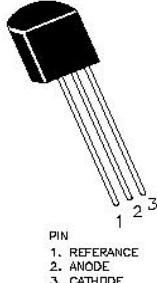


## PROGRAMMABLE SHUNT REGULATOR

TL431



TO-92  
Plastic Package

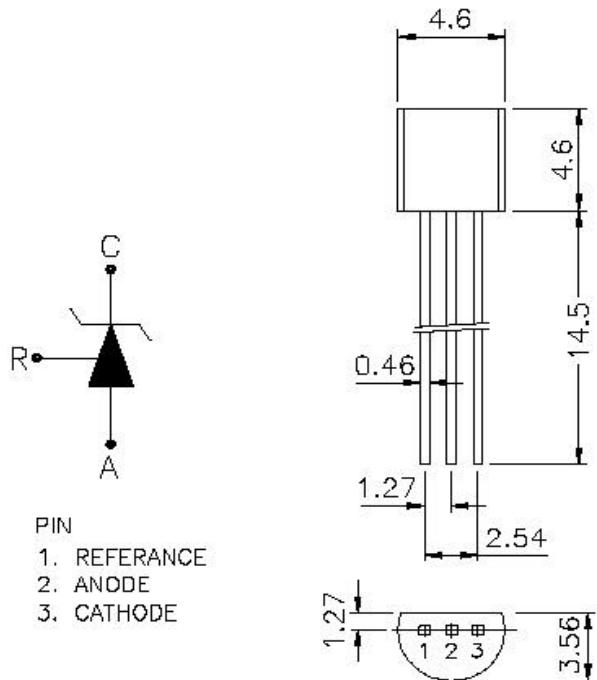
Three Terminal Adjustable Regulator series with a Guaranteed Thermal Stability over Applicable Temperature Ranges

### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

DESCRIPTION	SYMBOL	MIN	MAX	UNITS
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	$P_D$		700	mW
Operating Temperature Range	$T_{OPR}$	0	70	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-65	150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless specified otherwise)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Reference Input Voltage	$V_{REF}$	$V_{KA}=V_{REF}, I_{KA}=10\text{mA}$ <b>TL431</b> <b>TL431A</b> <b>TL431B</b> <b>TL431C</b>	2.44	2.55	V
Reference Input Current	$I_{REF}$	$I_{KA} = 10\text{mA}, R_1=10\text{K}\Omega, R_2=\infty$		4.0	$\mu\text{A}$
Minimum Cathode Current for Regulation	$I_{KA} (\text{MIN})$	$V_{KA}=V_{REF}$		1.0	mA
Off Stage Cathode Current	$I_{KA} (\text{OFF})$	$V_{KA}=36\text{V}, V_{REF}=0$		1.0	$\mu\text{A}$

**TO-92 Plastic Package**

ALL DIMENSIONS ARE IN M.M.