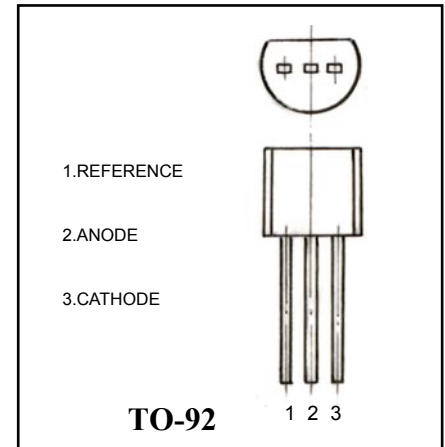


### Adjustable Accurate Reference Source

**(Pb)** Lead(Pb)-Free

#### FEATURES

- The output voltage can be adjusted to 36V
- Low dynamic output impedance ,its typical value is 0.2  $\Omega$
- Trapping current capability is 1 to 100mA
- The typical value of the equivalent temperature factor in the whole temperature scope is 50 ppm/ $^{\circ}\text{C}$
- The effective temperature compensation in the working range of full temperature
- Low output noise voltage
- Fast on -state response



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

Parameter	SYMBOL	VALUE	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	$P_D$	770	mW
Operating temperature	$T_{opr}$	0-70	$^{\circ}\text{C}$
Storage temperature Range	$T_{stg}$	-65-+150 $^{\circ}\text{C}$	$^{\circ}\text{C}$

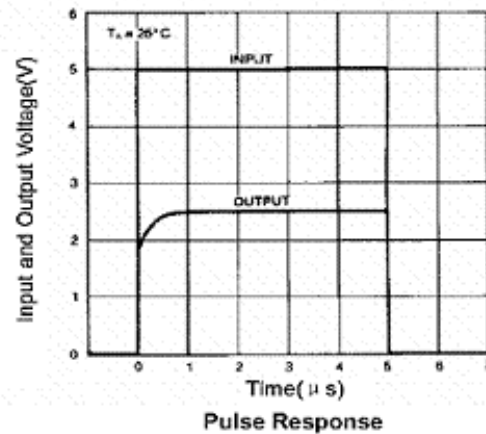
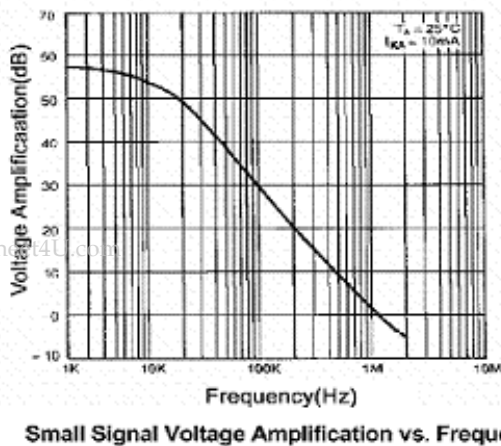
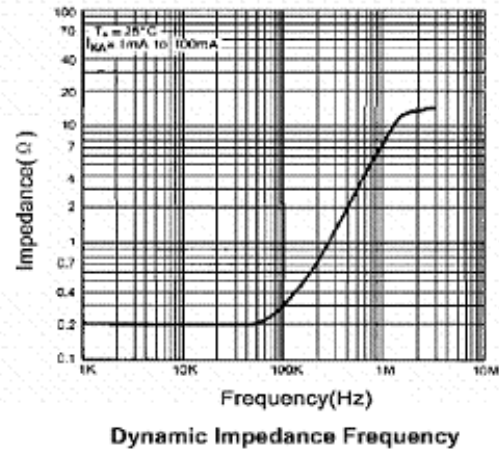
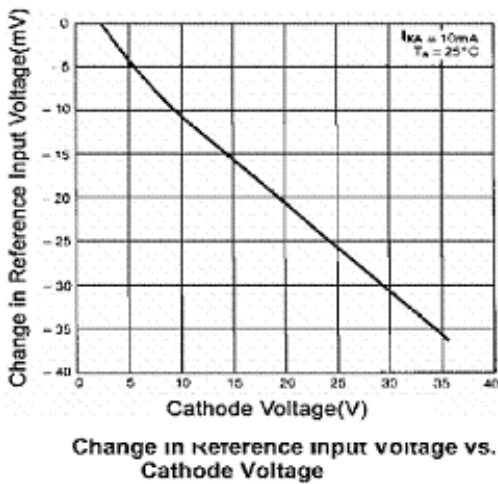
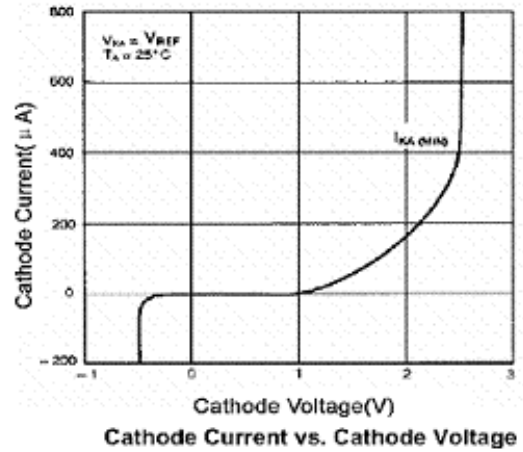
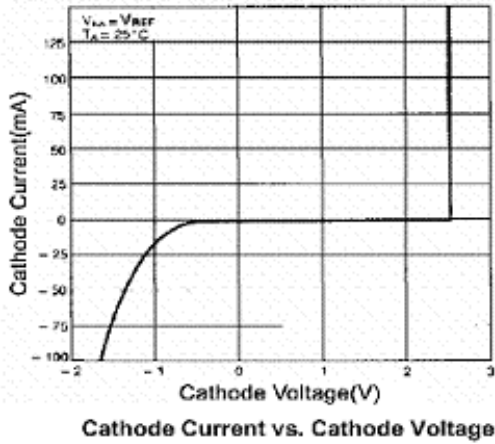
#### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Reference Input Voltage	$V_{ref}$	$V_{KA}=V_{REF}, I_{KA}=10\text{mA}$	2.475	2.5	2.525	V
Deviation of reference input Voltage Over temperature (note)	$\Delta V_{ref}/\Delta T$	$V_{KA}=V_{REF}, I_{KA}=10\text{mA}$ $T_{min} \leq T_a \leq T_{max}$		4.5	17	mV
Ratio Of Change in Reference Input Voltage to the change in Cathode Voltage	$\Delta V_{ref}/\Delta V_{KA}$	$I_{KA}=10\text{mA}$		-1.0	-2.7	m V/V
			$\Delta V_{KA}=10\text{V} \sim V_{REF}$ $\Delta V_{KA}=36\text{V} \sim 10\text{V}$	-0.5	-2.0	m V/V
Reference Input Current	$I_{ref}$	$I_{KA}=10\text{mA}, R_1=10\text{K}\Omega$ $R_2=\infty$		1.5	4	$\mu\text{A}$
Deviation Of Reference Input Current Over Full Temperature Range	$\Delta I_{ref}/\Delta T$	$I_{KA}=10\text{mA}, R_1=10\text{K}\Omega$ $R_2=\infty$ $T_A=\text{full Temperature}$		0.4	1.2	$\mu\text{A}$
Minimum cathode current for regulation	$I_{KA}(\text{min})$	$V_{KA}=V_{REF}$		0.45	1.0	mA
Off-state cathode Current	$I_{KA}(\text{OFF})$	$V_{KA}=36\text{V}, V_{REF}=0$		0.05	1.0	$\mu\text{A}$
Dynamic Impedance	$Z_{KA}$	$V_{KA}=V_{REF}, I_{KA}=1$ to 100mA $f \leq 1.0\text{KHz}$		0.15	0.5	$\Omega$

Note:  $T_{MIN}=0^{\circ}\text{C}$  ,  $T_{MAX}=+70^{\circ}\text{C}$

#### CLASSIFICATION OF $V_{ref}$

Rank	WT431 (0.5%)	WT431A (1.0%)	WT431B (2.0%)
Range	2.487-2.512	2.475-2.525	2.450-2.550



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