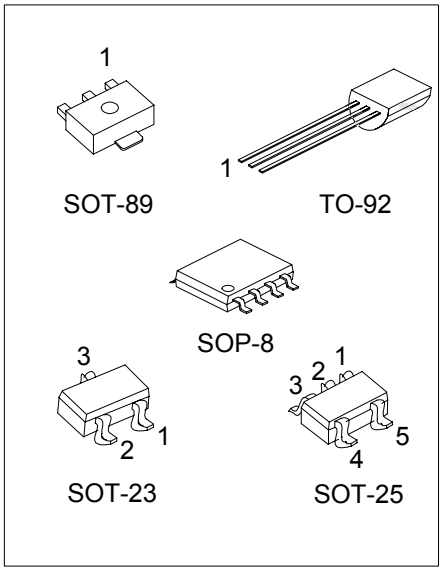
TL432D

LINEAR INTEGRATED CIRCUIT

0.8V PRECISION ADJUSTABLE SHUNT REFERENCE REGULATORS



*Pb-free plating product number: TL432DL

■ DESCRIPTION

The UTC **TL432D** is a three-terminal adjustable shunt regulator highly accurate 0.8V bandgap reference with 1%, 2% tolerance. The device offers thermal stability, wide operating current (50mA) and an extended temperature range of 0° to 105°C for operation in power supply applications. The UTC **TL432D** 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 quarantees 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 105°C
*Low frequency dynamic output impedance:<150mΩ
*Low Output Noise

■ ORDERING INFORMATION

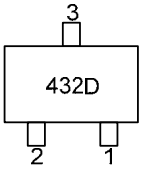
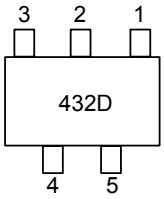
Order Number		PIN CODE								Package	Packing
Normal	Lead Free Plating	1	2	3	4	5	6	7	8		
TL432D-AB3-R	TL432DL-AB3-R	R	A	K	-	-	-	-	-	SOT-89	Tape Reel
TL432D-AE3-R	TL432DL-AE3-R	K	R	A	-	-	-	-	-	SOT-23	Tape Reel
TL432D-AF5-R	TL432DL-AF5-R	X	X	K	R	A	-	-	-	SOT-25	Tape Reel
TL432D-T92-B	TL432DL-T92-B	R	A	K	-	-	-	-	-	TO-92	Tape Box
TL432D-T92-K	TL432DL-T92-K	R	A	K	-	-	-	-	-	TO-92	Bulk
TL432D-S08-R	TL432DL-S08-R	K	A	A	X	X	A	A	R	SOP-8	Tape Reel
TL432D-S08-T	TL432DL-S08-T	K	A	A	X	X	A	A	R	SOP-8	Tube

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

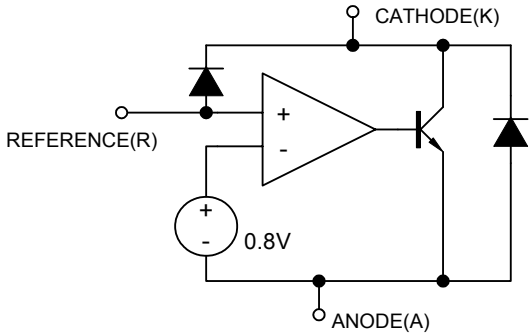
TL432DL-AB3-R
(1)Packing Type
(2)Package Type
(3)Lead Plating

(1) B: Tape Box, K: Bulk, R: Tape Reel, T: Tube
(2) AB3: SOT-89, AE3: SOT-23, AF3: SOT-25, S08: SOP-8, T92: TO-92
(3) L: Lead Free Plating, Blank: Pb/Sn

■ MARKING INFORMATION

PACKAGE	MARKING
SOT-23	
SOT-25	

■ 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}	0 ~ +70	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

Note 1. 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.

2. The device is guaranteed to meet performance specification within 0℃ ~ 70℃ operating temperature range and assured by design from -20℃ ~ 85℃.

■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Cathode Voltage	V_{KA}	V_{REF}		15	V
Cathode Current	I_K	5	10		mA

■ TYPICAL THERMAL DATA

PARAMETER	SYMBOL	PACKAGE	RATING	UNIT
Thermal Resistance Junction to Ambient	θ_{JA}	TO-92	100	°C/W
		SOP-8	150	
		SOT-89	220	
		SOT-23	350	
		SOT-25	350	

■ ELECTRICAL CHARACTERISTICS (T_J=25°C , V_{KA}=V_{REF}, I_K=10mA, unless otherwise specified.)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reference Input Voltage	1%	V_{REF}	I_K=10mA, V_K=V_{REF}	0.792	0.80	0.808	V
	2%			0.784	0.80	0.816	V
Line Regulation		ΔV_{REF}	V_K=0.8 ~ 15V		10	15	mV
Load Regulation		ΔV_{REF}	I_K=5 ~ 50mA		6	15	mV
Temperature Deviation		ΔV_{REF}	0<T_J<105°C		2	6	mV
Reference Input Current		I_{REF}			3	6	μA
Reference Input Current Temperature Coefficient		ΔI_{REF}	0<T_J<105°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