

ORDERING INFORMATION

Part Number	MARKING ⁽¹⁾	Package	Packing Method	Pack Quantity
CJ431K	431K •	SOT-23	Reel	3000pcs/Reel
CJ431K	CJ ⁽²⁾ TL431K • XXX	TO-92	Bulk	1000pcs/Bag
CJ431K-TA	CJ ⁽²⁾ TL431K • XXX	TO-92	Tape	2000pcs/Box

Notes:(1).Solid dot=Green molding compound device,if none,the normal device.

(2).XXX=Code

ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value		Units
		SOT-23	TO-92	
Cathode Voltage	V_{KA}	37		V
Cathode Current Range (Continuous)	I_{KA}	-100~+150		mA
Reference Input Current Range	I_{ref}	0.05~+10		mA
Power Dissipation	P_D	300	770	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	162	°C/W
Operating temperature	T_{opr}	-25~ +85		°C
Junction Temperature	T_J	150		°C
Storage Temperature Range	T_{stg}	-65~+150		°C

ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reference input voltage	V_{ref}	$V_{KA}=V_{REF}, I_{KA}=10mA$	2.470		2.520	V
Deviation of reference input voltage over temperature (note)	$\Delta V_{ref}/\Delta T$	$V_{KA}=V_{REF}, I_{KA}=10mA$ $T_{min} \leq T_a \leq T_{max}$		4.5	17	mV
Ratio of change in reference Input voltage to the change in cathode voltage	$\Delta V_{ref}/\Delta V_{KA}$	$I_{KA}=10mA$		-1.0	-2.7	mV/V
			$\Delta V_{KA}=10V \sim V_{REF}$		-0.5	-2.0
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	$\Delta I_{ref}/\Delta T$	$I_{KA}=10mA, R_1=10k\Omega$ $R_2=\infty$ $T_A=-25$ to $125^\circ C$		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	$I_{KA(OFF)}$	$V_{KA}=40V, V_{REF}=0$		0.05	0.5	μA
Dynamic impedance	Z_{KA}	$V_{KA}=V_{REF}, I_{KA}=1$ to $100mA$ $f \leq 1.0kHz$		0.15	0.5	Ω

Note: $T_{MIN}=-25^\circ C, T_{MAX}=+85^\circ C$

CLASSIFICATION OF V_{ref}

Rank	0.5%	1%
Range	2.482-2.508	2.47-2.52

