



ADJUSTABLE PRECISION SHUNT REGULATORS

AZ431-A

Description

The AZ431-A series ICs are three-terminal adjustable shunt regulators with guaranteed thermal stability over a full operation range. These ICs feature 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 AZ431-A series ICs are of 40V voltage type. Its output voltage can be set to any value between $V_{REF}(2.5V)$ and 36V.

The AZ431-A precision reference is offered in two band-gap tolerance: 0.4% and 0.8%.

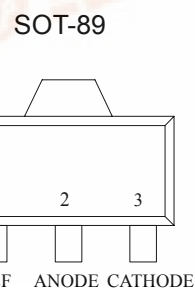
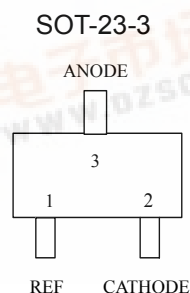
Features

- Programmable Precise Output Voltage from 2.5V to 36V
- Very Accurate Reference Voltage: 0.15% Typical
- High Stability under Capacitive Load
- Low Temperature Deviation: 4.5mV Typical
- Low Equivalent Full-range Temperature Coefficient with 20PPM/°C Typical
- Low Dynamic Output Resistance: 0.2Ω Typical
- Sink Current Capacity from 1mA to 100 mA
- Low Output Noise
- Wide Operating Range of -40 to 125°C

Applications

- Charger
- Voltage Adapter
- Switching Power Supply
- Graphic Card
- Precision Voltage Reference

Pin Configuration



Parametric Table

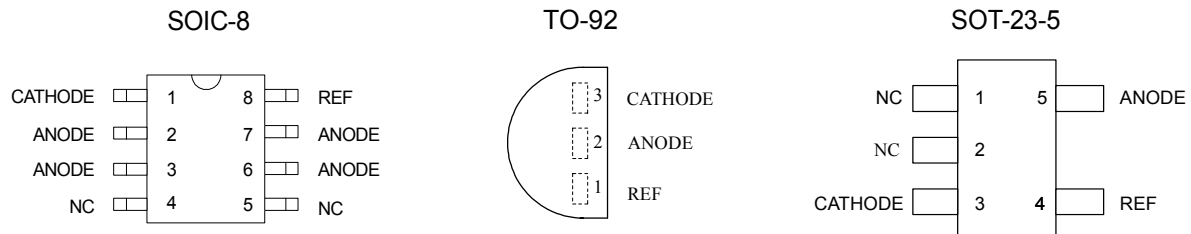
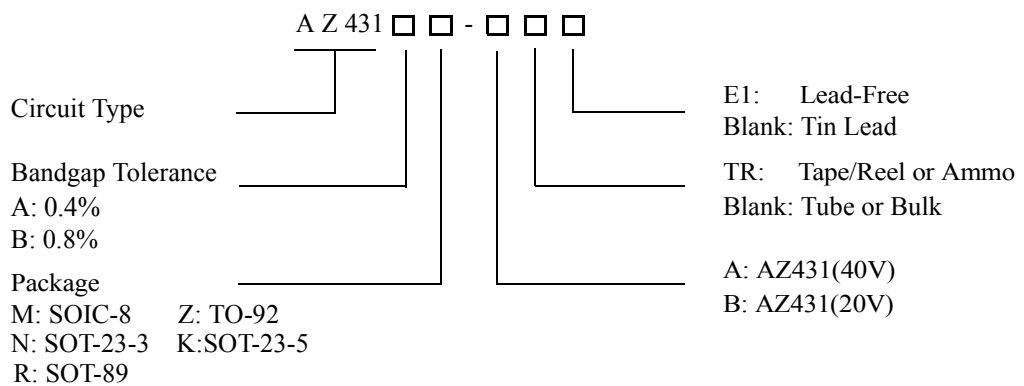
	AZ431A-A	AZ431B-A
I_{KA} (Max) (mA)	100	100
I_{KA} (Min) (mA)	0.4	0.4
V_{OUT} / V_{REF} Initial Tol. (%)	0.4	0.8
V_{OUT} (Max) (V)	36	36
V_{OUT} (Min) (V)	2.5	2.5
Z_{KA} (Typ) (Ω)	0.15	0.15
Temp Coeff. (Typ) (PPM/°C)	20	20
Operating Temperature (Min) (°C)	-40	-40
Operating Temperature (Max) (°C)	+125	+125

Benefits

- Easier to Stabilize
- Ultra Low Temperature Coefficient
- Higher V_{REF} Accuracy
- Wider Operating Temperature Range
- Very Competitive Price

Additional Available Materials

- Samples
- Datasheet
- Reliability Report
- ESD Report

**ADJUSTABLE PRECISION SHUNT REGULATORS****AZ431-A****Pin Configuration****Ordering Information Example**

Package	Temperature Range	Voltage Tolerance	Part Number		Marking ID		Packing Type
			Tin Lead	Lead Free	Tin Lead	Lead Free	
SOT-23-5	-40 to 125°C	0.4%	AZ431AK-ATR	AZ431AK-ATRE1	K3A	E3A	Tape & Reel
		0.8%	AZ431BK-ATR	AZ431BK-ATRE1	K3B	E3B	Tape & Reel
TO-92	-40 to 125°C	0.4%	AZ431AZ-A	AZ431AZ-AE1	AZ431AZ-A	AZ431AZ-AE1	Bulk
		0.4%	AZ431AZ-ATR	AZ431AZ-ATRE1	AZ431AZ-A	AZ431AZ-AE1	Ammo
		0.8%	AZ431BZ-A	AZ431BZ-AE1	AZ431BZ-A	AZ431BZ-AE1	Bulk
		0.8%	AZ431BZ-ATR	AZ431BZ-ATRE1	AZ431BZ-A	AZ431BZ-AE1	Ammo

Detailed information please refer to the relevant datasheet.

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