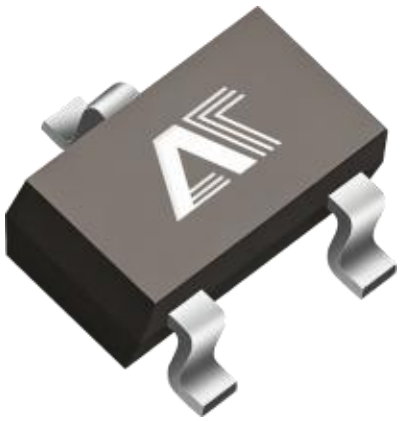


Three terminal low-power regulator

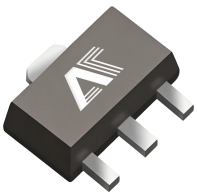
HT71XX

Product Data Sheet

AOTE DCC
RELEASE

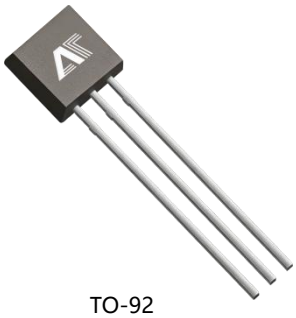
Summary ：

The HT71XX 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
HT7121S	2.1V	Tape and Reel, 3000	SOT-89 SOT-23-3 TO-92
HT7123S	2.3V	Tape and Reel, 3000	
HT7125S	2.5V	Tape and Reel, 3000	
HT7127S	2.7V	Tape and Reel, 3000	
HT7130S	3.0V	Tape and Reel, 3000	
HT7133S	3.3V	Tape and Reel, 3000	
HT7136S	3.6V	Tape and Reel, 3000	
HT7140S	4.0V	Tape and Reel, 3000	
HT7144S	4.4V	Tape and Reel, 3000	
HT7150S	5.0V	Tape and Reel, 3000	

Note: "XX" represents the output voltage

◆ Schematic diagram

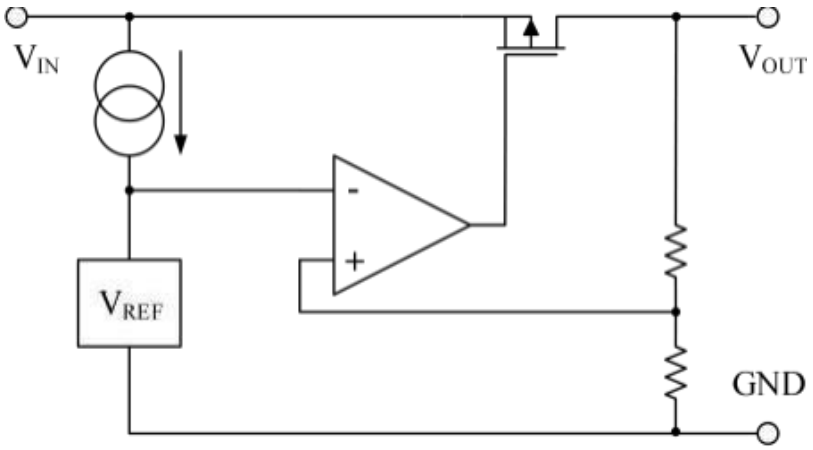
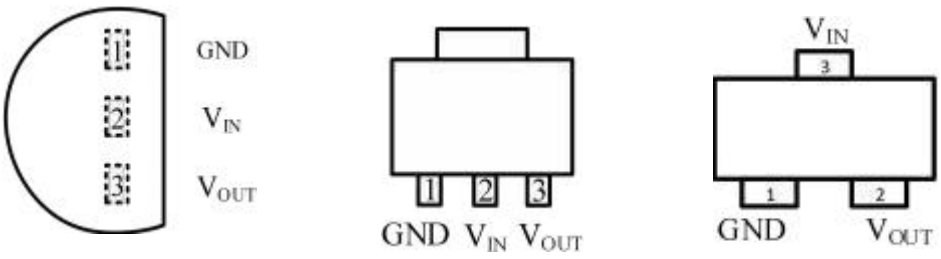


Figure 1.HT71XX schematic diagram

◆ 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

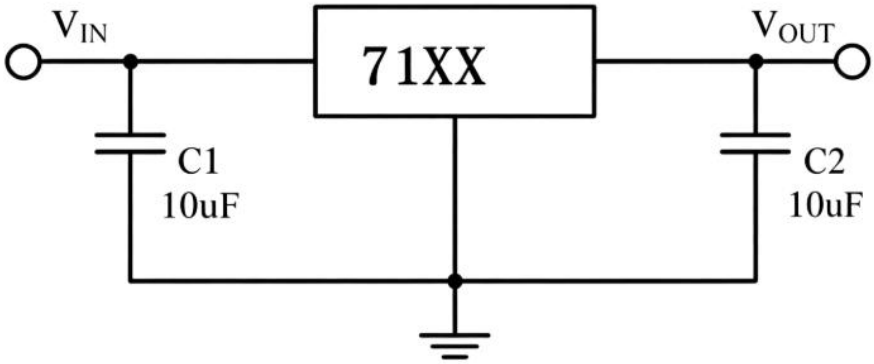
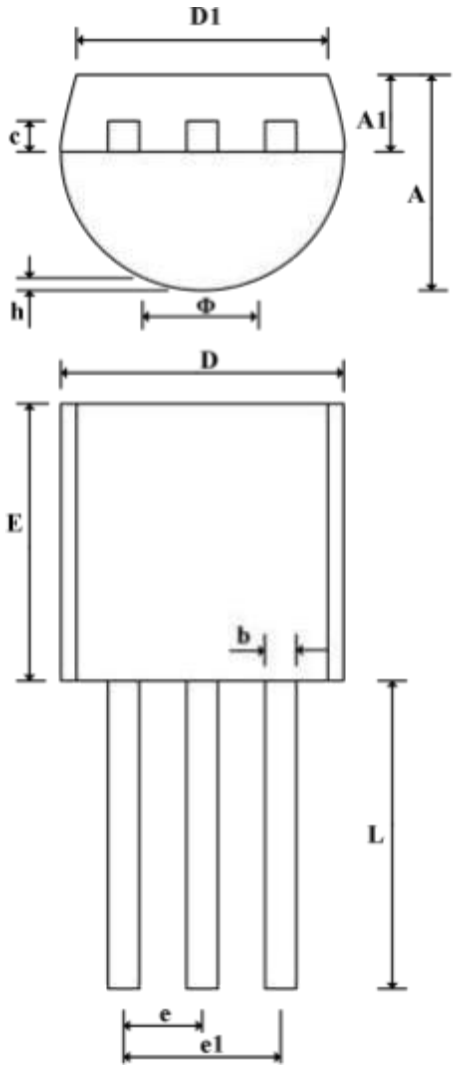


Figure 3. Basic Circuit

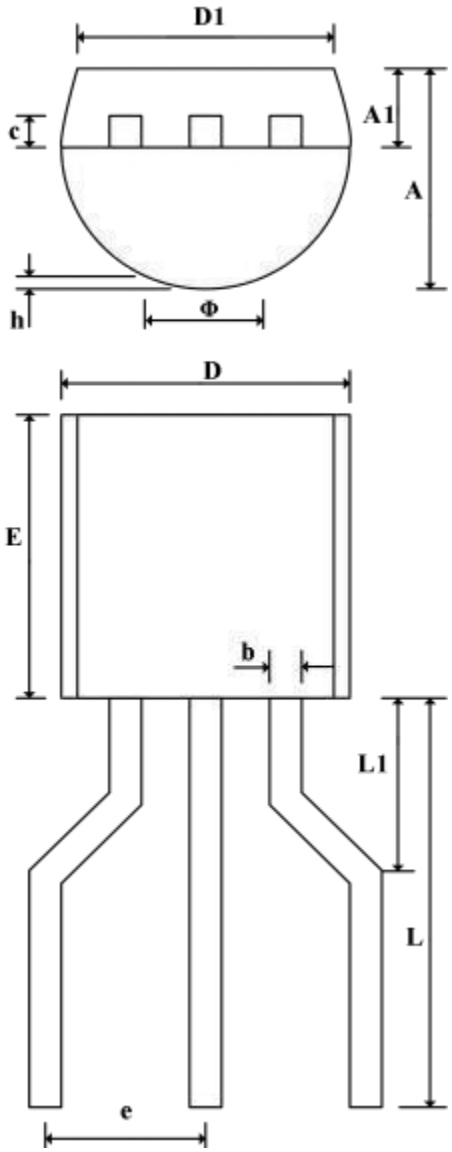
◆ Packaging specifications and dimensions

TO-92



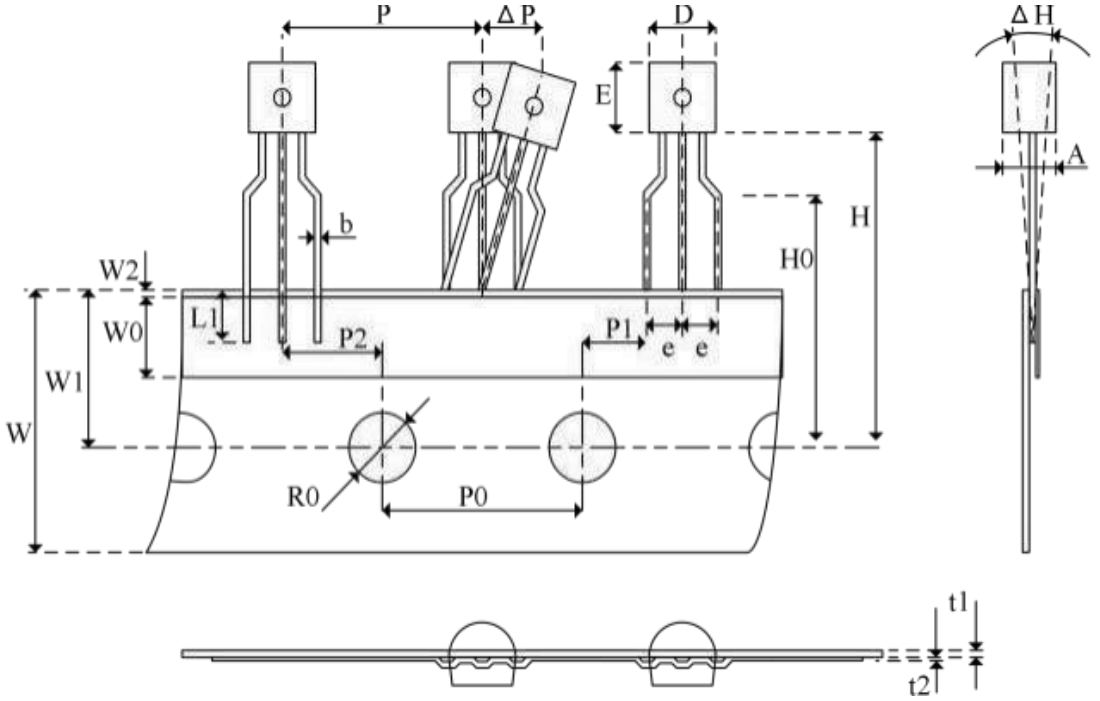
symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A	3.300	3.700	E	4.300	4.700
A1	1.100	1.400	e	1.270 (TYP)	
b	0.360	0.560	e1	2.440	2.640
c	0.280	0.510	L	14.100	14.500
D	4.300	4.700	Φ		1.600
D1	3.430		h	0.000	0.380

TO-92(Cutting feet)



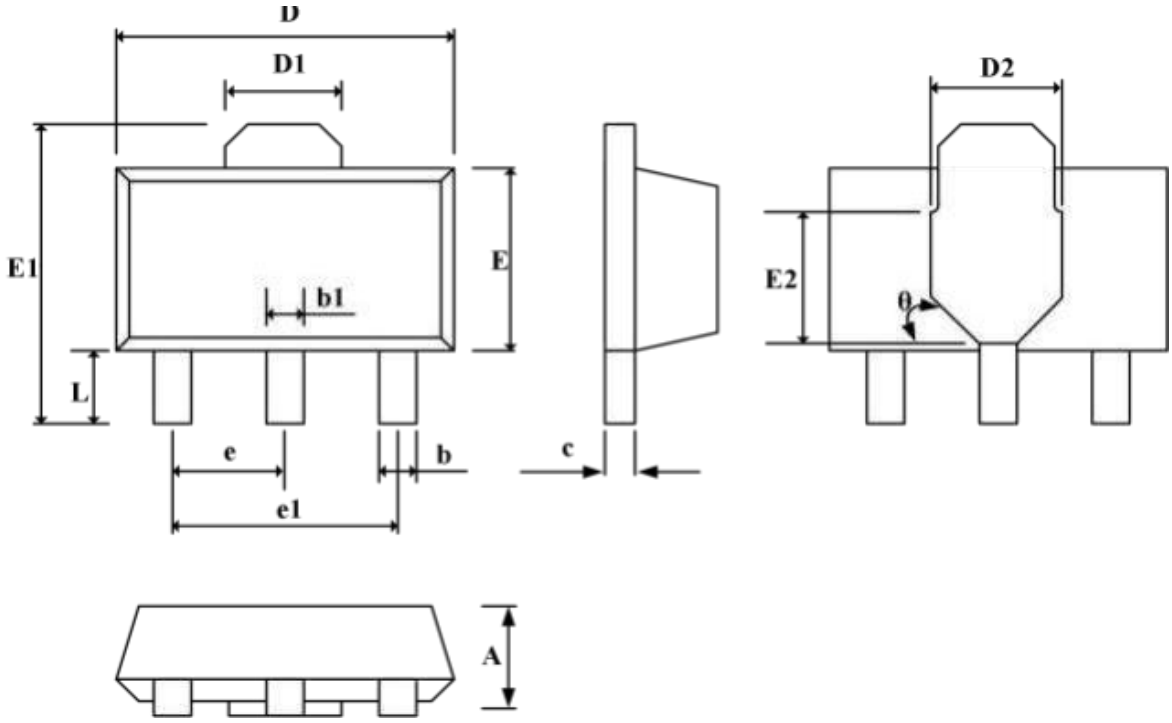
symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A	3.300	3.700	E	4.300	4.700
A1	1.100	1.400	e	2.500 (TYP)	
b	0.380	0.550	L	6. 100	6.900
c	0.360	0.510	L1	2.700	3.300
D	4.400	4.700	Φ		1.600
D1	3.430		h	0.000	0.380

TO-92(Paper woven tape)



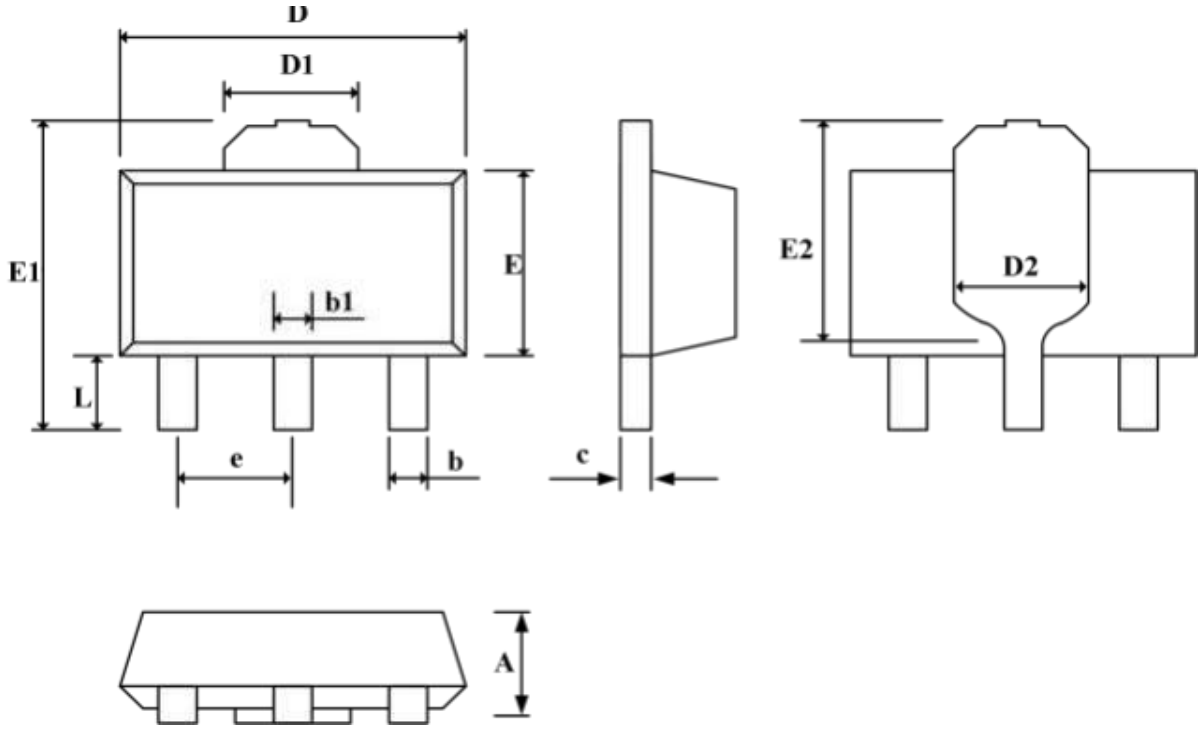
symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A	3.300	3.700	P0	12.500	12.900
D	4.300	4.700	P1	3.550	4. 150
E	4.300	4.700	P2	6.050	6.650
b	0.380	0.550	R0	3.800	4.200
e	2.200	2.800	t1	0.350	0.450
L1	2.500		t2	0. 150	0.250
H	18.000	21.000	W	17.500	19.000
ΔH	0	1.000	W0	5.500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



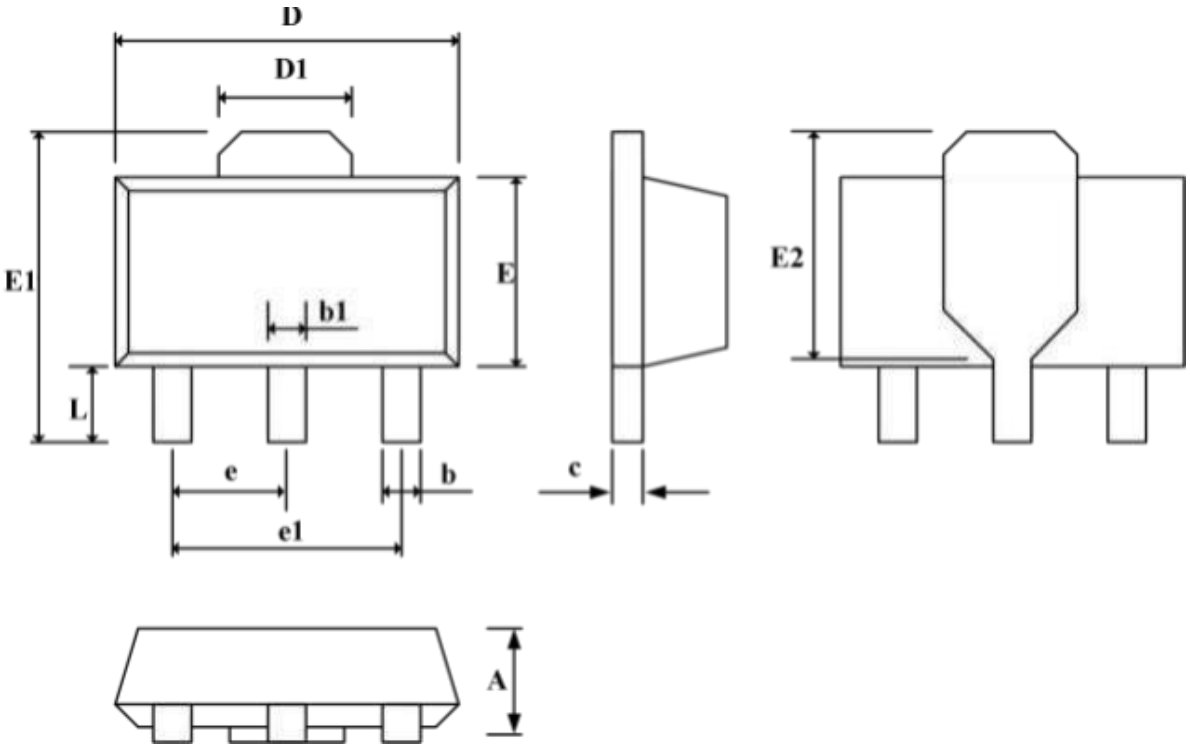
symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A	1.400	1.600	E	2.300	2.600
b	0.320	0.520	E1	3.940	4.250
b 1	0.400	0.580	E2	1.900 (REF)	
c	0.350	0.440	e	1.500 (REF)	
D	4.400	4.600	e1	3.000 (REF)	
D1	1.550 (REF)		L	0.900	1.200
D2	1.750 (REF)		θ	45°	

SOT-89



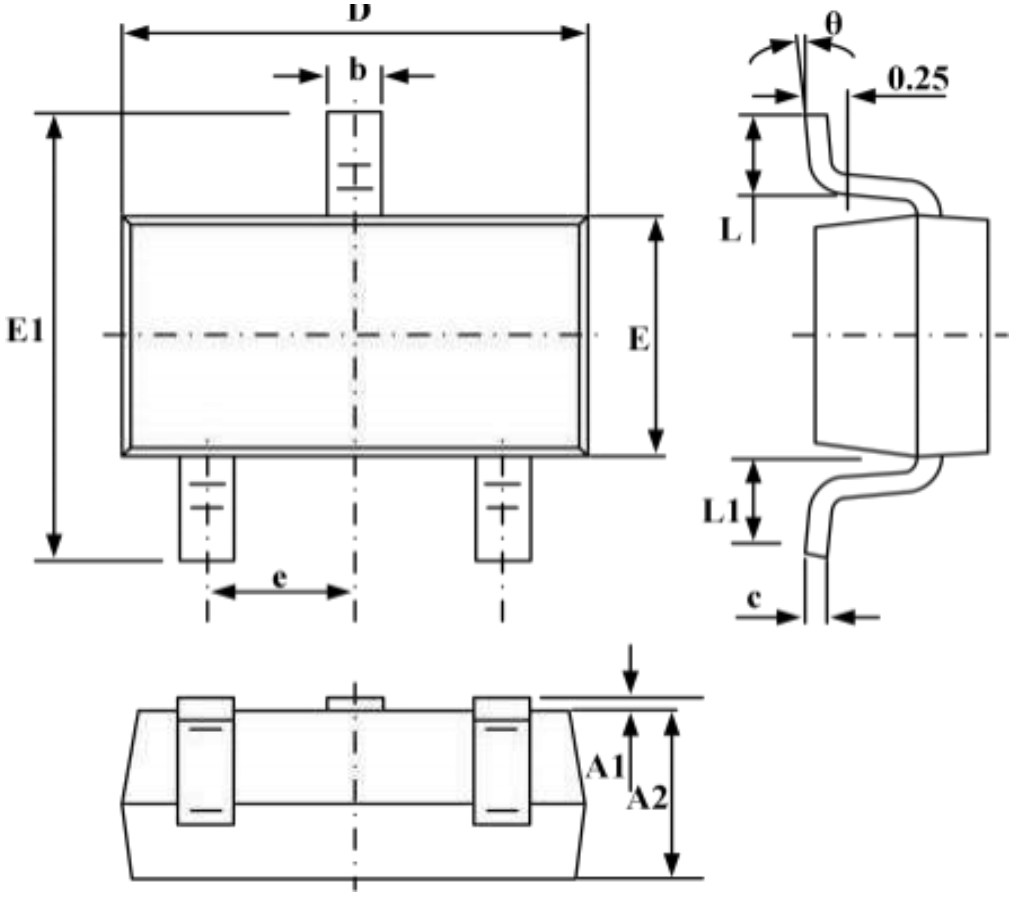
symbol	Dimensions (unit: mm)		symbol	Dimensions (unit: mm)	
	Min	Max		Min	Max
A	1.450	1.550	c	0.390	0.410
b	0.350	0.450	e	1.500 (REF)	
b 1	0.400	0.550	E	2.350	2.550
D	4.400	4.600	E1	4. 135	4.335
D1	1.550 (REF)		E2	2.650	2.850
D2	1.630 (REF)		L	0.950	1.050

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: