



TL432C

LINEAR INTEGRATED CIRCUIT

1.24V PRECISION ADJUSTABLE SHUNT REFERENCE REGULATORS

DESCRIPTION

The UTC **TL432C** is a three-terminal adjustable shunt regulator highly accurate 1.24V band gap reference with 1%, 2% tolerance. The device offers thermal stability, wide operating current (50mA) and an extended temperature range of 0°C to 85°C for operation in power supply applications. The UTC **TL432C** offers a wide operating voltage range of up to 12V and is an excellent choice for voltage reference requirements in an isolated feedback circuit for 3.0V ~ 3.3V switching mode power supplies. The tight tolerance guarantees a lower design cost for the power supply manufacturer by virtually eliminating the need for an extra power supply manufacturing process of the power supply.

FEATURES

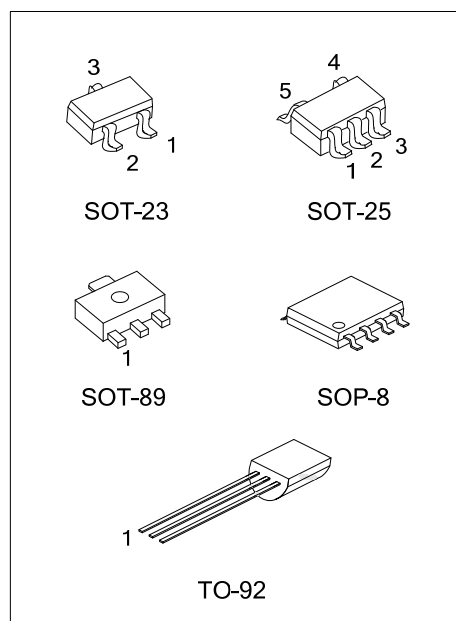
- *Temperature-Compensated: 50ppm/°C
- *Internal Amplifier with 50mA Capability
- *Nominal Temperature Range Extended to 85°C
- *Low Frequency Dynamic Output Impedance:<150mΩ
- *Low Output Noise

ORDERING INFORMATION

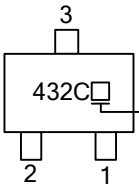
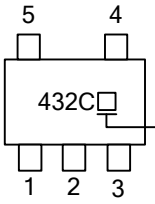
Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
TL432CL-AB3-R	TL432CG-AB3-R	SOT-89	R	A	K	-	-	-	-	-	Tape Reel
TL432CL-AE3-R	TL432CG-AE3-R	SOT-23	K	R	A	-	-	-	-	-	Tape Reel
TL432CL-AF5-R	TL432CG-AF5-R	SOT-25	X	X	K	R	A	-	-	-	Tape Reel
TL432CL-T92-B	TL432CG-T92-B	TO-92	R	A	K	-	-	-	-	-	Tape Box
TL432CL-T92-K	TL432CG-T92-K	TO-92	R	A	K	-	-	-	-	-	Bulk
TL432CL-T92-R	TL432CG-T92-R	TO-92	R	A	K	-	-	-	-	-	Tape Reel
TL432CL-S08-R	TL432CG-S08-R	SOP-8	K	A	A	X	X	A	A	R	Tape Reel
TL432CL-S08-T	TL432CG-S08-T	SOP-8	K	A	A	X	X	A	A	R	Tube

Note: Pin Code: C: Cathode A: Anode R: Reference X: No Connection

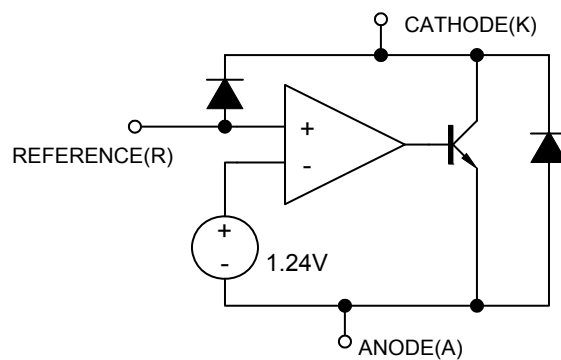
TL432CL-AB3-R (1)Packing Type (2)Package Type (3)Lead Free	(1) B: Tape Box, K: Bulk, R: Tape Reel (2) AB3: SOT-89, AE3: SOT-23, AF5: SOT-25, S08:SOP-8, T92: TO-92 (3) G: Halogen Free, L: Lead Free
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MARKING INFORMATION

PACKAGE	MARKING
SOT-23	 L: Lead Free G: Halogen Free
SOT-25	 L: Lead Free G: Halogen Free

BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Cathode-Anode Reverse Breakdown	V_{KA}	15	V
Anode-Cathode Forward Current	I_{AK}	1	A
Operating Cathode Current	I_{KA}	50	mA
Reference Input Current	I_{REF}	1	mA
Junction Temperature	T_J	125	°C
Operating Temperature	T_{OPR}	-40 ~ +85	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	RATINGS	UNIT
Cathode Voltage	V_{KA}	$V_{REF} \sim 15$	V
Cathode Current	I_K	5 ~ 10	mA

■ THERMAL DATA

PARAMETER	SYMBOL	RATING	UNIT
Junction to Ambient	SOT-23/SOT-25	350	°C/W
	TO-92	100	°C/W
	SOP-8	150	°C/W
	SOT-89	220	°C/W

■ ELECTRICAL CHARACTERISTICS ($T_J=25^\circ\text{C}$, $V_{KA}=V_{REF}$, $I_K=10\text{mA}$, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Reference Input Voltage	V _{REF}	I _K =10mA, V _K =V _{REF}	TL432C-A	1.234	1.24	1.246	V
			TL432C-1	1.228	1.24	1.252	
			TL432C-2	1.252		1.265	
			TL432C-3	1.215		1.228	
Line Regulation	ΔV _{REF}	V _K =1.24 ~ 15V			10	26	mV
Load Regulation	ΔV _{REF}	I _K =5 ~ 50mA			6	15	mV
Temperature Deviation	ΔV _{REF}	-40<T _J <85°C			2	6	mV
Reference Input Current	I _{REF}				3	6	μA
Reference Input Current Temperature Coefficient	ΔI _{REF}	-40<T _J <85°C			0.3	0.6	μA
Minimum Cathode Current for Regulation	I _{K(MIN)}				0.6	1	mA
Off State Leakage	I _{KA(OFF)}	V _{REF} =0V, V _{KA} =15V				500	nA

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