

Product Overview

TL431B: 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 V_{ref} 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 Ω . 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: $\pm 0.4\%$, Typ @ 25°C (TL431B)
- Low Dynamic Output Impedance, 0.22 Ω 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
TL431BCDG	0.1509	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	0	70	SOIC-8
		Halide free										
TL431BCDMR2G		Pb-free Halide free	Active	Adjustable	2.5	0.4	0.5	1	36	0	70	Micro8™
TL431BCDR2G	0.1333	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	0	70	SOIC-8
		Halide free										
TL431BCLPG	0.1095	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	0	70	TO-92
		Halide free										
TL431BCLPRAG		Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	0	70	TO-92
		Halide free										
TL431BCLPREG		Pb-free Halide free	Active	Adjustable	2.5	0.4	0.5	1	36	0	70	TO-92
TL431BCLPRMG	0.0983	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	0	70	TO-92
		Halide free										
TL431BIDG	0.1303	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	-40	85	SOIC-8
		Halide free										
TL431BIDMR2G	0.1851	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	-40	85	Micro8™
		Halide free										
TL431BIDR2G	0.1333	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	-40	85	SOIC-8
		Halide free										
TL431BILPG	0.1409	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	-40	85	TO-92
		Halide free										
TL431BILPRAG	0.2067	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	-40	85	TO-92
		Halide free										
TL431BVDG	0.2079	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	-40	85	SOIC-8
		Halide free										
TL431BVDMR2G	0.2739	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	-40	85	Micro8™
		Halide free										
TL431BVDR2G	0.1333	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	-40	125	SOIC-8
		Halide free										
TL431BVLPG	0.1799	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	-40	85	TO-92
		Halide free										
TL431BVLPRAG	0.1333	Pb-free	Active	Adjustable	2.5	0.4	0.5	1	36	-40	125	TO-92
		Halide free										

For more information please contact your local sales support at www.onsemi.com.

Created on: 12/16/2019