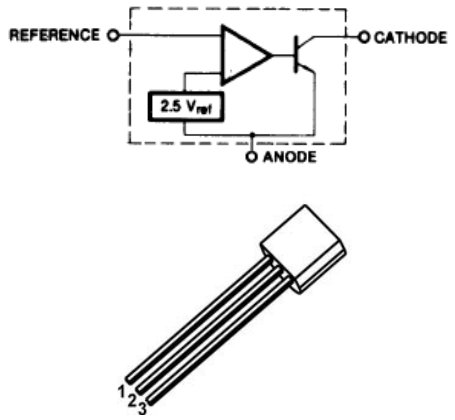
LGE431

Adjustable Reference Source

FEATURES

- The output voltage can be adjusted to 36V.
- Low dynamic output impedance ,its typical value is 0.2Ω.
- Trapping current capability is 1 to 100mA.
- The effective temperature compensation in the working.
- Low output noise voltage.
- Fast on -state respons.
- The typical value of the equivalent temperature factor in the whole temperature scope is 50 ppm/℃.



1.REFERENCE
2.ANODE
3.CATHODE

TO-92

APPLICATIONS

- Adjustable accurate reference source.

ORDERING INFORMATION

Type No.	Marking	Package Code
LGE431	431	TO-92

MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
$V_{(ESD)}$	Electrostatic discharge Human-body model(HBM),per ANSI/ESDA/JEDEC JS-001(Note1)	±2000	V
	Electrostatic discharge Charged-device model(CDM), per JEDEC specification JESD22C101(Note2)	±1000	
V_{KA}	Cathode voltage	37	V
I_{KA}	Cathode current range(Continuous)	-100 to +150	mA
I_{ref}	Reference input current range	0.05 to 10	mA
P_D	Power dissipation	770	mW
T_{OPR}	Operating temperature range	-40 to +105	℃
T_j, T_{stg}	Storage temperature range	-65 to +150	℃

Notes:

1.JEDEC document JEP155 states that 500-v HBM allows safe manufacturing with a standard ESD control process.Manufacturing with less than 500-v HBM is possible with the necessary precautions.

2. JEDEC document JEP157 states that 250-v CDM allows safe manufacturing with a standard ESD control process.Manufacturing with less than 250-v CDM is possible with the necessary precautions.

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Reference input voltage	V_{ref}	$V_{KA}=V_{REF}, I_{KA}=10mA$		2.45	2.5	2.55	V
Load regulation	$\Delta V_{ref}/\Delta T$	$V_{KA}=V_{REF}, I_{KA}=10mA$ $T_{min}\leq T_A\leq T_{max}$			4.5	17	mV
Ratio Of Change in Reference Input Voltage to the change in CathodeVoltage	$\Delta V_{ref}/\Delta V_{KA}$	$I_{KA}=10mA$	ΔV_{KA}=10V- V_{ref}	-2.7	-1.0		mV/V
			ΔV_{KA}=36V- 10V	-2.0	-0.5		mV/V
Reference input current	I_{ref}	$I_{KA}=10mA, R_1=10K\Omega, R_2=\infty$			1.5	4	μA
Deviation Of Reference Input Current Over Full Temperature Range	$\Delta I_{ref}/\Delta T$	$I_{KA}=10mA, R_1=10K\Omega, R_2=\infty$ T_A= Full Range			0.4	1.2	μA
Minimum cathode current for regulation	$I_{KA(min)}$	$V_{KA}=V_{REF}$			0.45	1.0	mA
Off-state cathode Current	$I_{KA(OFF)}$	$V_{KA}=36V, V_{REF}=0$			0.05	1.0	μA
Dynamic impedance	Z_{KA}	$V_{KA}=V_{REF}, I_{KA}$=1 to 100mA f≥1.0KHz			0.15	0.5	Ω

Note: T_{MIN}=0℃,T_{MAX}=+70℃

CLASSIFICATION OF V_{ref}

Rank	0.5%	1%	2%
Range	2.488-2.512	2.475-2.525	2.450-2.550

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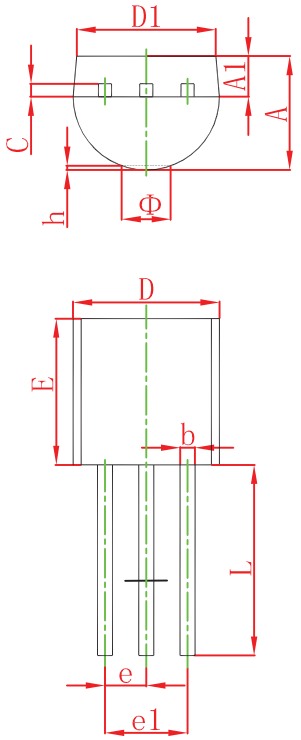
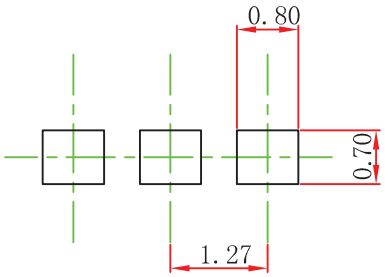
PACKAGE OUTLINE

TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
K		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

PACKAGE INFORMATION

Device	Package	Shipping
LGE431	TO-92	2000 pcs / Tape & Reel