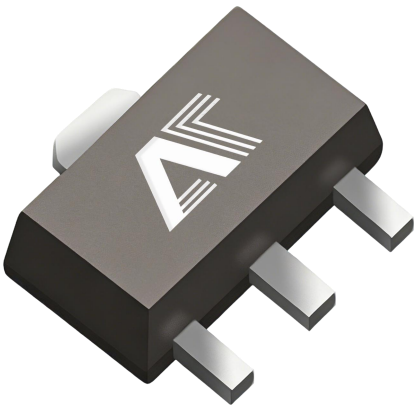


Three terminal low-power regulator

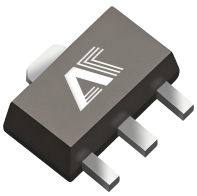
HT71XX-1

Product Data Sheet

AOTE DCC
RELEASE

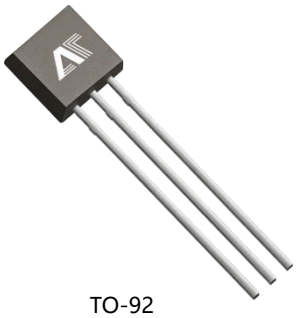
Summary ：

The HT71XX-1 series is a low-power high-voltage regulator manufactured using CMOS technology. The output curr ent is 100mA and the maximum input voltage can reach 30V, with an output voltage range of 2.1V~5.0V It has the characteristics of low voltage drop and low static current.



SOT-89

SOT-23-3



TO-92

Product features

- Small Package: TO-92.SOT-89.SOT-23-3L
- low power consumption
- Low pressure drop
- Low temperature coefficient
- High current output
- High precision output voltage: tolerance of ± 2%

Applications

- Power supply equipment such as batteries
- Various communication devices
- Audio/video equipment

Model Selection

Product Name	Output voltage	Packing Specification	Package form
HT7121-1	2.1V	Tape and Reel, 1000	SOT-89 SOT-23-3 TO-92
HT7123-1	2.3V	Tape and Reel, 1000	
HT7125-1	2.5V	Tape and Reel, 1000	
HT7127-1	2.7V	Tape and Reel, 1000	
HT7130-1	3.0V	Tape and Reel, 1000	
HT7133-1	3.3V	Tape and Reel, 1000	
HT7136-1	3.6V	Tape and Reel, 1000	
HT7140-1	4.0V	Tape and Reel, 1000	
HT7144-1	4.4V	Tape and Reel, 1000	
HT7150-1	5.0V	Tape and Reel, 1000	

Note: "XX" represents the output voltage, -1 "is the internal version code, representing the HT75xx-1 series

◆ Schematic diagram

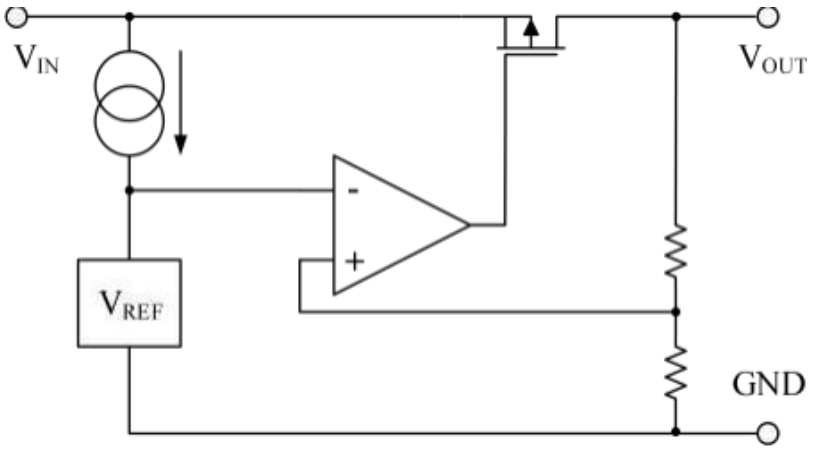
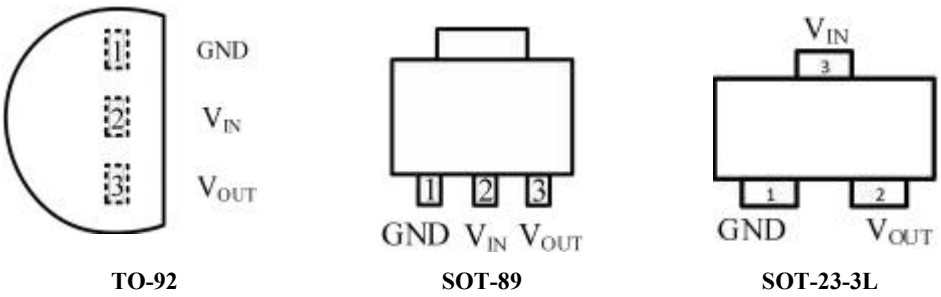


Figure 1.HT71XX schematic diagram

◆ Pin description



TO-92 SOT-89 SOT-23-3L

Figure 2.HT71XX Pin

Pin number			Symbol	Description
TO-92	SOT-89	SOT-23-3L		
1	1	1	GND	land
2	2	3	VIN	Input pin
3	3	2	VOUT	Output pin

◆ limit parameter (Unless otherwise specified, TA=25 ℃)

Parameter	Symbol	Scope	Unit
input voltage	VIN	-0.3～+33	V
Maximum Power Consumption	PD	200	mW
Operating Temperature	TOPR	-20~+125	℃
Storage temperature	TSTG	-65~+150	℃

◆ Electrical parameters (Unless otherwise specified, TA=25 ℃)

7121

Parameter	symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	VOUT	VIN =VOUT+2V, IOUT= 10mA	2.037	2. 100	2. 163	V
Output current	IOUT	VIN =VOUT+2V	60	100	-	mA
Load regulation	△VOUT	VIN =VOUT+2V, 1 mA≤ IOUT≤ 50 mA	-	60	100	mV
Dropout voltage	VDIF	IOUT =1mA	-	100	-	mV
Static current	IQ	VIN =VOUT+2V , no-load	-	2	5	uA
Linear adjustment rate	Δ VOUT / (ΔVIN *VOUT)	VOUT+1V≤VIN≤30V, IOUT=1mA	-	0.2	-	%/V
input voltage	VIN	-	-	-	30	V
temperature coefficient	Δ VOUT / Δ Ta	IOUT =10mA, -20 ~ +125℃	-	±0.45	-	mV/ ℃

7123

Parameter	symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	VOUT	VIN =VOUT+2V, IOUT= 10mA	2.231	2.300	2.369	V
Output current	IOUT	VIN=VOUT+2V	60	100	-	mA
Load regulation	△VOUT	VIN=VOUT+2V, 1 mA≤ IOUT ≤ 50 mA	-	60	100	mV
Dropout voltage	VDIF	IOUT=1mA	-	100	-	mV
Static current	IQ	VIN =VOUT+2V , no-load	-	2	5	uA
Linear adjustment rate	Δ VOUT / (ΔVIN *VOUT)	VOUT+1V≤VIN≤30V, IOUT=1mA	-	0.2	-	%/V
input voltage	VIN	-	-	-	30	V
temperature coefficient	Δ VOUT / ΔTa	IOUT =10mA, -20 ~ +125℃	-	±0.45	-	mV/℃

7125

Parameter	symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	VOUT	VIN =VOUT+2V, IOUT= 10mA	2.425	2. 500	2. 575	V
Output current	IOUT	VIN =VOUT+2V	60	100	-	mA
Load regulation	△VOUT	VIN =VOUT+2V, 1 mA≤ IOUT≤ 50 mA	-	60	100	mV
Dropout voltage	VDIF	IOUT =1mA	-	100	-	mV
Static current	IQ	VIN =VOUT+2V , no-load	-	2	5	uA
Linear adjustment rate	Δ VOUT / (ΔVIN *VOUT)	VOUT+1V≤VIN≤30V, IOUT=1mA	-	0.2	-	%/V
input voltage	VIN	-	-	-	30	V
temperature coefficient	Δ VOUT / Δ Ta	IOUT =10mA, -20 ~ +125℃	-	±0.45	-	mV/ ℃

7127

Parameter	symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	VOUT	VIN =VOUT+2V, IOUT= 10mA	2.619	2.700	2.781	V
Output current	IOUT	VIN=VOUT+2V	60	100	-	mA
Load regulation	△VOUT	VIN=VOUT+2V, 1 mA≤ IOUT ≤ 50 mA	-	60	100	mV
Dropout voltage	VDIF	IOUT=1mA	-	100	-	mV
Static current	IQ	VIN =VOUT+2V , no-load	-	2	5	uA
Linear adjustment rate	Δ VOUT / (ΔVIN *VOUT)	VOUT+1V≤VIN≤30V, IOUT=1mA	-	0.2	-	%/V
input voltage	VIN	-	-	-	30	V
temperature coefficient	Δ VOUT / ΔTa	IOUT =10mA, -20 ~ +125℃	-	±0.45	-	mV/℃

7130

Parameter	symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	VOUT	VIN =VOUT+2V, IOUT= 10mA	2.910	3.000	3.090	V
Output current	IOUT	VIN =VOUT+2V	60	100	-	mA
Load regulation	△VOUT	VIN =VOUT+2V, 1 mA≤ IOUT≤ 50 mA	-	60	100	mV
Dropout voltage	VDIF	IOUT =1mA	-	100	-	mV
Static current	IQ	VIN =VOUT+2V , no-load	-	2	5	uA
Linear adjustment rate	Δ VOUT / (ΔVIN *VOUT)	VOUT+1V≤VIN≤30V, IOUT=1mA	-	0.2	-	%/V
input voltage	VIN	-	-	-	30	V
temperature coefficient	Δ VOUT / Δ Ta	IOUT =10mA, -20 ~ +125℃	-	±0.45	-	mV/ ℃

7133

Parameter	symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	VOUT	VIN =VOUT+2V, IOUT= 10mA	3.201	3.300	3.399	V
Output current	IOUT	VIN=VOUT+2V	60	100	-	mA
Load regulation	△VOUT	VIN=VOUT+2V, 1 mA≤ IOUT ≤ 50 mA	-	60	100	mV
Dropout voltage	VDIF	IOUT=1mA	-	100	-	mV
Static current	IQ	VIN =VOUT+2V , no-load	-	2	5	uA
Linear adjustment rate	Δ VOUT / (ΔVIN *VOUT)	VOUT+1V≤VIN≤30V, IOUT=1mA	-	0.2	-	%/V
input voltage	VIN	-	-	-	30	V
temperature coefficient	Δ VOUT / ΔTa	IOUT =10mA, -20 ~ +125℃	-	±0.5	-	mV/℃

7136

Parameter	symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	VOUT	VIN =VOUT+2V, IOUT= 10mA	3.492	3.600	3.708	V
Output current	IOUT	VIN =VOUT+2V	60	100	-	mA
Load regulation	△VOUT	VIN =VOUT+2V, 1 mA≤ IOUT≤ 50 mA	-	60	100	mV
Dropout voltage	VDIF	IOUT =1mA	-	100	-	mV
Static current	IQ	VIN =VOUT+2V , no-load	-	2	5	uA
Linear adjustment rate	Δ VOUT / (ΔVIN *VOUT)	VOUT+1V≤VIN≤30V, IOUT=1mA	-	0.2	-	%/V
input voltage	VIN	-	-	-	30	V
temperature coefficient	Δ VOUT / Δ Ta	IOUT =10mA, -20 ~ +125℃	-	±0.6	-	mV/ ℃

7140

Parameter	symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	VOUT	VIN =VOUT+2V, IOUT= 10mA	3.880	4.000	4.120	V
Output current	IOUT	VIN=VOUT+2V	60	100	-	mA
Load regulation	△VOUT	VIN=VOUT+2V, 1 mA≤ IOUT ≤ 50 mA	-	60	100	mV
Dropout voltage	VDIF	IOUT=1mA	-	100	-	mV
Static current	IQ	VIN =VOUT+2V , no-load	-	2	5	uA
Linear adjustment rate	Δ VOUT / (ΔVIN *VOUT)	VOUT+1V≤VIN≤30V, IOUT=1mA	-	0.2	-	%/V
input voltage	VIN	-	-	-	30	V
temperature coefficient	Δ VOUT / ΔTa	IOUT =10mA, -20 ~ +125℃	-	±0.45	-	mV/℃

7144

Parameter	symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	VOUT	VIN =VOUT+2V, IOUT= 10mA	4.268	4.400	4.532	V
Output current	IOUT	VIN =VOUT+2V	60	100	-	mA
Load regulation	△VOUT	VIN =VOUT+2V, 1 mA≤ IOUT≤ 50 mA	-	60	100	mV
Dropout voltage	VDIF	IOUT =1mA	-	100	-	mV
Static current	IQ	VIN =VOUT+2V , no-load	-	2	5	uA
Linear adjustment rate	Δ VOUT / (ΔVIN *VOUT)	VOUT+1V≤VIN≤30V, IOUT=1mA	-	0.2	-	%/V
input voltage	VIN	-	-	-	30	V
temperature coefficient	Δ VOUT / Δ Ta	IOUT =10mA, -20 ~ +125℃	-	±0.7	-	mV/ ℃

7150

Parameter	symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	VOUT	VIN =VOUT+2V, IOUT= 10mA	4.850	5.000	5.150	V
Output current	IOUT	VIN=VOUT+2V	60	100	-	mA
Load regulation	△VOUT	VIN=VOUT+2V, 1 mA≤ IOUT ≤ 50 mA	-	60	100	mV
Dropout voltage	VDIF	IOUT=1mA	-	100	-	mV
Static current	IQ	VIN =VOUT+2V , no-load	-	2	5	uA
Linear adjustment rate	Δ VOUT / (ΔVIN *VOUT)	VOUT+1V≤VIN≤30V, IOUT=1mA	-	0.2	-	%/V
input voltage	VIN	-	-	-	30	V
temperature coefficient	Δ VOUT / ΔTa	IOUT =10mA, -20 ~ +125℃	-	±0.75	-	mV/℃

◆ Typical application routes

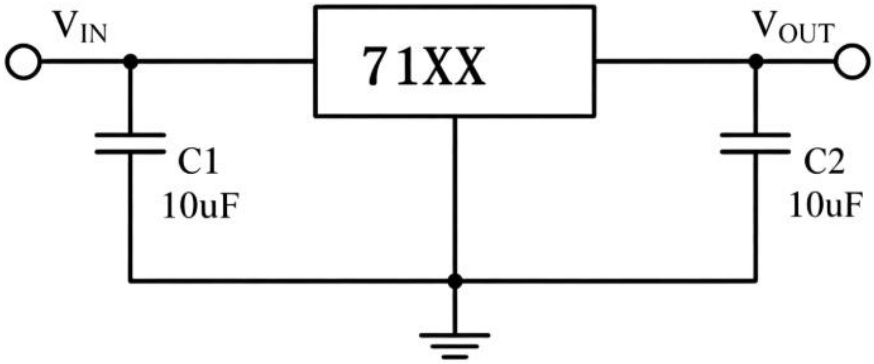
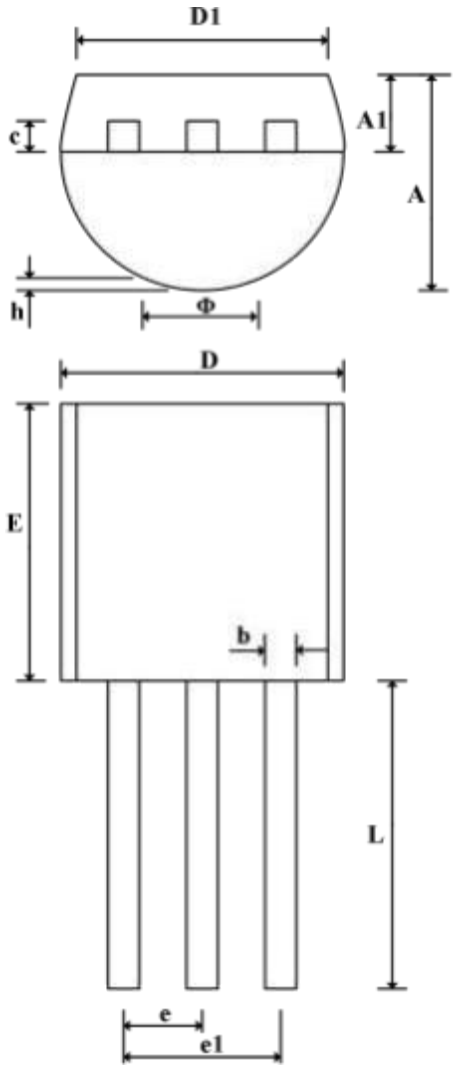


Figure 3. Basic Circuit

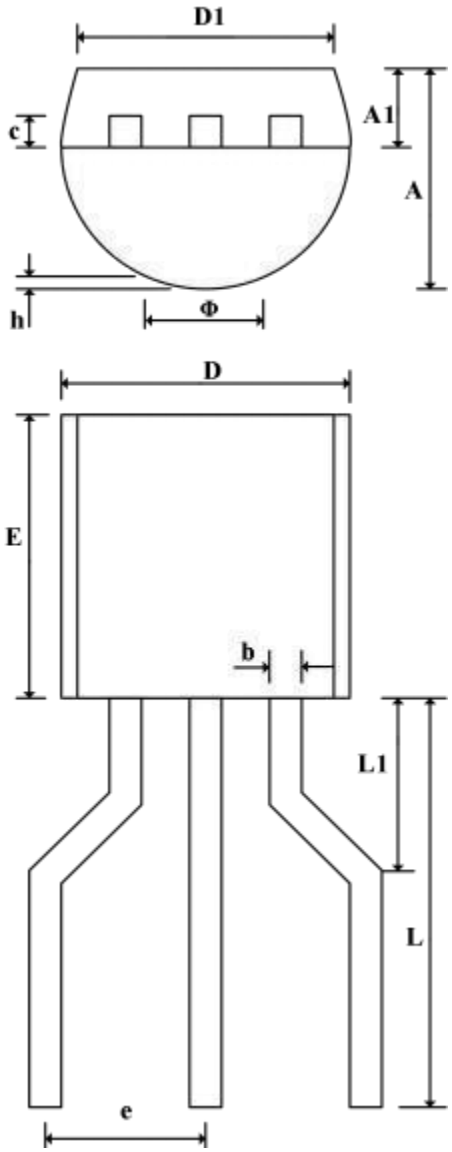
◆ Packaging specifications and dimensions

TO-92



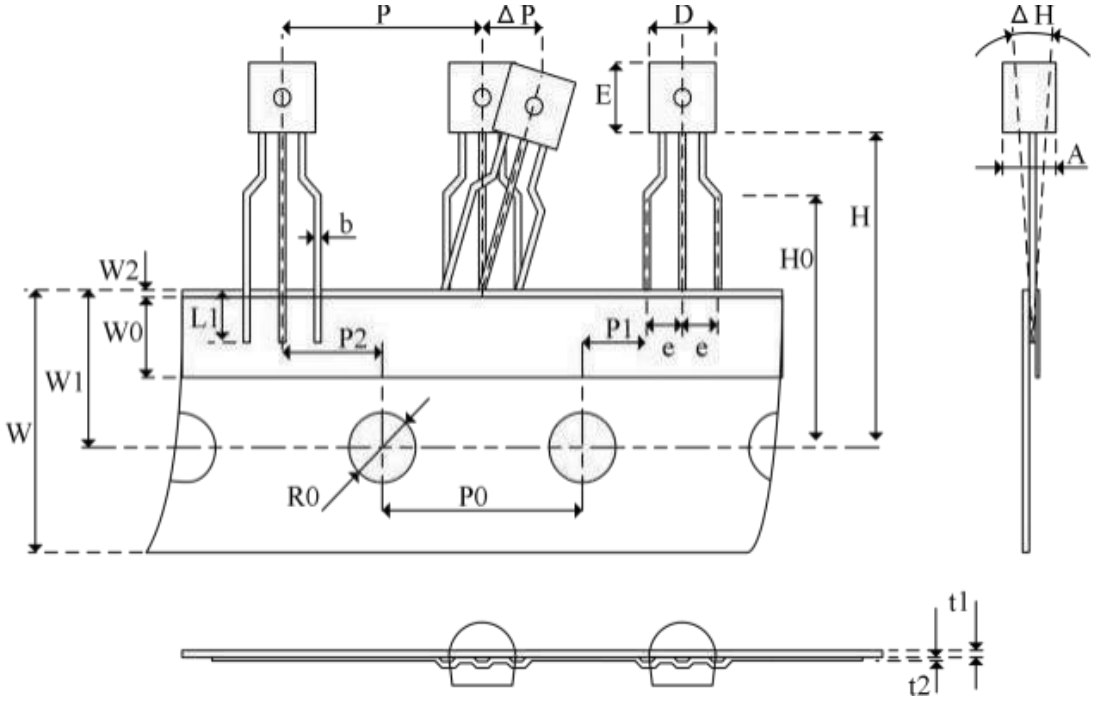
symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A	3.300	3.700	E	4.300	4.700
A1	1.100	1.400	e	1.270 (TYP)	
b	0.360	0.560	e1	2.440	2.640
c	0.280	0.510	L	14.100	14.500
D	4.300	4.700	Φ		1.600
D1	3.430		h	0.000	0.380

TO-92(Cutting feet)



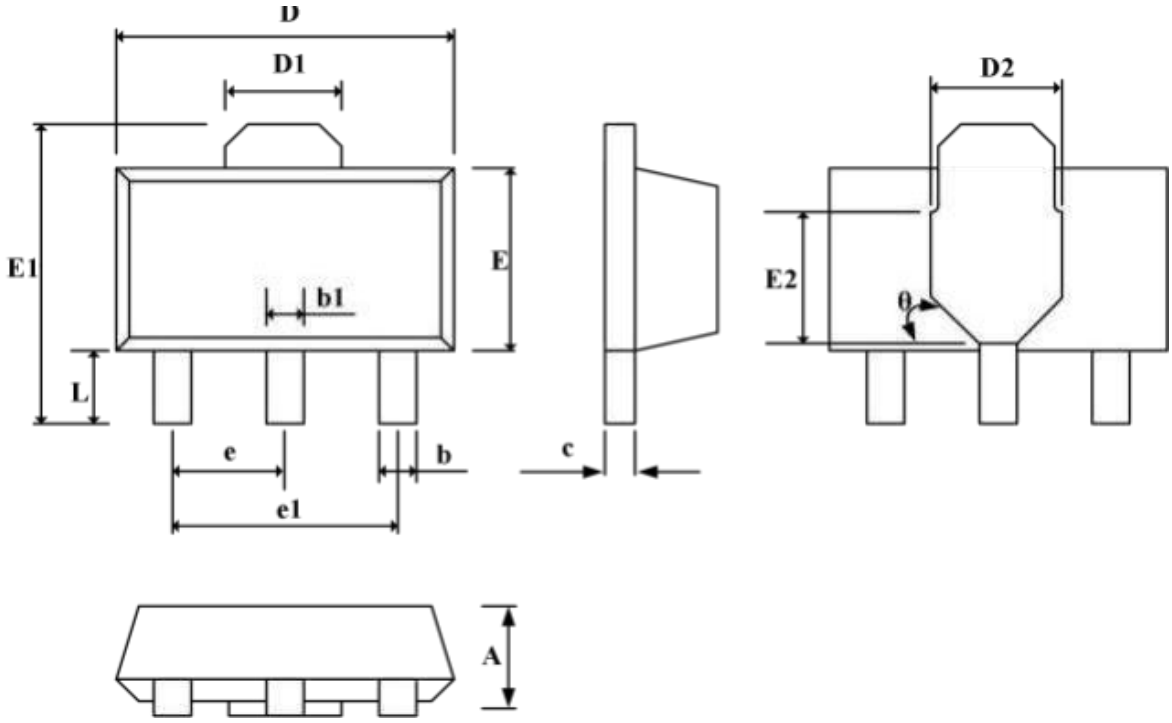
symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A	3.300	3.700	E	4.300	4.700
A1	1.100	1.400	e	2.500 (TYP)	
b	0.380	0.550	L	6. 100	6.900
c	0.360	0.510	L1	2.700	3.300
D	4.400	4.700	Φ		1.600
D1	3.430		h	0.000	0.380

TO-92(Paper woven tape)



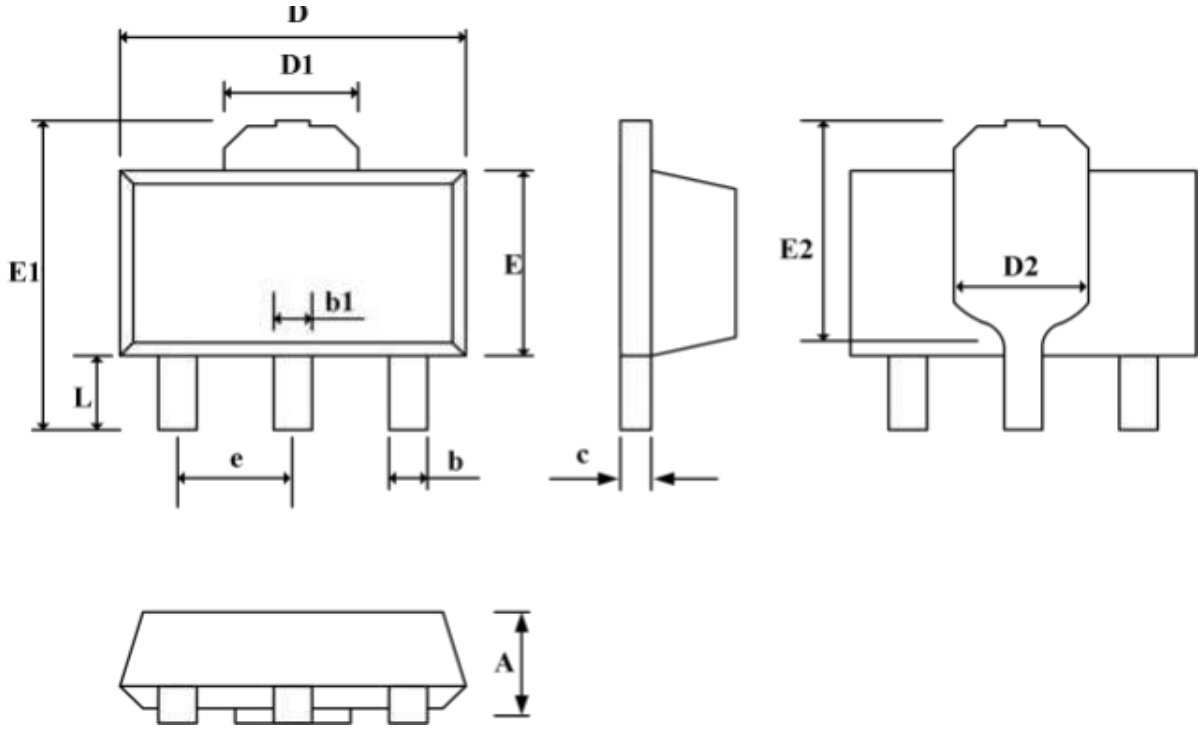
symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A	3.300	3.700	P0	12.500	12.900
D	4.300	4.700	P1	3.550	4. 150
E	4.300	4.700	P2	6.050	6.650
b	0.380	0.550	R0	3.800	4.200
e	2.200	2.800	t1	0.350	0.450
L1	2.500		t2	0. 150	0.250
H	18.000	21.000	W	17.500	19.000
ΔH	0	1.000	W0	5.500	6.500
H0	15.500	16.500	W1	8.500	9.500
P	12.400	13.000	W2		1.0
ΔP	0	1.000			

SOT-89



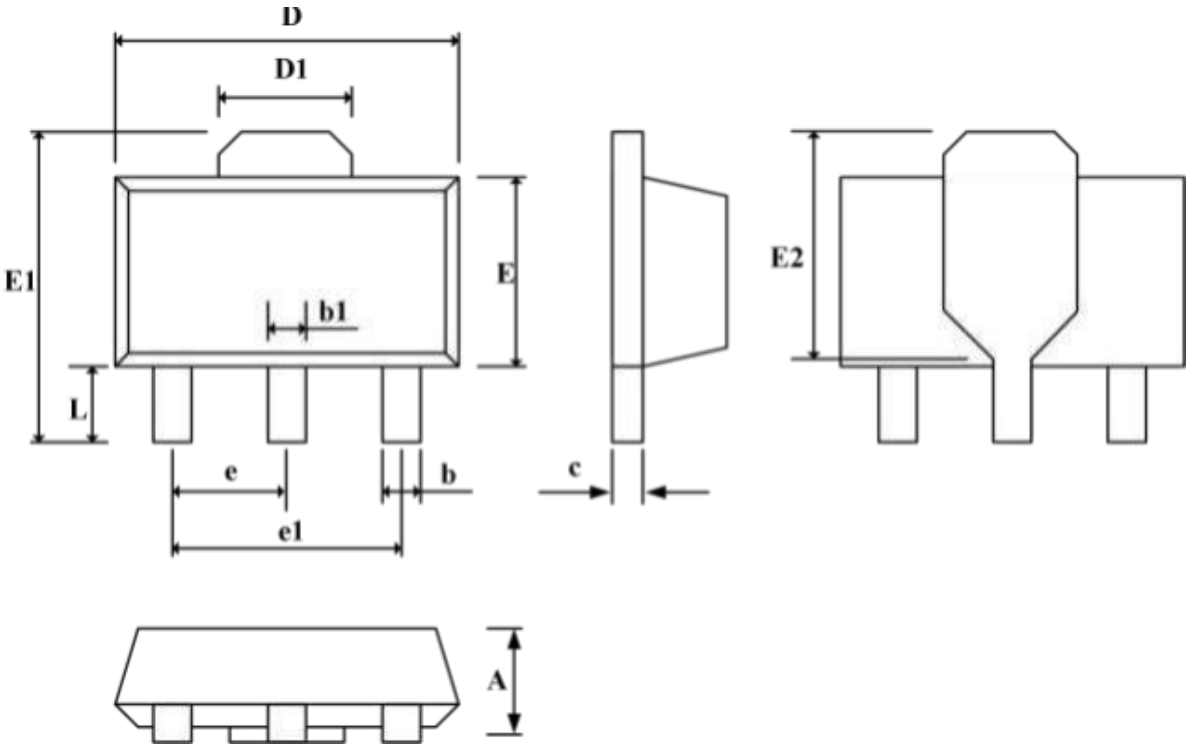
symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A	1.400	1.600	E	2.300	2.600
b	0.320	0.520	E1	3.940	4.250
b 1	0.400	0.580	E2	1.900 (REF)	
c	0.350	0.440	e	1.500 (REF)	
D	4.400	4.600	e1	3.000 (REF)	
D1	1.550 (REF)		L	0.900	1.200
D2	1.750 (REF)		θ	45°	

SOT-89



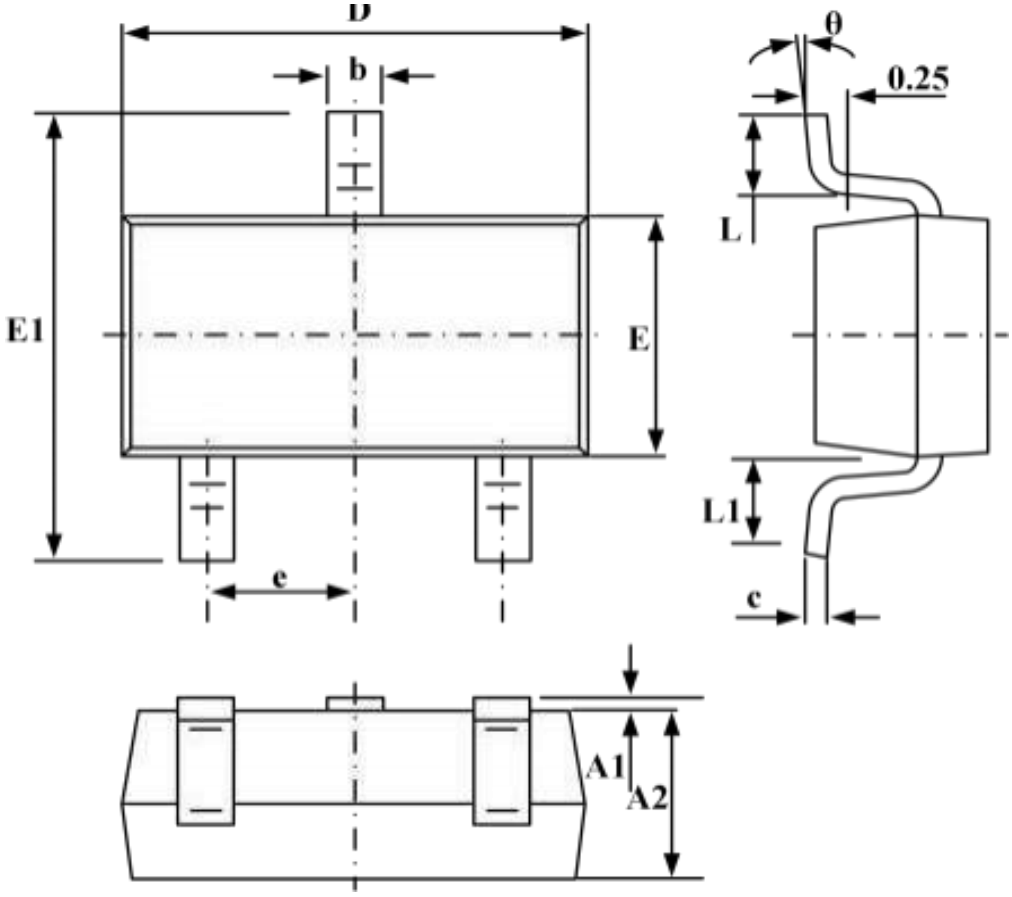
symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A	1.450	1.550	c	0.390	0.410
b	0.350	0.450	e	1.500 (REF)	
b 1	0.400	0.550	E	2.350	2.550
D	4.400	4.600	E1	4. 135	4.335
D1	1.550 (REF)		E2	2.650	2.850
D2	1.630 (REF)		L	0.950	1.050

SOT-89



symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A	1.400	1.600	E	2.350	2.550
b	0.350	0.520	E1	3.940	4.250
b 1	0.400	0.580	E2	2.700 (REF)	
c	0.350	0.440	e	1.500 (REF)	
D	4.400	4.600	e1	3.000 (REF)	
D1	1.550 (REF)		L	0.900	1.100

SOT-23-3L



symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A1	0.03	0. 130	E	1.520	1.720
A2	1.050	1.150	E1	2.800	3.000
b	0.350	0.450	L	0.400	0.500
c	0. 120	0. 135	L1	0.600	0.700
e	0.900	1.000	θ	0°	10°
D	2.820	3.020			

◆ Attention

- AOTE implements dynamic technical updates. Specifications are subject to change. Refer to the official website for the latest version.
- Users must strictly adhere to specified conditions. Failures caused by misuse (overload, high temperature, incompatible circuits) are excluded from warranty.
- Contact technical support for customized validation in critical applications (medical devices, industrial control).
- This document is valid until December 31, 2026 Updates will be notified on the official website.
- For further clarification on technical specifications or application solutions, please contact us through official channels: