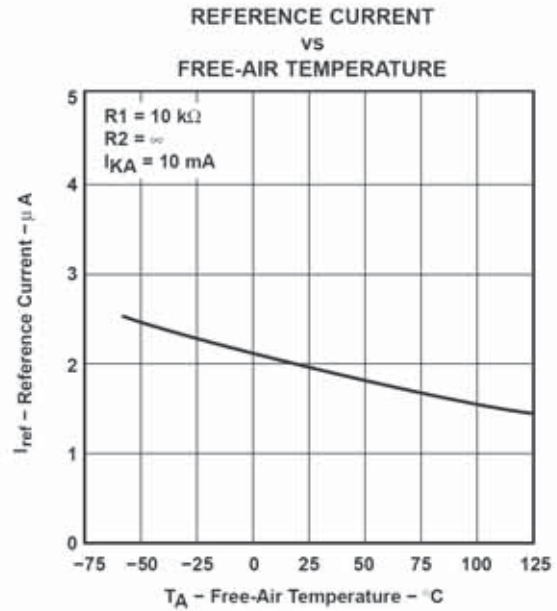


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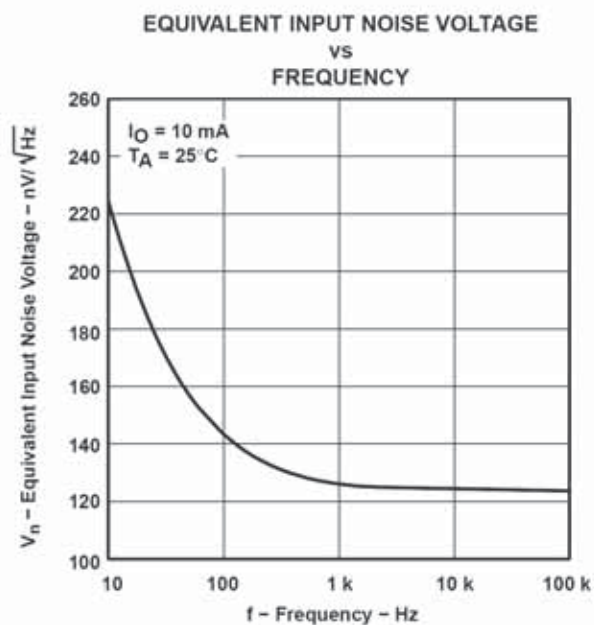
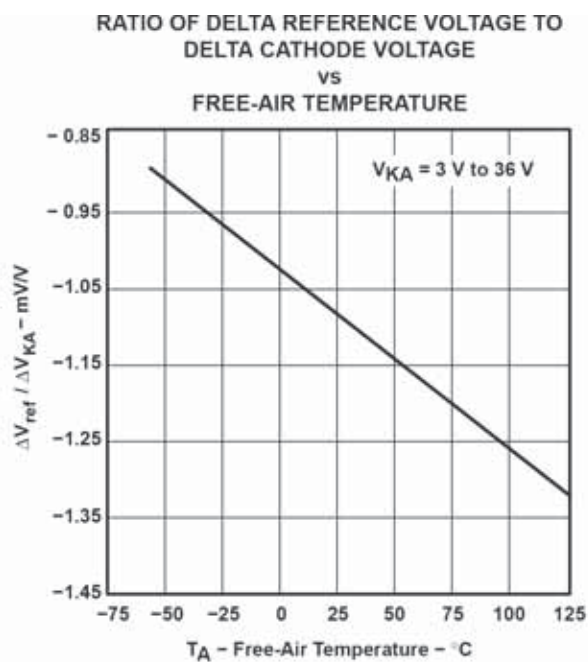
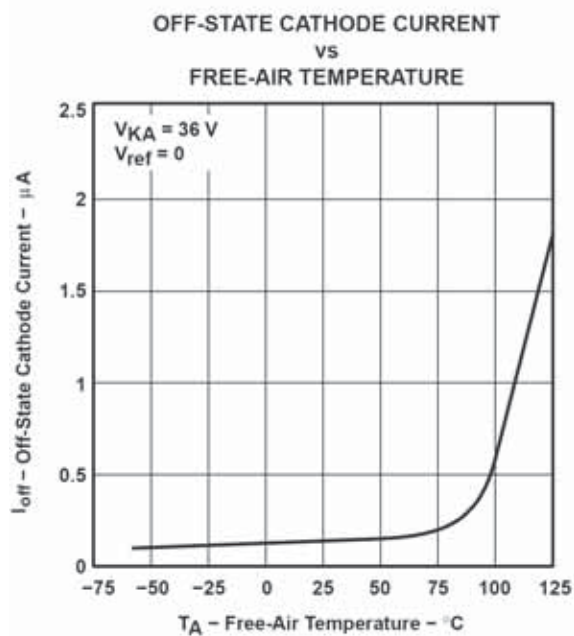
■ TypIacl Characteristics



‡ Data is for devices having the indicated value of V_{ref} at $I_{KA} = 10 \text{ mA}$, $T_A = 25^{\circ}\text{C}$.

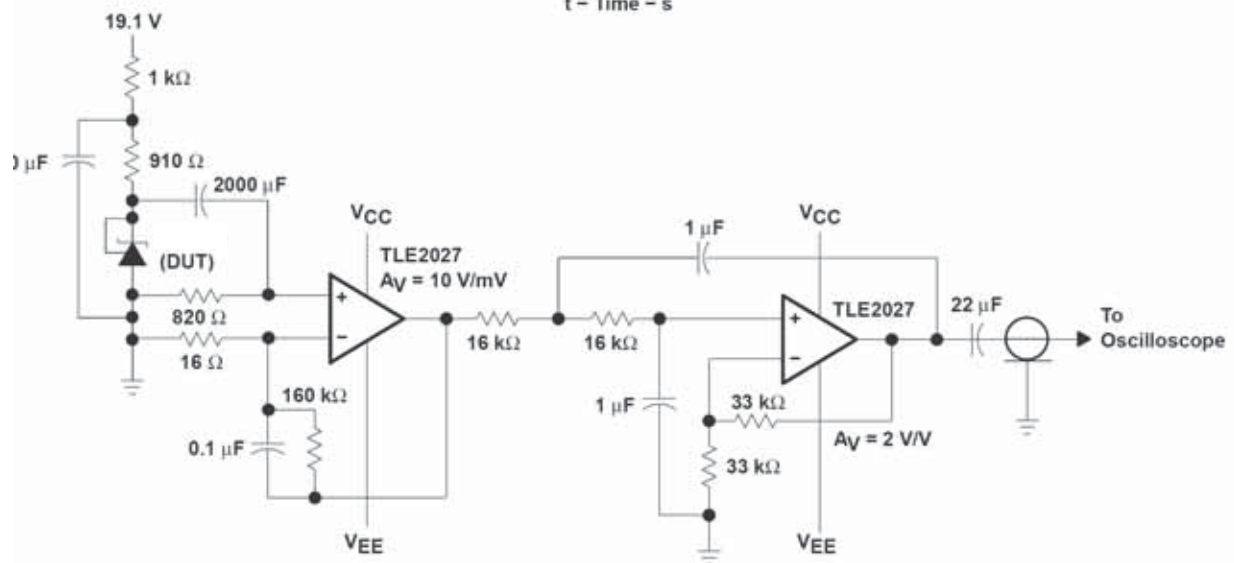
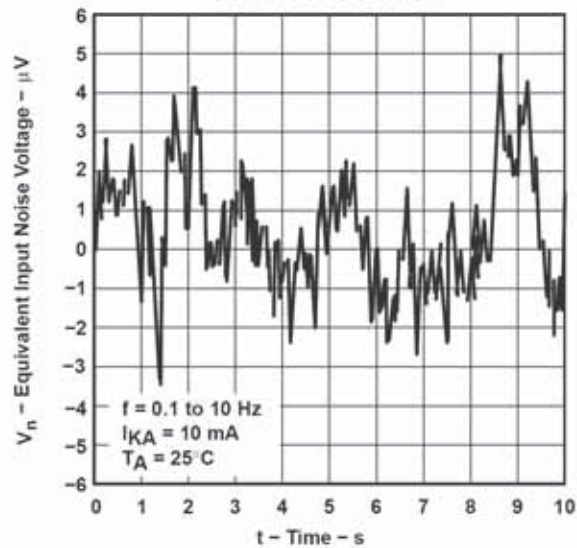


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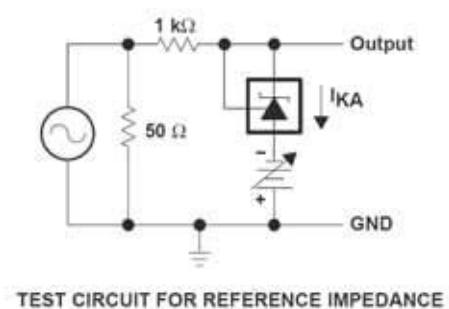
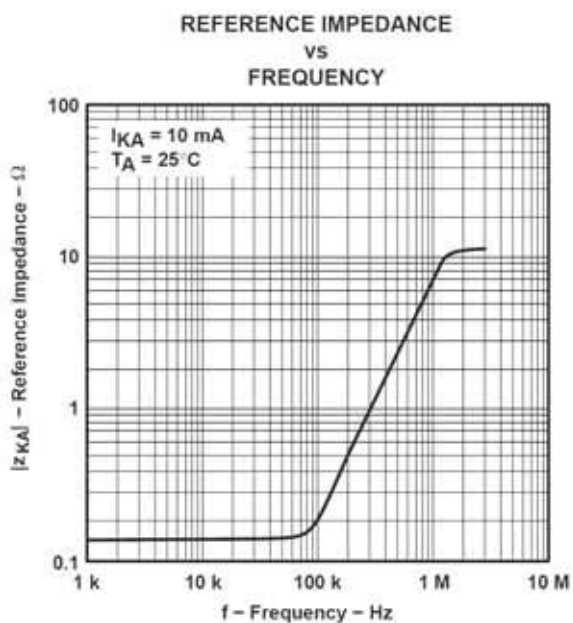
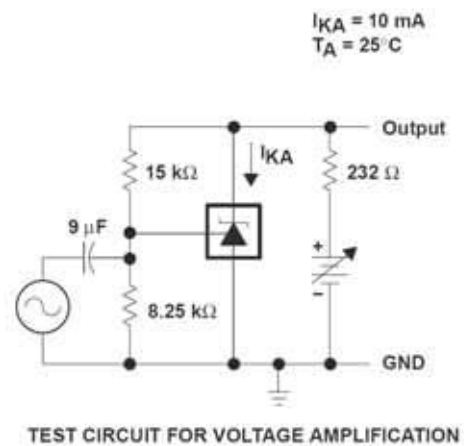
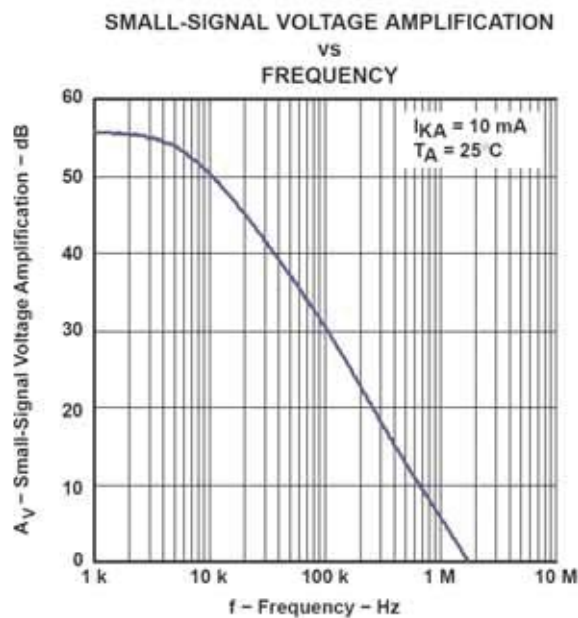
TYPICAL CHARACTERISTICS

EQUIVALENT INPUT NOISE VOLTAGE
OVER A 10-S PERIOD

Test Circuit for Equivalent Input Noise Voltage

KA000Q432

TYPICAL CHARACTERISTICS



KA000Q432

