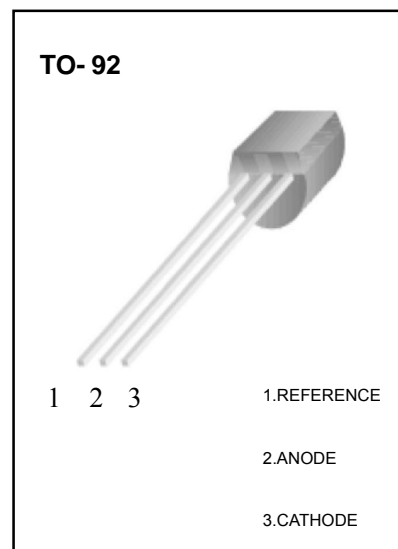


TO-92 Encapsulate Adjustable Reference Source

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 typical value of the equivalent temperature factor in the whole temperature scope is 50 ppm/°C
- The effective temperature compensation in the working range of full temperature
- Low output noise voltage
- Fast on -state response



Limiting Values (Absolute Maximum Rating)

Parameter	Symbol	Value	Unit
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
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	162	°C/W
Operating Ambient Temperature Range	T_{opr}	-25~+85	°C
Storage Temperature Range	T_{stg}	-65~+150	°C
Operating Junction Temperature	T_j	150	°C

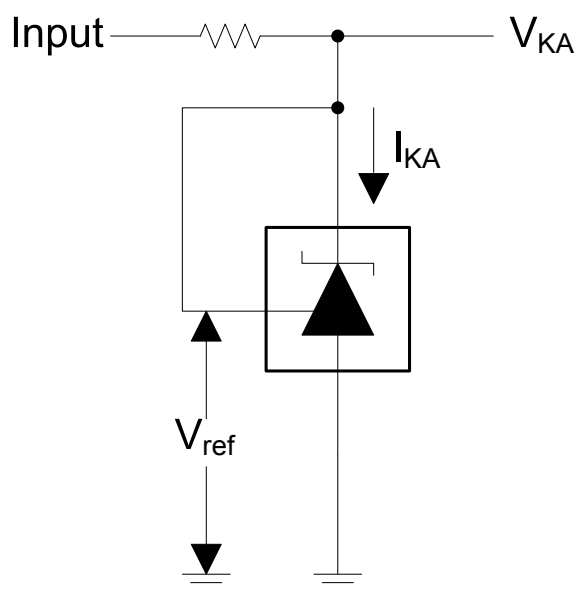
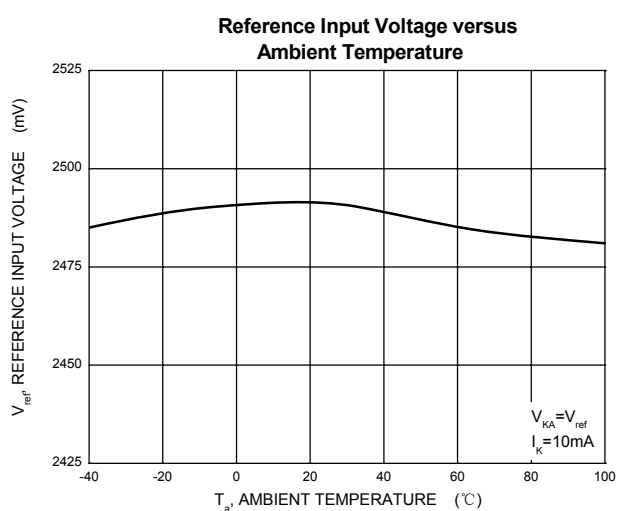
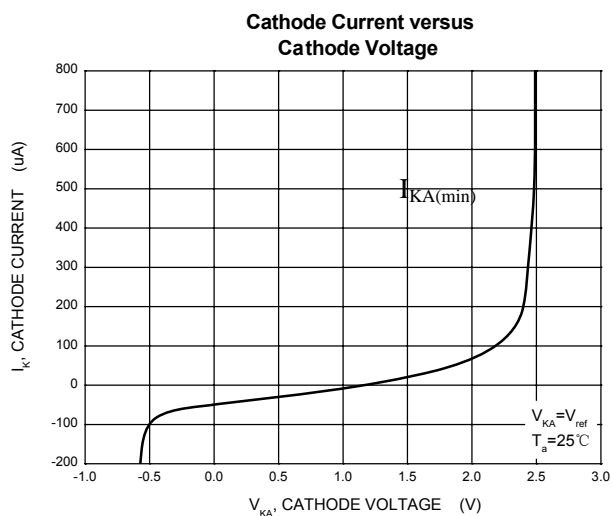
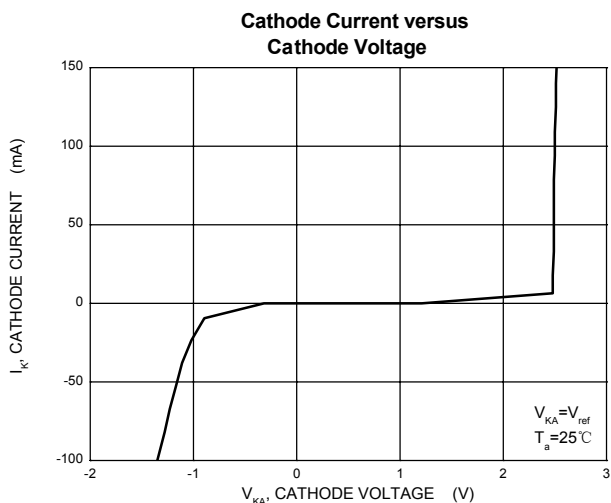
Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

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	$\Delta V_{ref}/\Delta V_{KA}$	$I_{KA}=10\text{mA}$	$\Delta V_{KA}=10\text{V}\sim V_{REF}$	-1.0	-2.7	mV/V
			$\Delta V_{KA}=36\text{V}\sim 10\text{V}$	-0.5	-2.0	mV/V
Reference Input Current	I_{ref}	$I_{KA}=10\text{mA}, R_1=10\text{k}\Omega$ $R_2=\infty$		1.5	4	μA
Deviation Of Reference Input Current Over Full Temperature Range	$\Delta I_{ref}/\Delta T$	$I_{KA}=10\text{mA}, R_1=10\text{k}\Omega$ $R_2=\infty$ $T_A=-25$ to 85°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	$I_{KA(OFF)}$	$V_{KA}=36\text{V}, V_{REF}=0$		0.05	1.0	μA
Dynamic Impedance	Z_{KA}	$V_{KA}=V_{REF}, I_{KA}=1$ to 100mA $f\leq 1.0\text{kHz}$		0.15	0.5	Ω

MIN=-25°C , T_{MAX}=+85°CCLASSIFICATIONcZV_{ref}

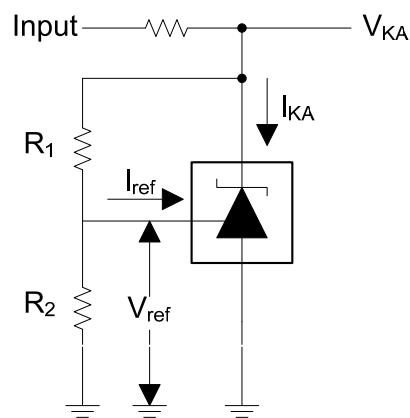
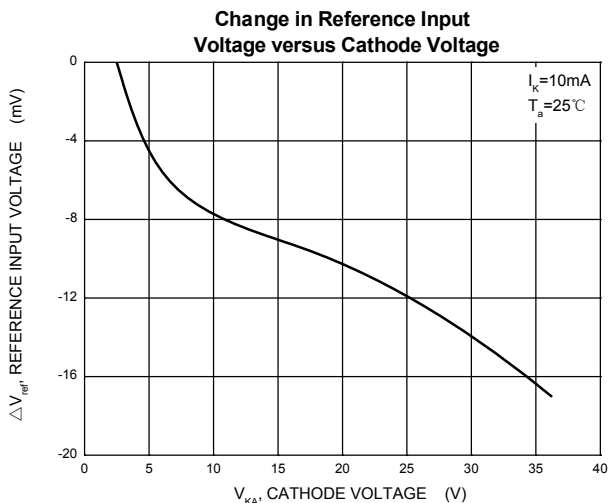
Rank	0.5%	1%
Range	2.487-2.513	2.475-2.525

Typical Characteristics

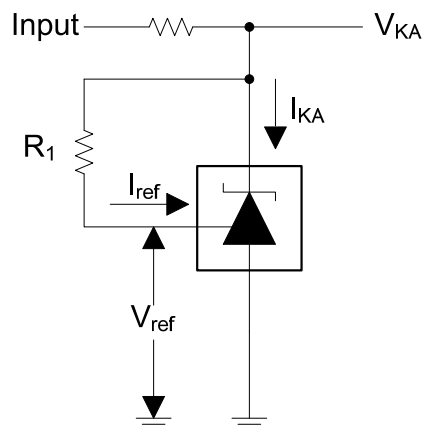
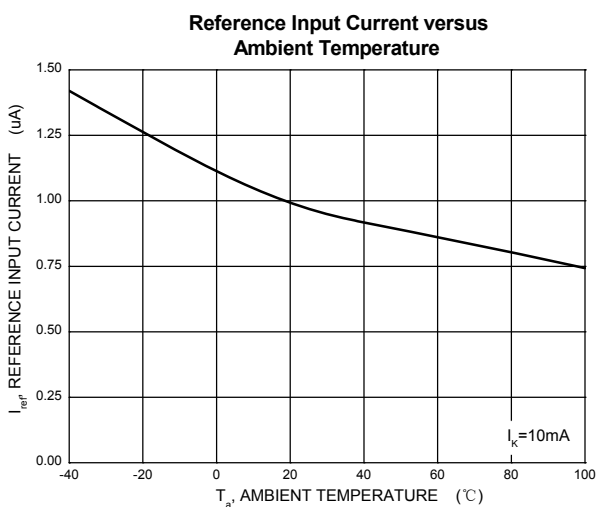


Test Circuit for $V_{KA} = V_{ref}$

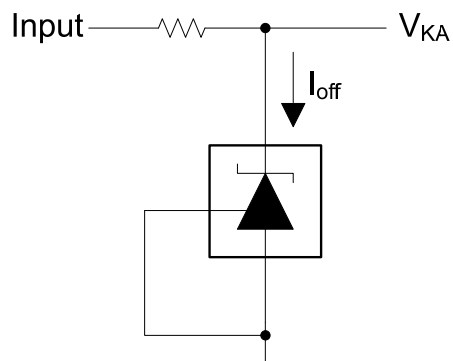
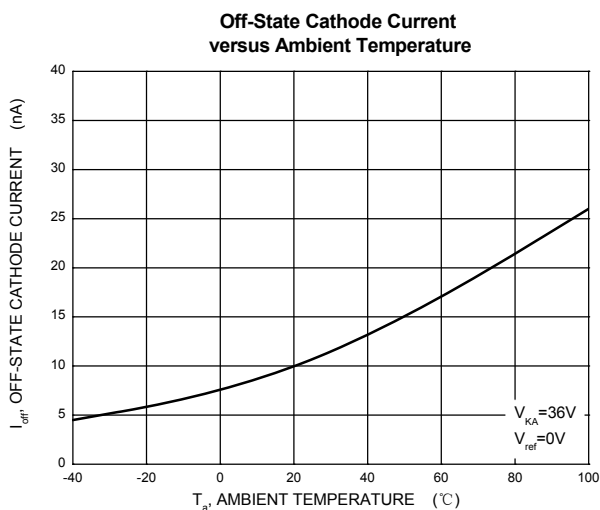
Typical Characteristics



Test Circuit for $V_{KA} = V_{ref}(1 + R1/R2) + R1 * I_{ref}$

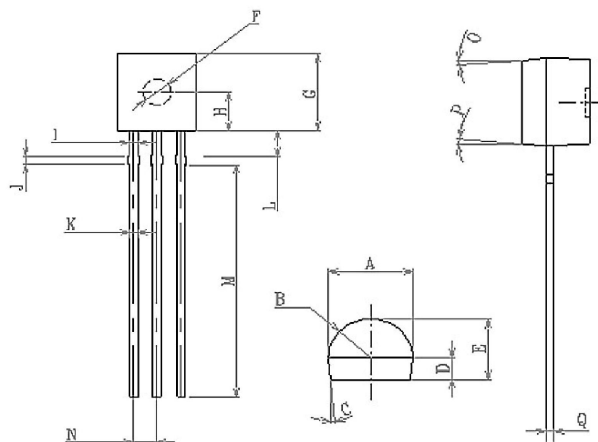


Test Circuit for I_{ref}



Test Circuit for I_{off}

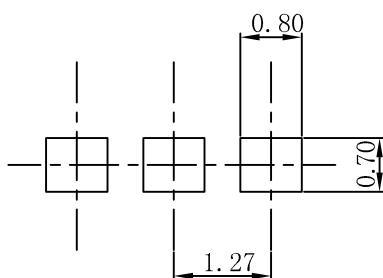
TO-92 Package Outline Dimensions



SYMBOL	MIN	MAX	SYMBOL	MIN	MAX
A	4.1	4.3	K	0.36	0.56
B	R2.0	R2.2	L	1.35	1.45
C	4.1		M	12.00	12.5
D	1.1	1.2	N	1.24	1.3
E	3.13	3.33	O	5°	
F	Φ1.48	Φ1.52	P	5°	
G	4.4	4.6	Q	0.37	0.39
H	2.2	2.3			
I	0.36	0.56			
J	0.5	0.6			

单位: mm

TO-92 Suggested Pad Layout



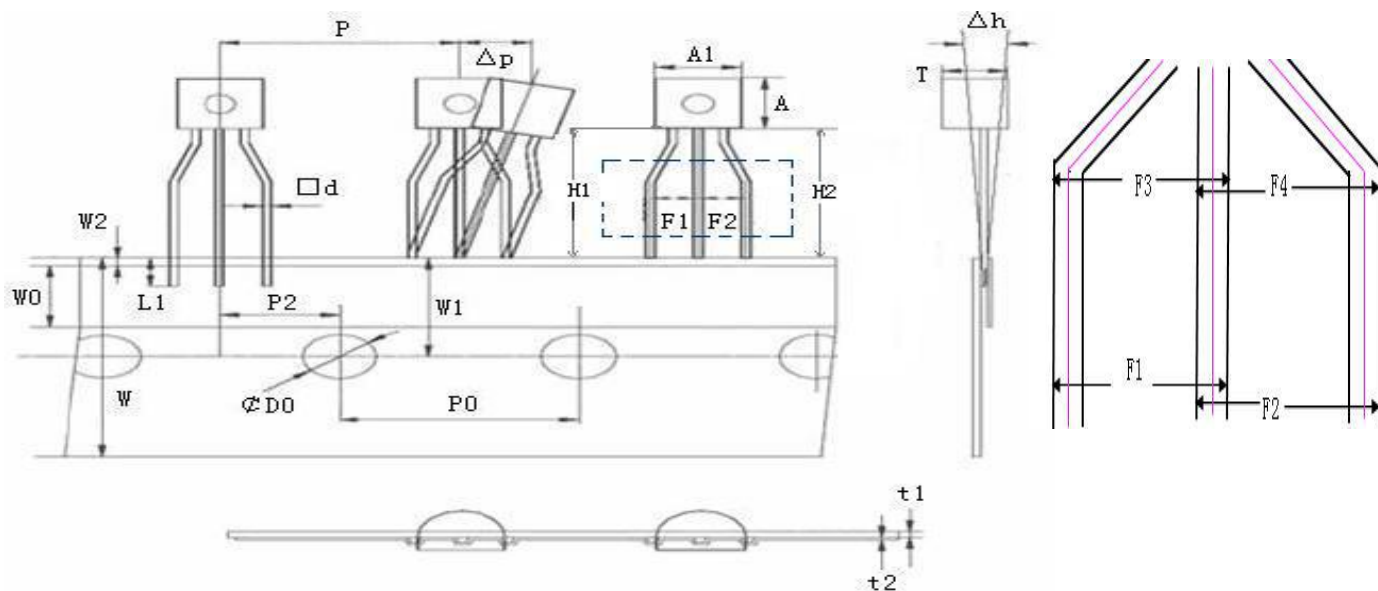
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

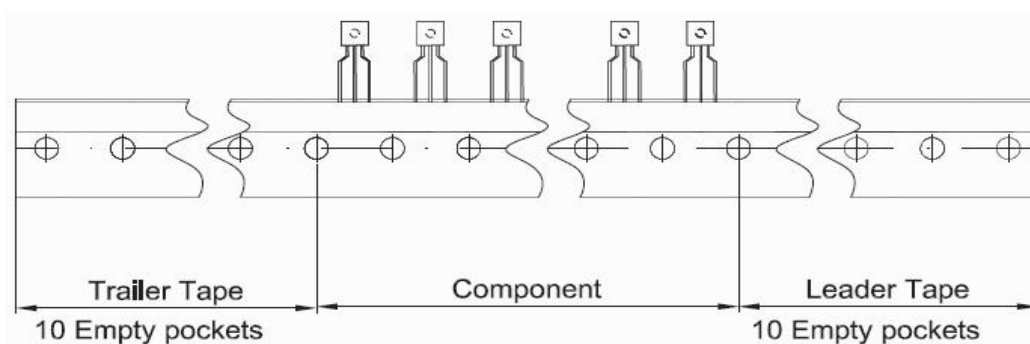
NOTICE

JSHD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSHD does not assume any liability arising out of the application or use of any product described herein.

TO-92 Tape and Reel



Symbol	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A1	4.1	4.2	4.3	0.171	0.176	0.180
A	4.4	4.5	4.6	0.184	0.188	0.192
T	3.13	3.23	3.33	0.131	0.134	0.139
□d	0.36	0.45	0.56	0.015	0.018	0.022
L1	2.5	—	—	0.098	—	—
P	12.4	—	13	0.488	—	0.512
P0	12.5	12.7	12.9	0.492	0.5	0.508
P2	6.05	6.35	6.65	0.238	0.25	0.262
F1,F2	2.75	3.00	3.25			
F3,F4	2.75	3.00	3.25			
F1-F2	—	—	0.4			



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000PCS	343×158×42	20000PCS	470×358×180