ADJUSTABLE PRECISION SHUNT REGULATORS HM432

DESCRIPTION & FEATURES
The HM432 series Ics are here-terminal adjustable shunt regulators with guaranteed thermal stability over a full operation range. These Ics freature sharp turn-on characteristics, low temperature coefficient and low output impedance, which make them ideal substitutes for Zener diodes in applications such as switching power supply, charger and other adjustable regulators. The HM432 precision reference is offered in three band gap tolerance: 0.5%, 1.0%, 1.5%
Adjustable output voltage from Vref to 18V Low dynamic output resistance: 250mΩ typical Sink current capacity from 60uA to 100 mA Typical equivalent full range temperature coefficient of 30 ppm/℃
Application:
PC Motherboard Voltage monitor Voltage Reference PWM down converter with reference Charger

Pin Configuration

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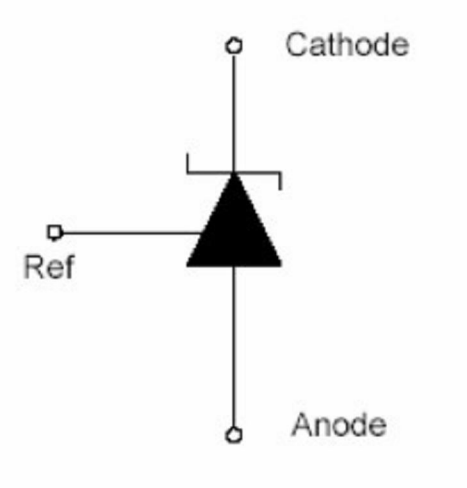
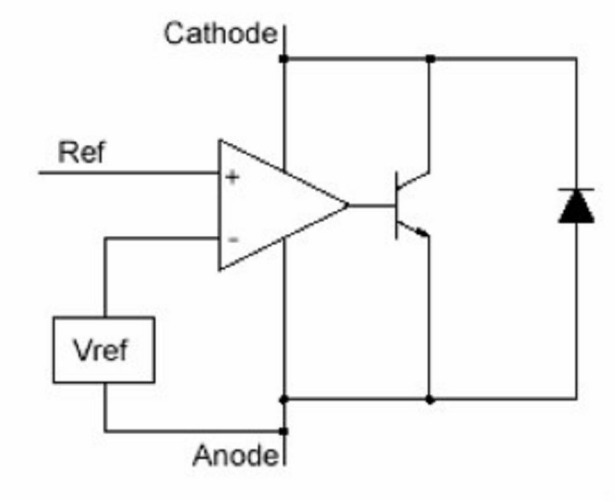
Symbol Diagram and Block Diagram



Symbol Diagram



Block Diagram

Maximum ratings (Ta=25℃)			
Characteristic	Symbol	Max.	Unit
Cathode Voltage	V_{KA}	18	V
Continuous Cathode Current	I_K	100	mA
Reference Input Current	I_{REF}	10	mA
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-45~150	℃

Recommended Operating Conditions	**Symbol**	**Min**	**Max**	**Unit**
Operating free air temperature range	T_A	0	70	℃
Cathode current	I_K	1	100	mA
Cathode voltage	V_{KA}	0	18	V

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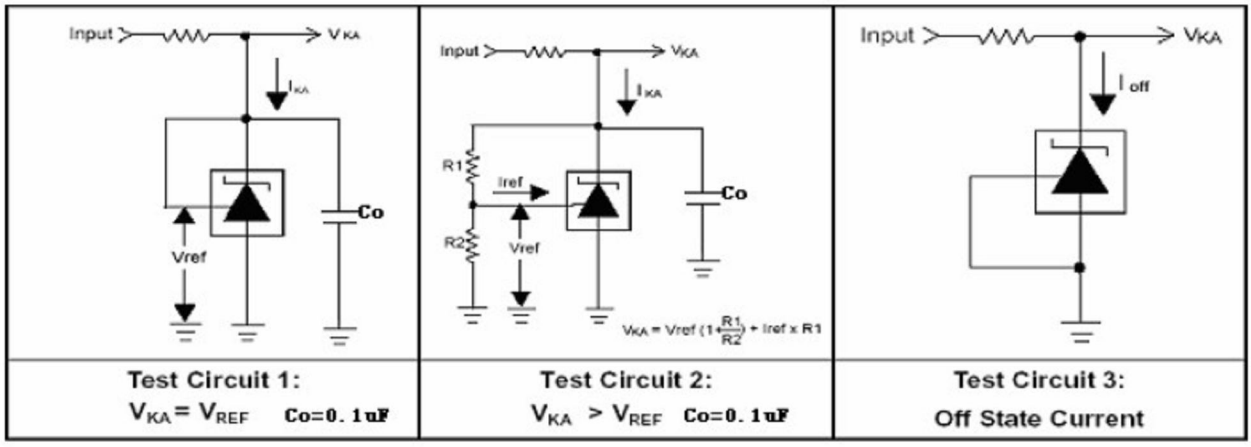
Parameter Measurement Information



Electrical Characteristics

T_A=25℃ unless otherwise noted

Parameter		Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reference Input Voltage	0.5%	V_{REF}	I_K=10mA,V_{KA}=V_{REF}	1.234	1.240	1.246	V
	1%		I_K=10mA,V_{KA}=V_{REF}	1.228	1.240	1.252	
	1.5%		I_K=10mA,V_{KA}=V_{REF}	1.221	1.240	1.258	
Deviation of Reference Voltage over Full Temperature Range		$\triangle V_{REF}$	I_K=10mA,V_{KA}=V_{REF}, 0℃≤T_A≤105℃	-	10	25	mV
Voltage Ratio, Ref to Cathode		$\frac{\triangle V_{REF}}{\triangle V_{KA}}$	I_K=10mA,$\triangle V_{KA}$=10V to V_{REF}	-	-1.4	-2.7	mV/V
Reference Input Current		I_{REF}	I_K=10mA, R1=10KΩ,R2=∞ T_A=0℃ ~ 105℃	-	0.15	2	μA
Deviation of Reference Current over Full Temperature Range		$I_{i(DEV)}$	V_{KA}=V_{REF}	-	0.10	0.50	μA
Minimum Operating Current		I_{min}	V_{KA}=12V, V_{REF}=0V	-	60	100	μA
Off-State Cathode Current		I_{off}	V_{KA}=V_{REF}	-	0.04	0.8	μA
Dynamic Impedance		$\lvert Z_{KA} \rvert$	I_K=1 mA to 100 mA, f≤ 1kHz	-	0.25	1	Ω