



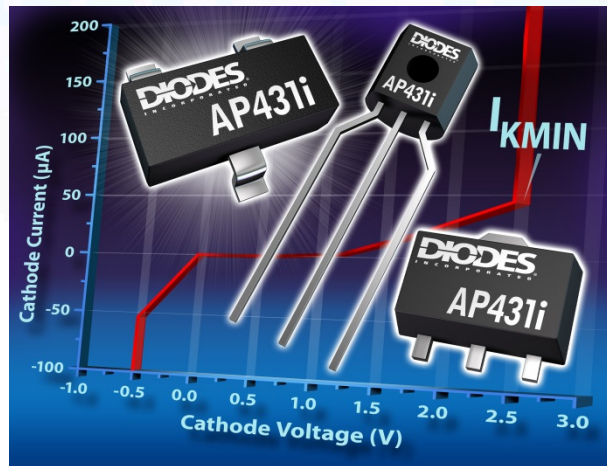
Low Cathode Current, Cost Effective Precision Shunt Regulator

The AP431i is an extremely low minimum cathode current shunt regulator with guaranteed thermal stability over its full operating range.

It has the same electrical specifications as the industry standard '431, however its typical minimum cathode current is only 50 μ A (8-times lower than the TL431). This makes it ideal for applications such as offline power supplies, adapters and other adjustable regulators that require very low power consumption.

The output voltage of the AP431i can be set to any value between V_{REF} (2.5V) and the corresponding maximum cathode voltage (36V).

AP431i is offered in two initial voltage tolerance grades of 0.5% and 1%; in TO92, SOT23 and SOT89.



The Diodes' Advantage

The AP431i provides a cost effective solution for low standby power consumption applications.

- **Low minimum operating current (I_{Kmin})**
Minimizes operating current reducing power consumption
- **Low reference current (I_{REF})**
Reduces the output voltage error associated with feedback resistors
- **Better deviation of reference voltage over full temperature range**
Low output variation over temperature

Applications

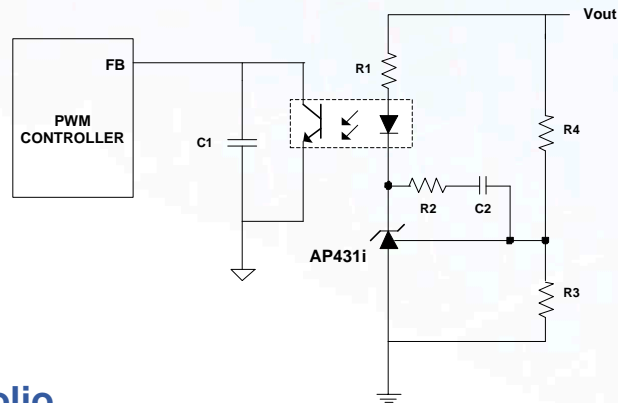
- Adapters
- Chargers
- Precision voltage references
- Isolated power supplies



New Product Announcement

AP431i

Typical Application Schematic: SMPS



Product Portfolio

Part Number	Reference Voltage (V)	Accuracy (%)	Maximum Input Voltage (V)	Sink Current (mA)	Minimum Cathode Current for Regulation Typ (μ A)	Maximum Slope Resistance (Ω)	Operating Ambient Temperature Range ($^{\circ}$ C)	Package Outlines
AP431i	2.5	0.5/1	40	0.1 to 100	50	0.3	-40 to 125	SOT23, SOT89, TO92
AS431	2.5	0.5/1	40	1 to 100	400	0.5	-40 to 125	TO92, SOT89, SOT23, SOT25
ZHT431	2.5	0.5/1/2	20	0.05 to 150	35	0.75	-55 to 125	SOT23

Ordering Information

Part Number	Voltage Tolerance	Package	Temperature Range	Marking ID	Packing
AP431iANTR-G1	0.5%	SOT-23	-40 to +125 $^{\circ}$ C	GCA	3000/Tape & Reel
AP431iBNTR-G1	1.0%			GCB	3000/Tape & Reel
AP431iARTR-G1	0.5%	SOT-89	-40 to +125 $^{\circ}$ C	G33M	1000/Tape & Reel
AP431iBRTR-G1	1.0%			G33R	1000/Tape & Reel
AP431iAZTR-G1	0.5%	TO-92	-40 to +125 $^{\circ}$ C	AP431iAZ-G1	2000/Ammo
AP431iBZTR-G1	1.0%			AP431iBZ-G1	2000/Ammo