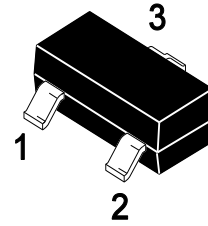


## Features

- Programmable output voltage to 36V.
- Low dynamic output impedance.
- Sink current capability of 1.0 to 100mA.
- Low output noise voltage
- Fast turn on response

## Programmable Precision Reference

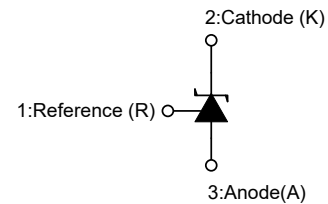
SOT23-3



Marking: GN431G 0.3%: 431G  
GN431A 0.5%: 431A

## Application

- It provides very wide applications, including shunt regulator, series regulator, switching regulator, voltage reference and others.



## Absolute Maximum Ratings (Ta=25°C unless otherwise specified)

Symbol	Parameter	Rating	Units
V <sub>KA</sub>	Cathode Voltage	37	V
I <sub>KA</sub>	Cathode Current Range(Continuous)	-100 ~ +150	mA
I <sub>REF</sub>	Reference Input Current Range	-0.05 ~ +10	mA
P <sub>D</sub>	Power Dissipation	350	mW
T <sub>J</sub>	Operating Junction	+150	°C
T <sub>OPR</sub>	Operating Ambient	-40 ~ +85	°C
T <sub>STG</sub>	Storage Temperature	-65 ~ +150	°C

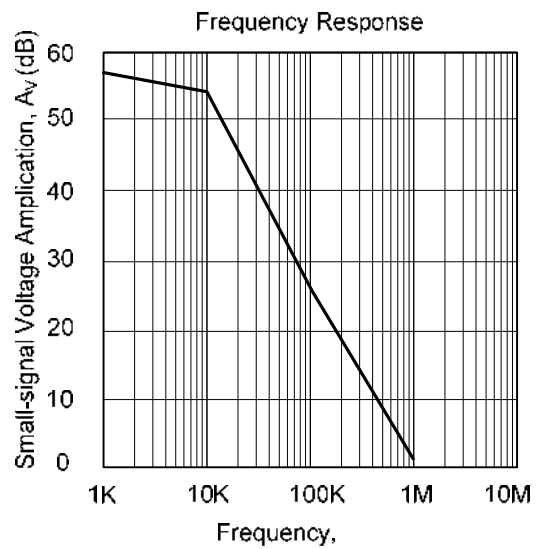
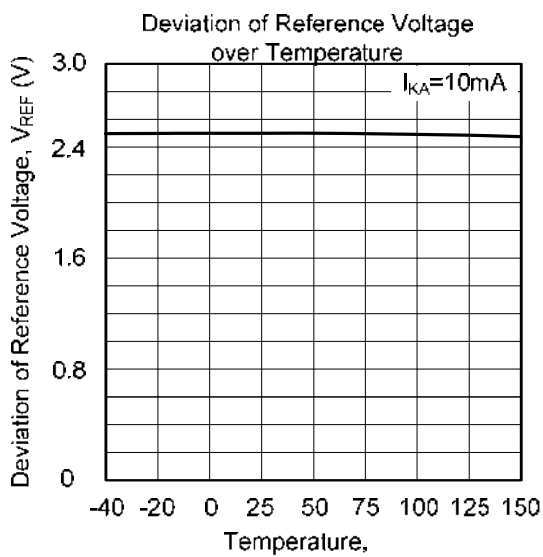
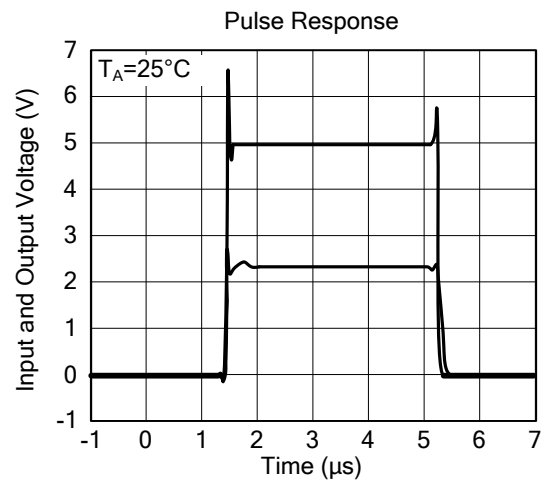
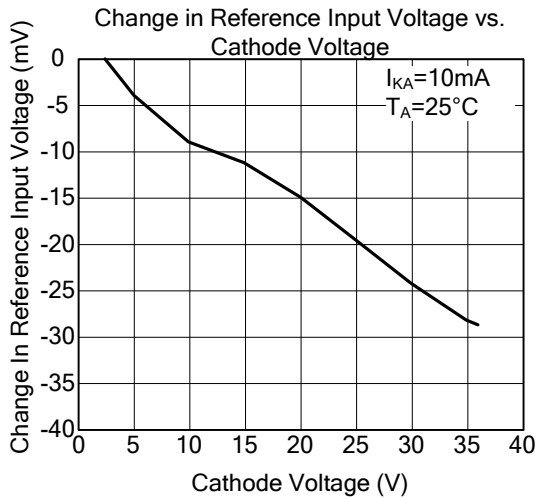
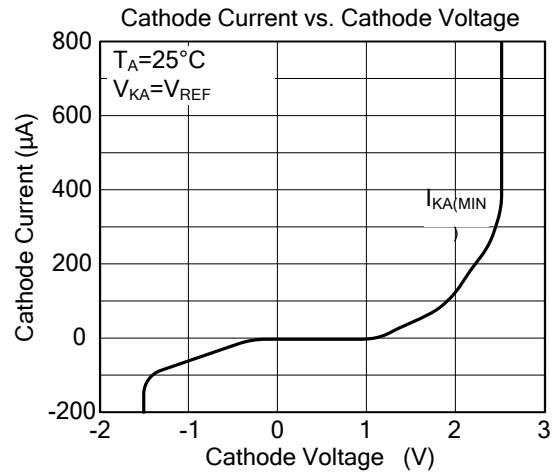
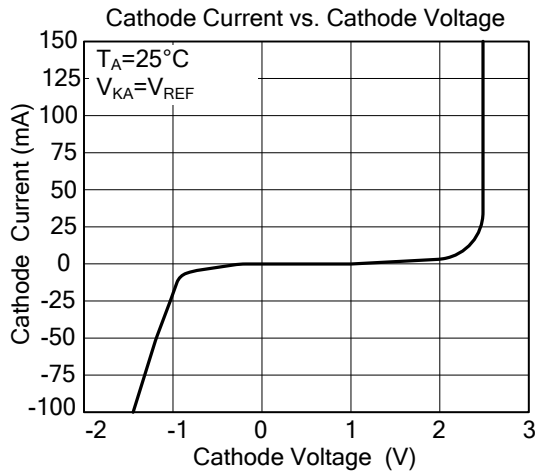
## Recommended Operating Conditions

Symbol	Parameter	Min.	Typ.	Max.	Units
V <sub>KA</sub>	Cathode Voltage	V <sub>REF</sub>	-	36	V
I <sub>KA</sub>	Cathode Current	1	-	100	mA

**Electrical Characteristics** (Ta=25°C unless otherwise specified)

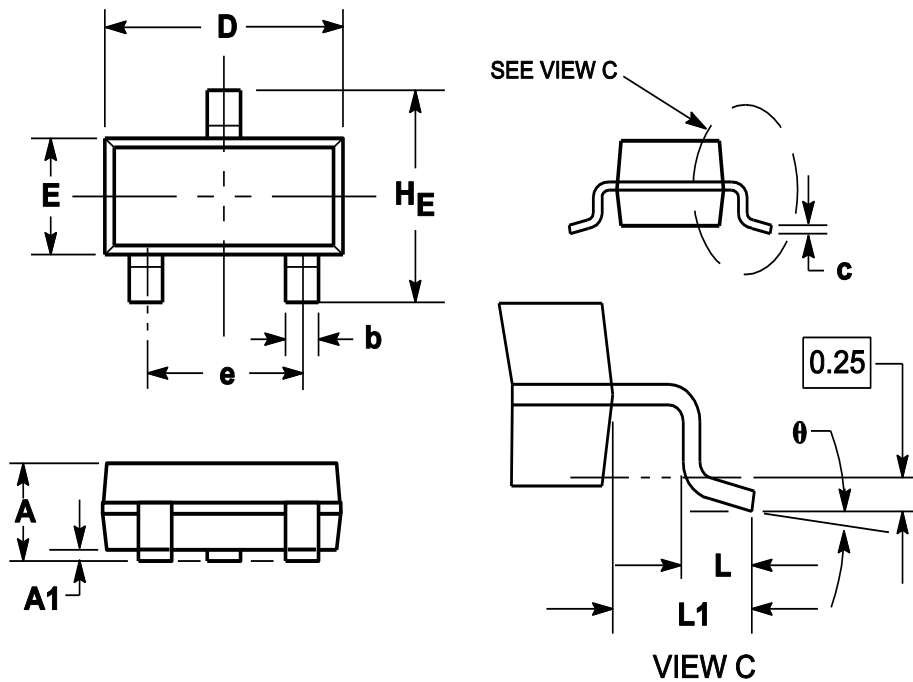
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
V <sub>REF</sub>	Reference Input Voltage	V <sub>KA</sub> =V <sub>REF</sub> , I <sub>KA</sub> =10mA	GN431G	2.44	2.495	2.55	V
			GN431A	2.48	2.495	2.51	V
ΔV <sub>REF</sub>	Deviation of Reference Input Voltage Over Temperature	V <sub>KA</sub> =V <sub>REF</sub> , I <sub>KA</sub> =10mA, -40°C ≤ T <sub>A</sub> ≤ +85°C			4.5	17	mV
$\frac{\Delta V_{REF}}{\Delta V_{KA}}$	Ratio of Change in Reference Input Voltage to the Change in Cathode Voltage	I <sub>KA</sub> =10mA	ΔV <sub>KA</sub> =10V~V <sub>REF</sub>		-1.0	-2.7	mV/V
			ΔV <sub>KA</sub> =36V~10V		-0.5	-2.0	mV/V
I <sub>REF</sub>	Reference Input Current	I <sub>KA</sub> =10mA, R1=10kΩ, R2=∞			1.5	4	μA
ΔI <sub>REF</sub>	Deviation of Reference Input Current Over Full Temperature Range	I <sub>KA</sub> =10mA, R1=10kΩ, R2=∞, -25°C ≤ T <sub>A</sub> ≤ +85°C			0.4	1.2	μA
I <sub>KA(MIN)</sub>	Minimum Cathode Current for Regulation	V <sub>KA</sub> =V <sub>REF</sub>			0.45	1	mA
I <sub>KA(OFF)</sub>	Off-State Cathode Current	V <sub>KA</sub> =36V, V <sub>REF</sub> =0			0.05	1.0	μA
Z <sub>KA</sub>	Dynamic Impedance	V <sub>KA</sub> =V <sub>REF</sub> , I <sub>KA</sub> =1~100mA, f≤1.0kHz			0.15	0.5	Ω

Typical Characteristic Curves

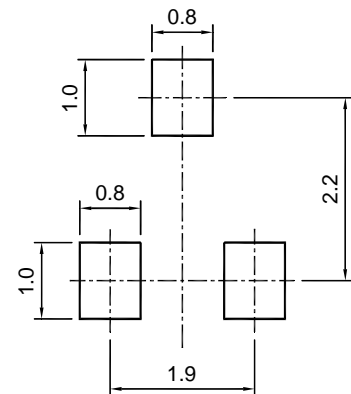


**Package Outline**

SOT-23



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.900	1.025	1.150
A1	0.000	0.050	0.100
b	0.300	0.400	0.500
c	0.080	0.115	0.150
D	2.800	2.900	3.000
E	1.200	1.300	1.400
HE	2.250	2.400	2.550
e	1.800	1.900	2.000
L1	0.550REF		
L	0.300		0.500
θ	0°		8°



SOT-23 (TO-236)

**Recommended soldering pad**

**Ordering Information**

Device	Package	Shipping
GN431G/GN431A	SOT-23	3000PCS/Reel&Tape