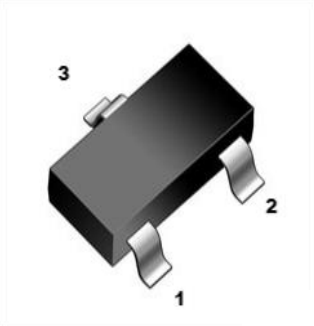
MMTL432M

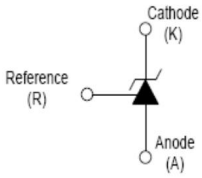
Adjustable Reference source

1. Features

- Low dynamic output impedance
- The effective temperature compensation in the working range of full temperature
- Low output noise voltage
- Fast on -state response
- Sink current capability of 0.1mA to100mA

SOT-23





1 Reference
2 Cathode
3 Anode

2. Mechanical Data

- Case:Molded Plastic,SOT-23 .
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750,Method-2026.
- Marking:432
- Mounting Position : Any.

3. Maximum Ratings

Electrical Characteristics Rating at 25℃ ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Cathode Voltage	V_{KA}	18	V
Cathode Current Range (Continuous)	I_{KA}	100	mA
Reference Input Current Range	I_{REF}	6	mA
Power Dissipation	P_D	350	mW
Thermal Resistance from Junction to Ambient Air	$R_{\theta JA}$	357	˚C/W
Operating Temperature Range	T_{opr}	0 to + 75	˚C
Junction Temperature	T_j	- 65 to + 150	˚C
Storage Temperature Range	T_{stg}	- 65 to + 150	˚C

4. Electrical Characteristics (T_a=25℃ unless otherwise noted)

Characteristics	Symbol	Min	TYP	Max	Unit
Recmmended Operating Conditions					
Reference Input Voltage at $V_{KA} = V_{REF}$, I_{KA} = 10 mA 0.50%	V_{REF}	1.2338	-	1.2462	V
Reference Input Voltage at $V_{KA} = V_{REF}$, I_{KA} = 10 mA 1%	V_{REF}	1.2276	-	1.2524	V
Reference Input Voltage at $V_{KA} = V_{REF}$, I_{KA} = 10 mA 1.5%	V_{REF}	1.2214	-	1.2586	V
Deviation of reference voltage over full temperature range at $V_{KA} = V_{REF}$, I_{KA} = 10mA,0℃≤ T_a ≤ + 70℃	$\Delta V_{REF(DEV)}$	-	-	16	mV
Ratio of Change in Reference Input Voltage to the Change in Cathode Voltage at I_{KA} = 10 mA,ΔV_{KA}=1.25V to 15V	$\Delta V_{REF}/\Delta V_{KA}$	-	-	2.4	mV/V
Deviation of Reference Input Current Over Full Temperatue at I_{KA} = 10 mA, R1 = 10 KΩ, R2 = ∞,0℃≤ T_a ≤ + 70℃	$\Delta I_{REF}/\Delta T$	-	-	0.6	μA
Minimum Cathode Current for Regulation at $V_{KA} = V_{REF}$	$I_{KA(min)}$	-	-	0.1	mA
Off-Stage Cathode Current at V_{KA} = 15 V, V_{REF} = 0	$I_{KA(OFF)}$	-	-	0.5	μA
Dynamic Impedance at $V_{KA} = V_{REF}$, I_{KA} = 0.1 to 20 mA, f ≤ 1 KHz	Z_{KA}	-	-	0.5	Ω

5. Rating And Characteristic Curves

Fig.1 Cathode Current versus Cathode Voltage

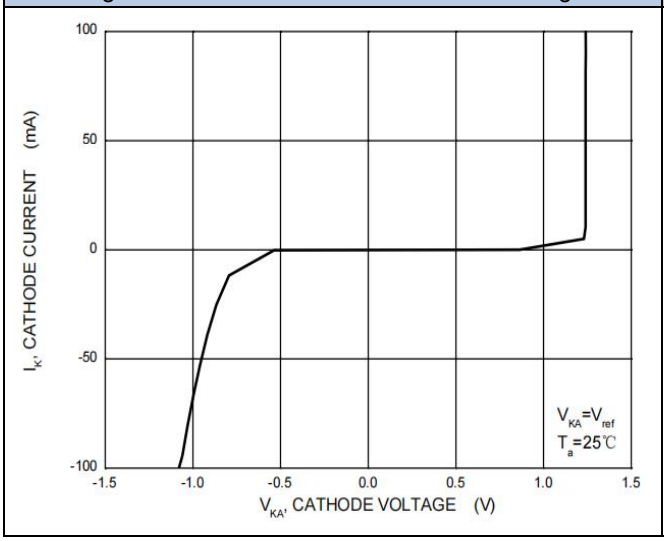


Fig.2 Cathode Current versus Cathode Voltage

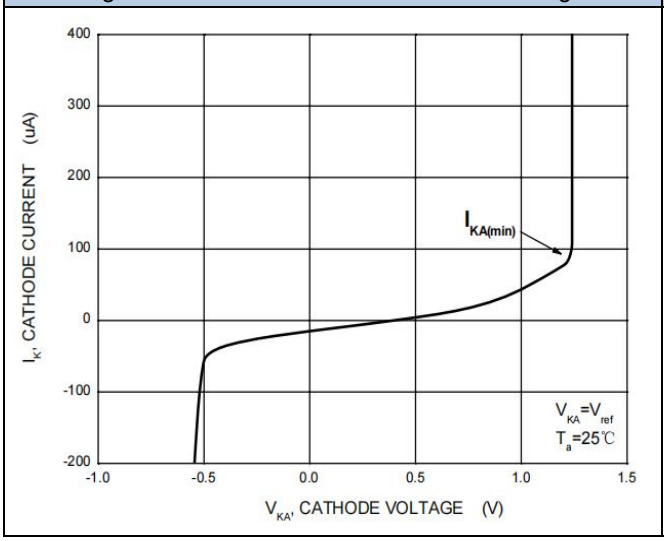
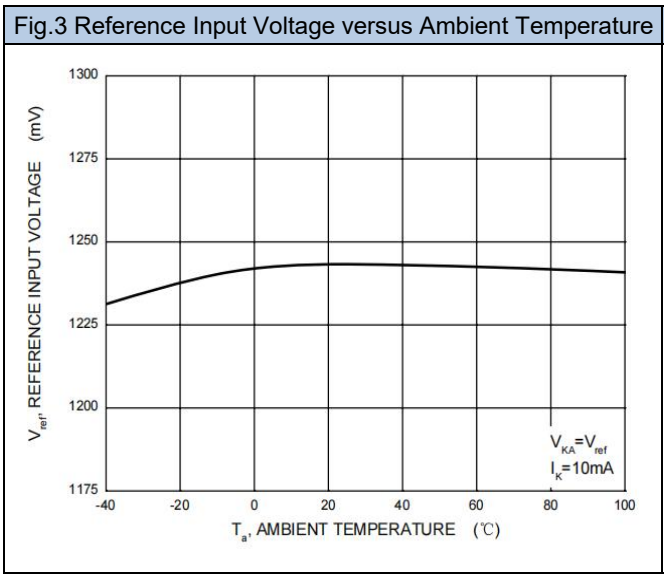


Fig.3 Reference Input Voltage versus Ambient Temperature



g.4 Change in Reference Input Voltage versus Cathode Volta

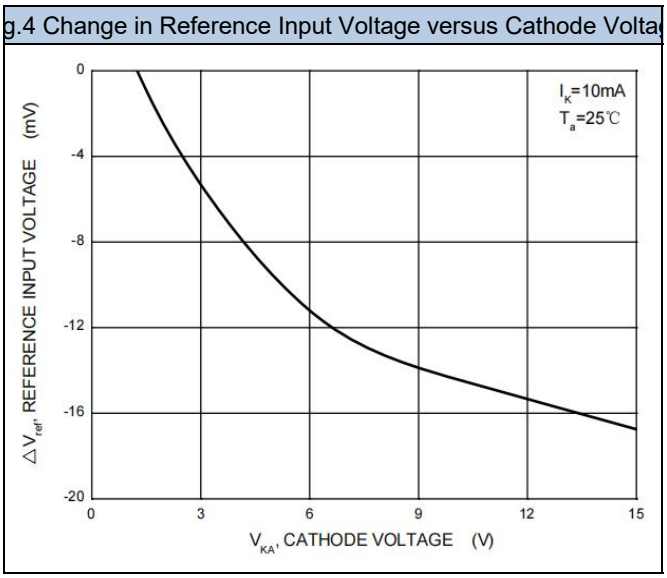


Fig.5 Reference Input Current versus Ambient Temperature

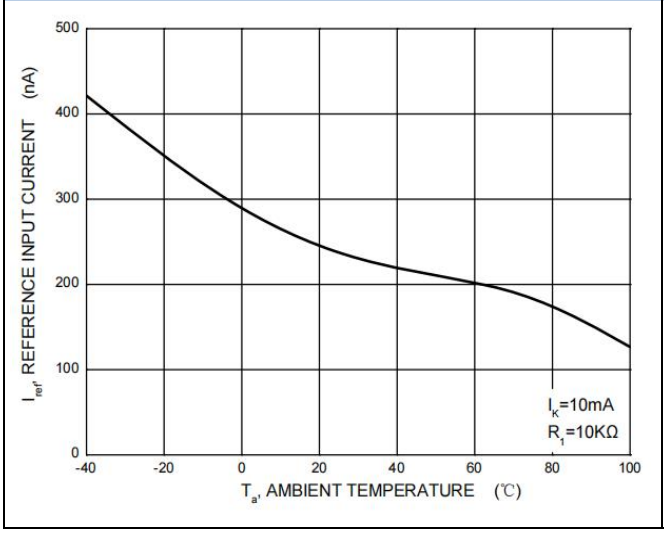
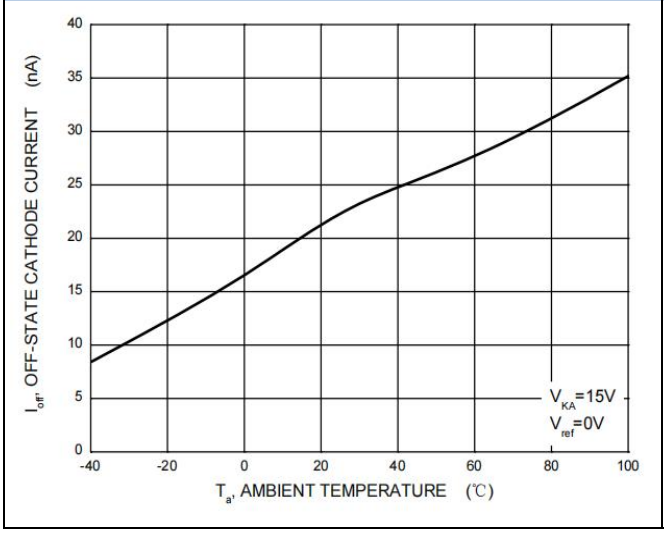
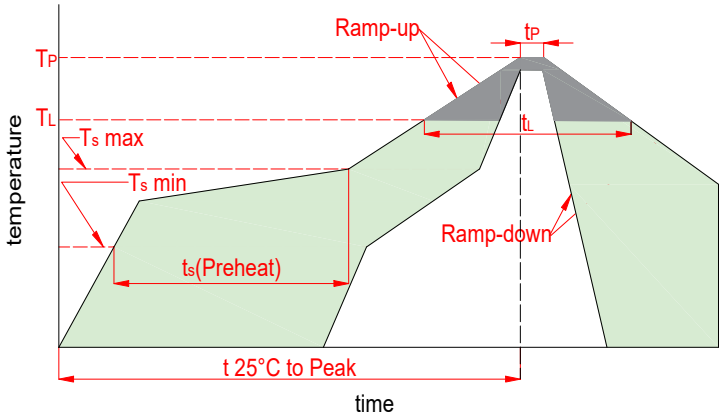


Fig.6 Off-State Cathode Current versus Ambient Temperature

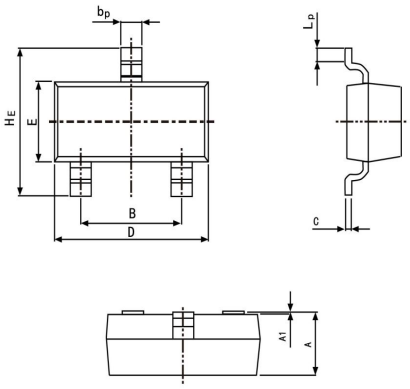


6. Soldering Parameters



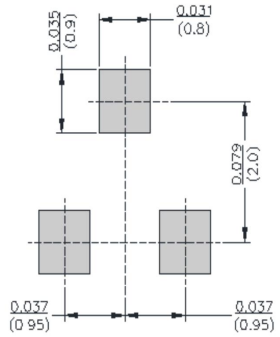
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s(min))	150℃
	Temp. max(T_s(min))	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
T_S(max) to T_L-Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		$260^{+0/-5}$℃
Time within actual peak Temp.(t_p)		30s max
Ramp-down Rate		6℃/s max
Time 25℃ to peak Tempe.(T_p)		8 minutes max
Do not exceed		260℃

7. Dimensions

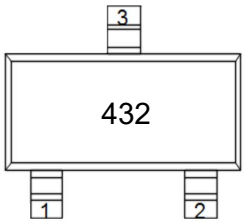


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.035	0.045	0.90	1.15
B	0.070	0.081	1.78	2.05
bp	0.012	0.020	0.30	0.51
C	0.003	0.007	0.08	0.18
D	0.110	0.118	2.80	3.00
E	0.047	0.055	1.20	1.40
HE	0.087	0.110	2.20	2.80
A1	0.000	0.004	0.00	0.10
LP	0.008	0.020	0.20	0.50

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Part Number	Tape Width(mm)	Quantity(pcs)
SOT-23	MMTL432M	8	3000

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