

Product Overview

TL431A: Voltage Reference, Programmable Precision, Shunt Regulator

For complete documentation, see the data sheet.

The TL431, A, B integrated circuits are three-terminal programmable shunt regulator diodes. These monolithic IC voltage references operate as a low temperature coefficient zener which is programmable from Vref to 36 V with two external resistors. These devices exhibit a wide operating current range of 1.0 mA to 100 mA with a typical dynamic impedance of 0.22 W. The characteristics of these references make them excellent replacements for zener diodes in many applications such as digital voltmeters, power supplies, and op amp circuitry. The 2.5 V reference makes it convenient to obtain a stable reference from 5.0 V logic supplies, and since the TL431, A, B operates as a shunt regulator, it can be used as either a positive or negative voltage reference.

Features

- Programmable Output Voltage to 36 V
- Voltage Reference Tolerance: +/- 0.4%, Typ @ 25°C (TL431B)
- Low Dynamic Output Impedance, 0.22 W Typical
- Sink Current Capability of 1.0 mA to 100 mA
- Equivalent Full-Range Temperature Coefficient of 50 ppm/ °C Typical
- Temperature Compensated for Operation over Full Rated Operating Temperature Range
- Low Output Noise Voltage
- Pb-Free Packages are Available

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Type	V _(BR) Typ (V)	Tolerance (%)	I _o Typ (mA)	I _R Min (mA)	V _F Max (V)	T _A Min (°C)	T _A Max (°C)	Package Type
TL431ACDG	0.1113	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	0	70	SOIC-8
TL431ACDMR2G	0.1331	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	0	70	Micro8™
TL431ACDR2G	0.1333	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	0	70	SOIC-8
TL431ACLPG	0.154	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	0	70	TO-92
TL431ACLPRAG	0.12	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	0	70	TO-92
TL431ACLPRG	0.1267	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	0	70	TO-92
TL431ACLPRPG	0.154	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	0	70	TO-92
TL431AIDG	0.1331	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	-40	85	SOIC-8
TL431AIDMR2G	0.2292	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	-40	85	Micro8™
TL431AIDR2G	0.12	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	-40	85	SOIC-8
TL431AILPG	0.12	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	-40	85	TO-92
TL431AILPRAG	0.12	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	-40	85	TO-92
TL431AILPRMG		Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	-40	85	TO-92
TL431AILPRPG	0.1381	Pb-free Halide free	Active	Adjustable	2.5	1	0.5	1	36	-40	85	TO-92

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