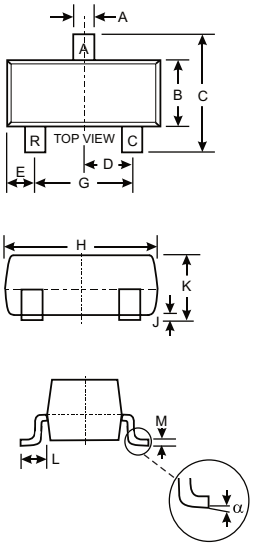
HAICHUANG SEMI

MMTL432A

ADJUSTABLE PRECISION SHUNT REGULATOR

Features

- Low Dynamic Output Impedance.
- The Effective Temperature Compensation In the Working Range Of Temperature.
- Sink Current Capability of 0.1 mA to 100 mA.
- Low Output Noise Voltage.
- Marking Code:432

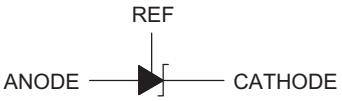


SOT-23		
Dim	**Min**	**Max**
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Cathode Voltage	V_{KA}	18	V
Cathode Current Range	I_{KA}	100	mA
Reference Input Current Range	I_{REF}	6	μA
Power Dissipation	P_D	350	mW
Operating Temperature Range	T_{opr}	-0 to 70	°C
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 65 to + 150	°C

SYMBOL



Electrical Characteristics @ T_A = 25°C unless otherwise specified

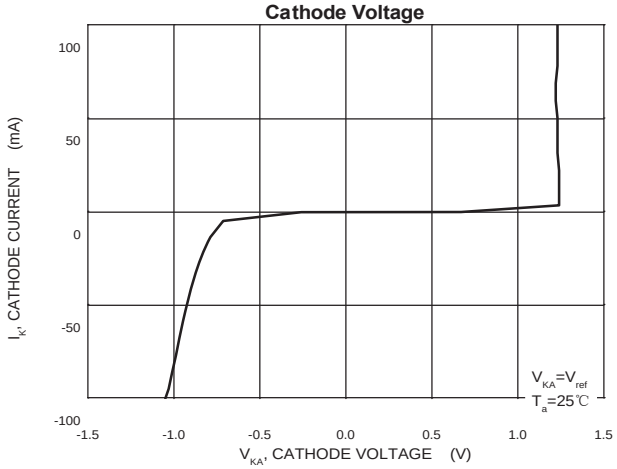
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reference input voltage (Fig 1)	V_{ref}	$V_{KA}=V_{REF}$, I_{KA}=10mA	1.225	1.250	1.275	V
Deviation of reference voltage over full temperature range (Fig 1)	$\triangle V_{ref(DEV)}$	$V_{KA}=V_{REF}$, I_{KA} =10mA 0℃≤T_a≤70℃			16	mV
Ratio of change in reference input voltage to the change in cathode voltage (Fig 2)	$\triangle V_{ref}/\triangle V_{KA}$	I_{KA}=10mA, $\triangle V_{KA}$=1.25V~15V			2.4	mV/V
Deviation of reference input current over full temperature range (Fig 2)	$\triangle I_{ref}/\triangle T$	I_{KA}=10mA, R_1=10kΩ, R_2=∞, 0℃≤T_a≤70℃			0.6	μA
Minimum cathode current for regulation (Fig 1)	$I_{KA(min)}$	$V_{KA}=V_{REF}$			0.1	mA
Off-state cathode current(Fig 3)	I_{off}	V_{KA}=15V,V_{REF}=0			0.5	μA
Dynamic impedance	Z_{KA}	$V_{KA}=V_{REF}$, I_{KA}=0.1 ~20mA, f≤1.0kHz			0.5	Ω

CLASSIFICATION OF V_{ref}

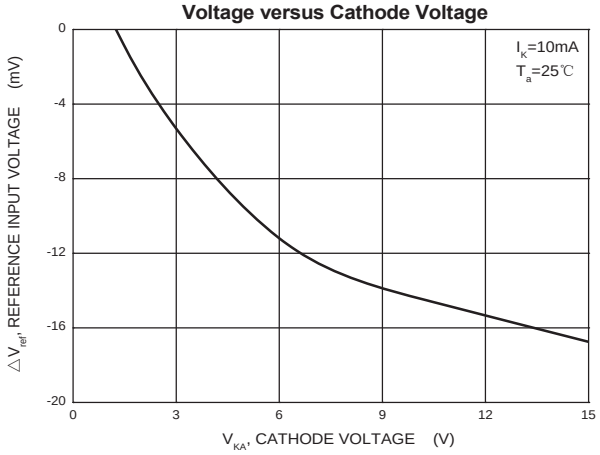
Rank	0.5%	1%	2%
Range	1.243~1.256	1.237~1.263	1.225~1.275

TYPICAL TRANSIENT CHARACTERISTICS

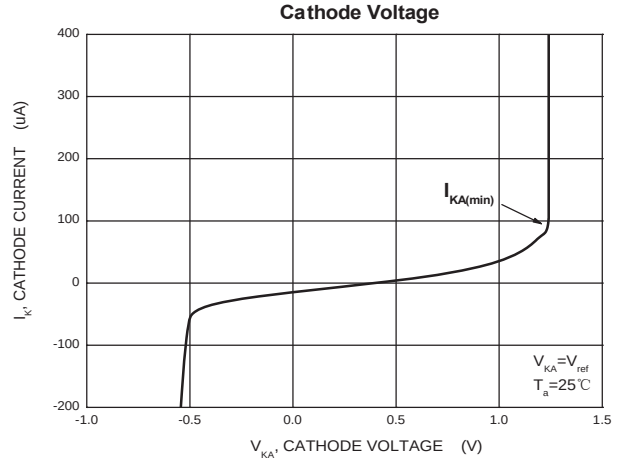
Cathode Current versus Cathode Voltage



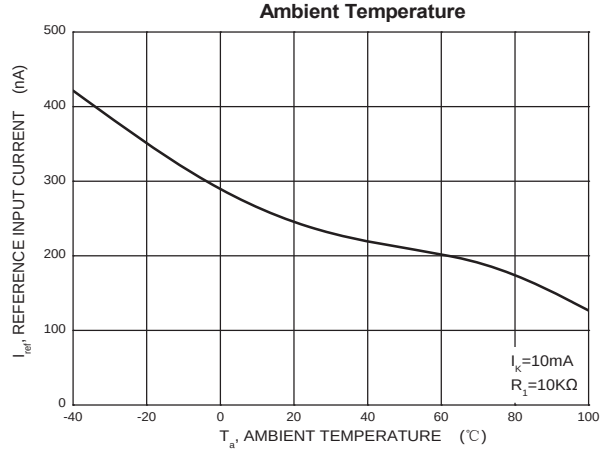
Change in Reference Input Voltage versus Cathode Voltage



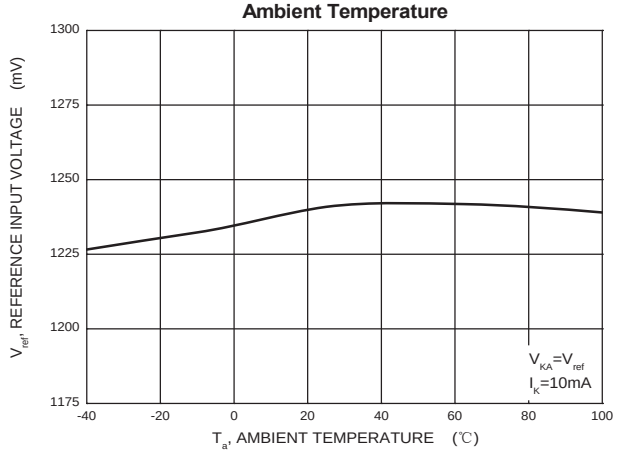
Cathode Current versus Cathode Voltage



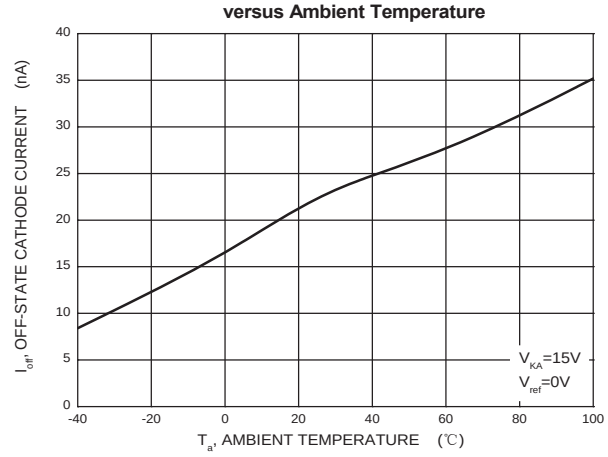
Reference Input Current versus Ambient Temperature



Reference Input Voltage versus Ambient Temperature



Off-State Cathode Current versus Ambient Temperature



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