DC COMPONENTS CO., LTD.

INTEGRATED CIRCUIT

DA431
DA431A
DA431B

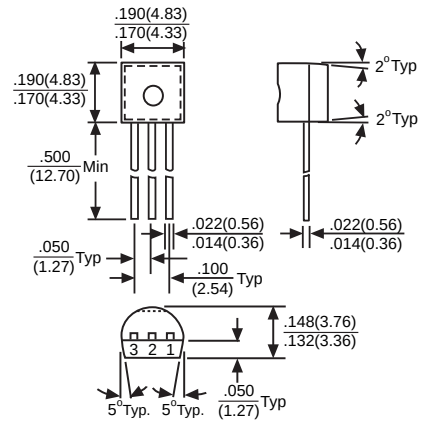
TECHNICAL SPECIFICATIONS OF ADJUSTABLE SHUNT REGULATOR

Features

* Programmable output voltage
* Temperature coefficient is 50ppm/°C typical
* Temperature compensated for operation over
* Full temperature range
* Low output noise voltage
* Fast turn on response



TO-92



Dimensions in inches and (millimeters)

Pinning

1 = Reference
2 = Anode
3 = Cathode

Absolute Maximum Ratings

(Operating temperature range applies, unless otherwise specified)

Characteristic	Symbol	Rating	Unit
Cathode to Anode Voltage	V_{KA}	37	V
Cathode Current Range(Continuous)	I_K	-100 to +150	mA
Reference Input Current Range	Iref	+0.05 to +10	mA
Power Dissipation	P_D	770	mW
Operating Temperature Range	T_{opr}	0 to +70	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Conditions
Reference Input Voltage	DA431	Vref	2.440	2.495	2.550	V	$V_{KA}=V_{REF}$, I_K=10mA
	DA431A		2.470	2.495	2.520		
	DA431B		2.480	2.495	2.510		
Reference Input Voltage Deviation Over Temperature Range		ΔVref	-	4.0	17	mV	$V_{KA}=V_{REF}$, I_K=10mA $T_{min}\leqq T_A\leqq T_{max}$
Ratio of Change in Reference Input Voltage to Change in Cathode to Anode Voltage		ΔVref / ΔV_{KA}	-	-1.4	-2.7	mV/V	I_K=10mA, ΔV_{KA}=10V-V_{REF}
			-	-1.0	-2.0		I_K=10mA, ΔV_{KA}=36V-10V
Reference Input Current		Iref	-	2.0	4.0	μA	I_K=10mA, R_1=10kΩ, R_2=∞
Reference Input Current Deviation Over Temperature Range		ΔIref	-	0.4	1.2	μA	I_K=10mA, R_1=10kΩ, R_2=∞ $T_{min}\leqq T_A\leqq T_{max}$
Minimum Cathode Current for Regulation		$I_{K(min)}$	-	0.4	1.0	mA	$V_{KA}=V_{REF}$
Off-State Cathode Current		$I_{K(off)}$	-	0.1	1.0	μA	V_{KA}=36V, V_{REF}=0
Dynamic Impedance		Z_{KA}	-	0.2	0.5	Ω	$V_{KA}=V_{REF}$, f≦1.0KHz I_K=1 to 100mA