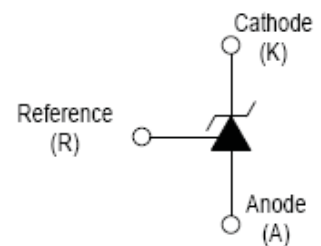


ADJUSTABLE ACCURATE REFERENCE SOURCE
FEATURES

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


TO-92

APPLICATION

- Shunt Regulator
- High-Current Shunt Regulator
- Precision Current Limiter

MECHANICAL DATA

- Case: TO - 92
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.008 grams (approximate)

MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Cathode Voltage	V_{KA}	36	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	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	°C/W
Operating Temperature	T_{opr}	-20~+85	°C
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 ~+150	°C

ADJUSTABLE ACCURATE REFERENCE SOURCE
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

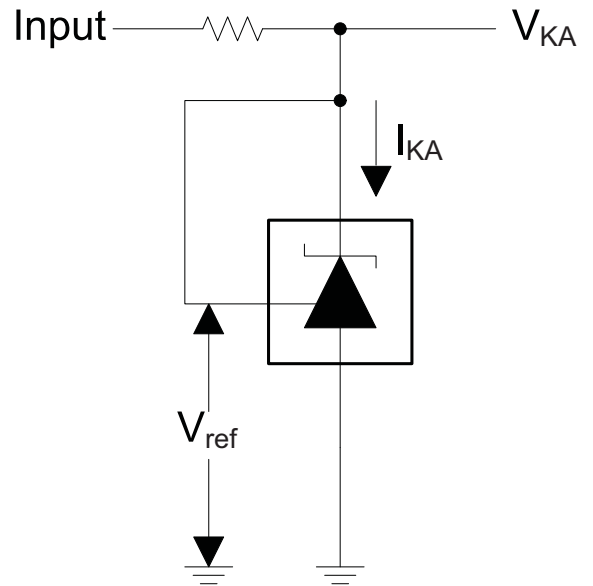
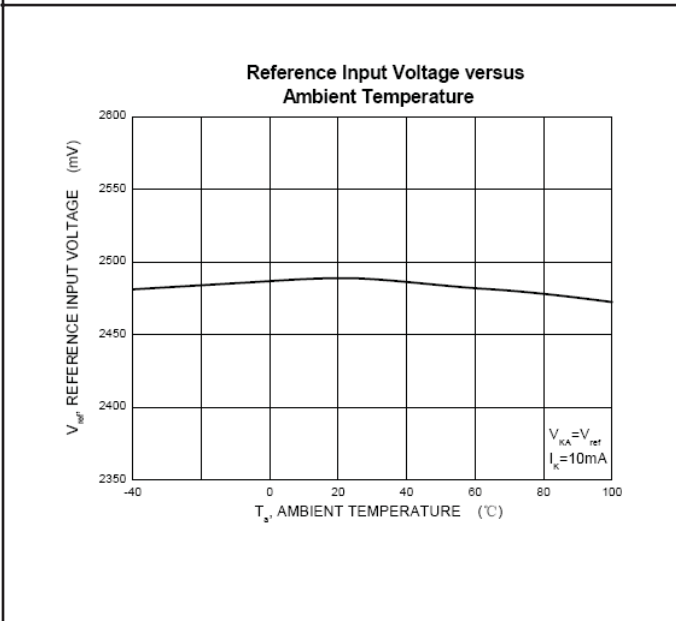
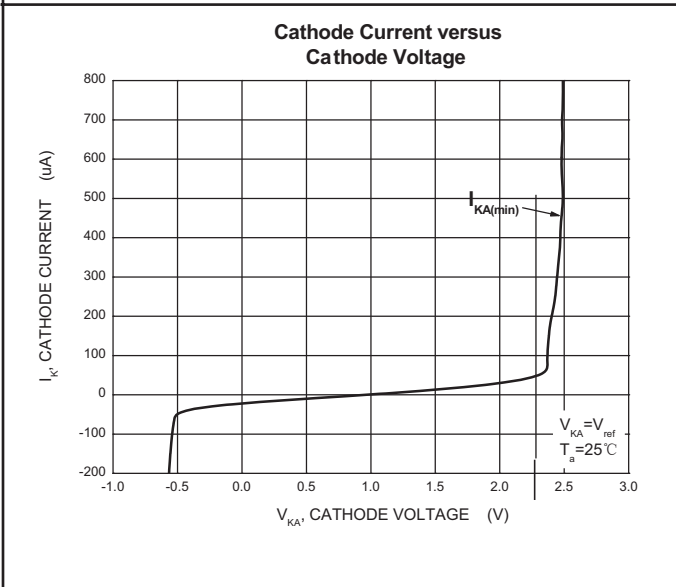
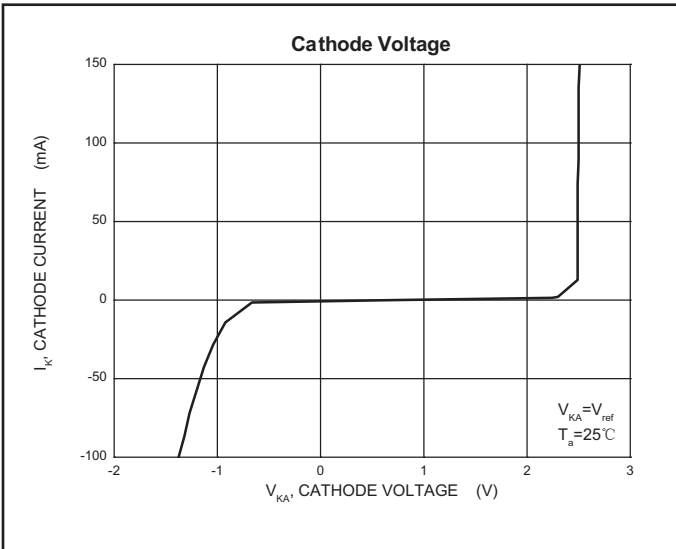
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Reference Input Voltage	V _{ref}	2.475	2.5	2.525	V	V _{KA} =V _{REF} , I _{KA} =10mA
Deviation of reference input voltage over temperature	ΔV _{ref} /ΔT		4.5	17	mV	V _{KA} =V _{REF} , I _{KA} =10mA -25°C ≤ T _A ≤ +85°C
Ratio of change in reference input voltage to the change in cathode voltage	ΔV _{ref} /ΔV _{KA}		-1.0	-2.7	mV/V	I _{KA} =10mA, ΔV _{KA} =10V-V _{REF}
			-0.5	-2.0	mV/V	I _{KA} =10mA, ΔV _{KA} =36V-10V
Reference input current	I _{ref}		1.5	4	μA	I _{KA} =10mA, R ₁ =10KΩ, R ₂ =∞
Deviation of reference input current Over full temperature range	ΔI _{ref} /ΔT		0.4	1.2	μA	I _{KA} =10mA, R ₁ =10KΩ, R ₂ =∞, -25°C ≤ T _A ≤ +85°C
Emitter cut-off current	I _{KA(min)}		0.45	1.0	mA	V _{KA} =V _{REF}
Off-state Cathode Current	I _{KA(OFF)}		0.05	1.0	μA	V _{KA} =36V, V _{REF} =0
Dynamic Impedance	Z _{KA}		0.15	0.5	Ω	V _{KA} =V _{REF} , I _{KA} =1~10mA, f ≤ 1.0kHz

CLASSIFICATION OF V_{ref}

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

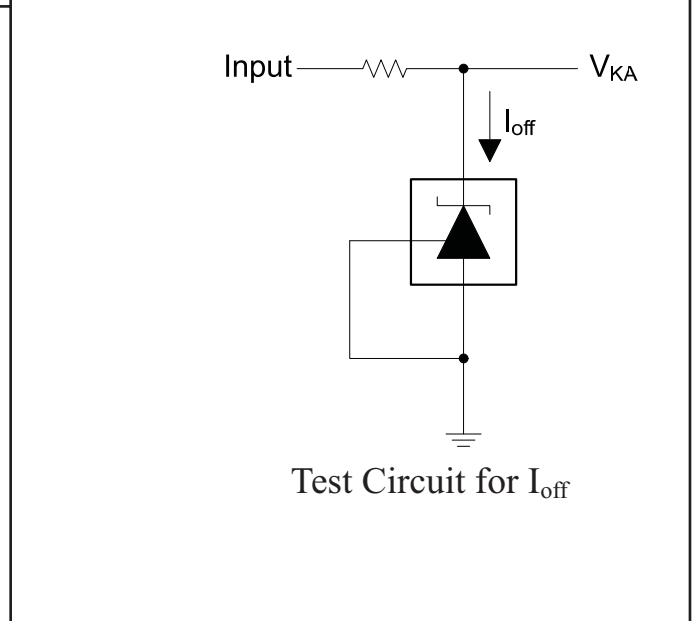
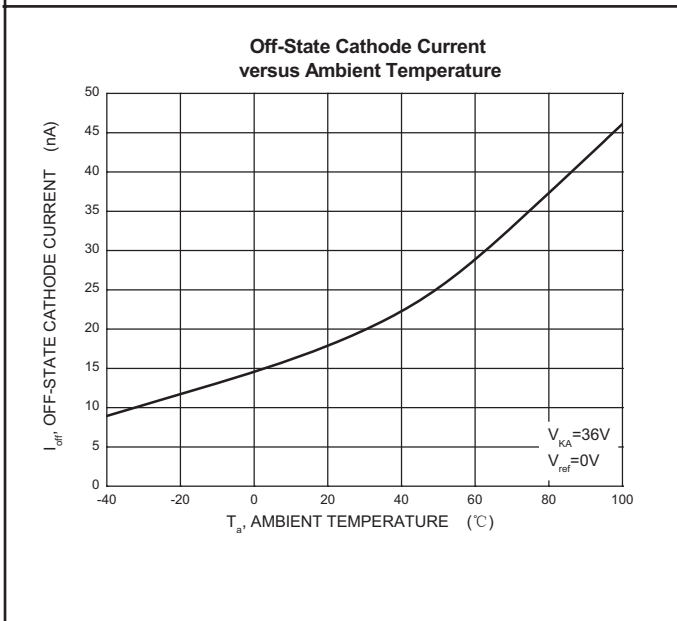
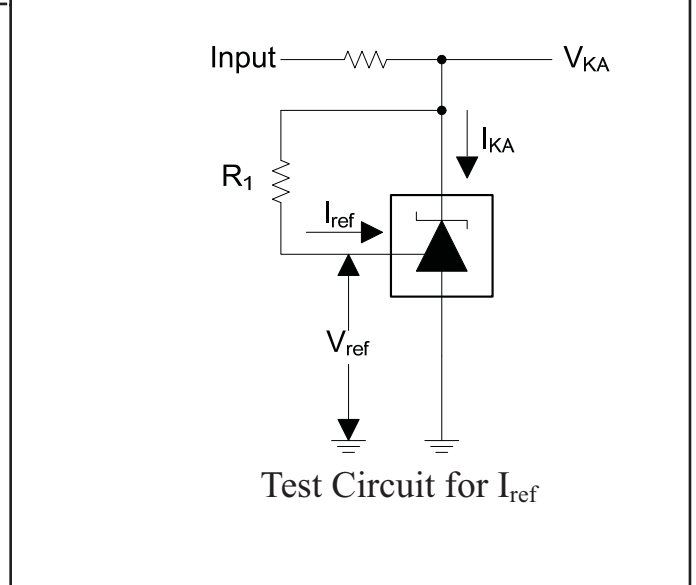
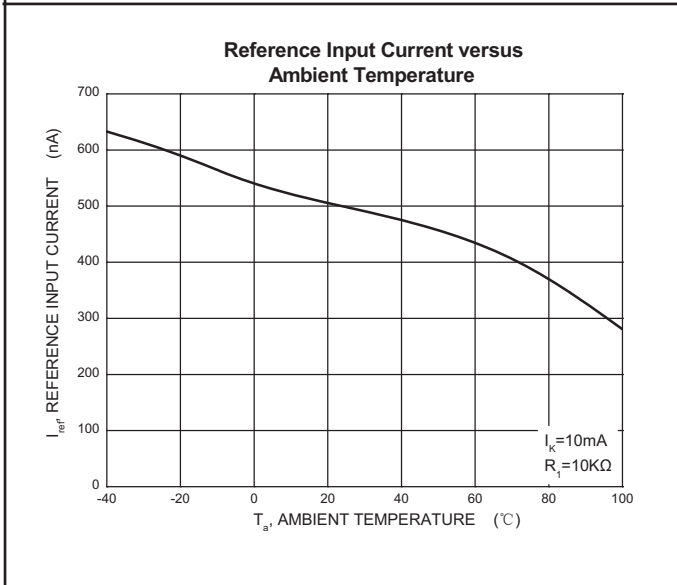
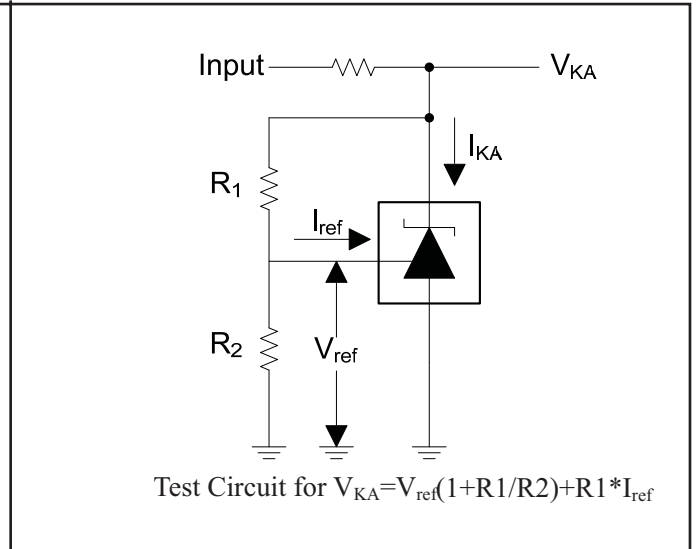
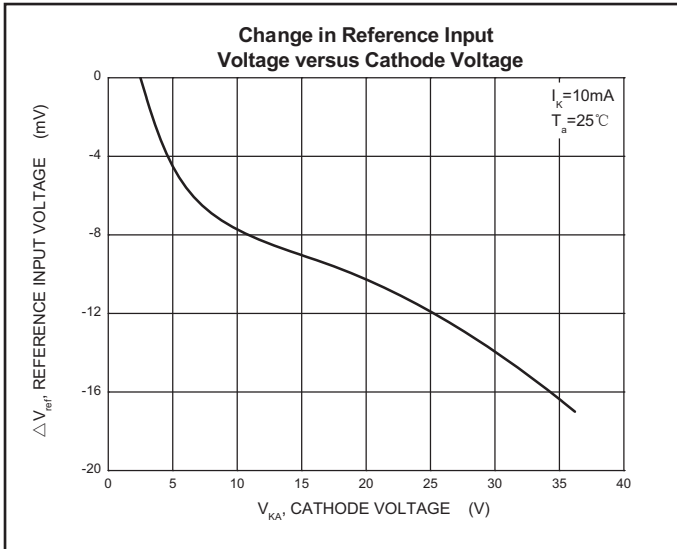
ADJUSTABLE ACCURATE REFERENCE SOURCE

Typical Characteristics



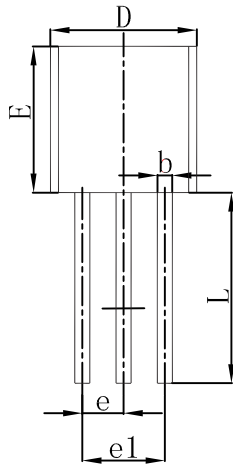
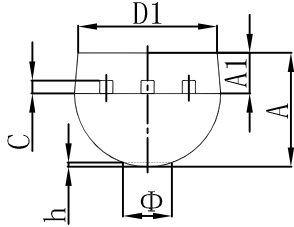
Test Circuit for $V_{KA} = V_{ref}$

ADJUSTABLE ACCURATE REFERENCE SOURCE



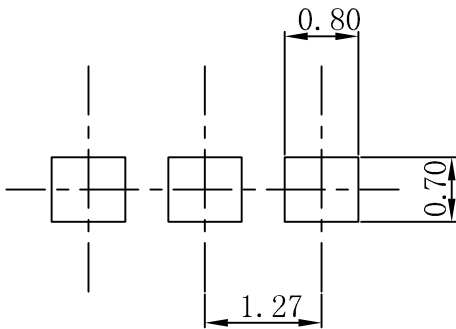
ADJUSTABLE ACCURATE REFERENCE SOURCE

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
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Suggested Pad Layout

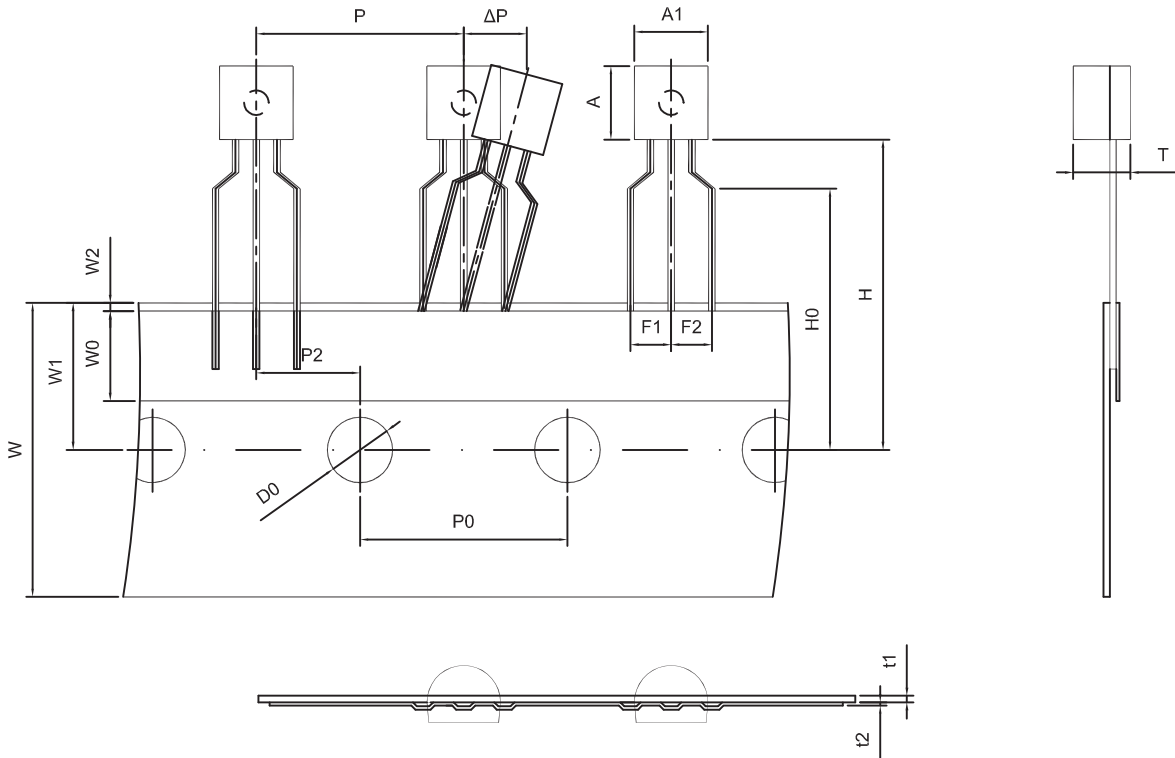


Note:

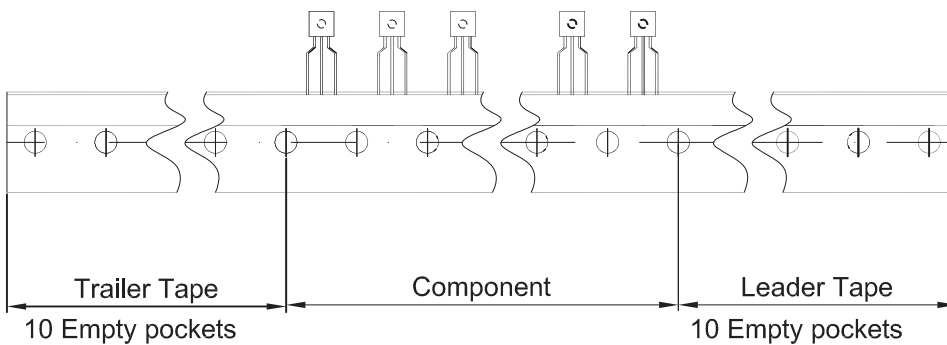
1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference purposes only

ADJUSTABLE ACCURATE REFERENCE SOURCE

TO-92 Package Taping Dimensions



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250