Features

- Low voltage drop: 0.17V@100mA
- High input voltage: 15V
- Low temperature coefficient
- Large Output Current: 0.5A
- Low Quiescent Current: 1.5uA
- Output voltage accuracy: tolerance ±2%
- Built-in current limiter
- SOT89-3，SOT23-3 and SOT23-5 packages

Applications

- Battery-powered equipment
- Hand-Hold Equipment
- GRS Receivers
- Wireless LAN

General Description

The SSP7603 series is a group of positive voltage output, three-pin regulators, that provide a high current even when the input/output voltage differential is small. Low power consumption and high accuracy is achieved through CMOS and laser trimming technologies.

The SSP7603 consists of a high-precision voltage reference, an error amplification circuit, and a current limited output driver. Transient response to load variations have improved in comparison to the existing series. SOT89-3,SOT23-3 and SOT23-5 packages are available.

Order Information

SSP7603P①②③④

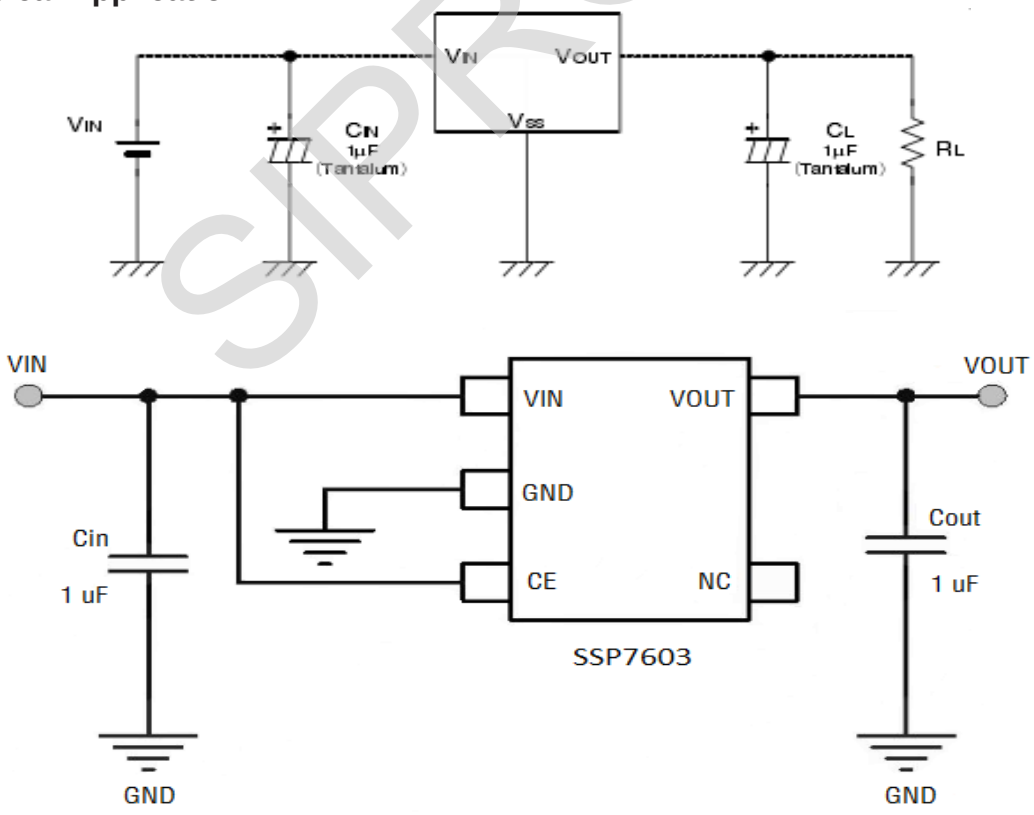
Designator	Symbol	Description
① ②	Integer	Output Voltage(1.2V~5.0V)
③	P	Package:SOT89-3
	M	Package:SOT23-3
	M5	Package:SOT23-5
④	R	RoHS / Pb Free
	G	Halogen Free

Note:"①②" stands for output voltages. Other voltages can be specially customized.

Selection Table

Part No.	Output Voltage	Package
SSP7603P15XX	1.5V	SOT89-3 SOT23-3 SOT23-5
SSP7603P18XX	1.8V	
SSP7603P25XX	2.5V	
SSP7603P26XX	2.6V	
SSP7603P27XX	2.7V	
SSP7603P28XX	2.8V	
SSP7603P30XX	3.0V	
SSP7603P33XX	3.3V	
SSP7603P36XX	3.6V	
SSP7603P40XX	4.0V	
SSP7603P44XX	4.4V	
SSP7603P45XX	4.5V	
SSP7603P50XX	5.0V	

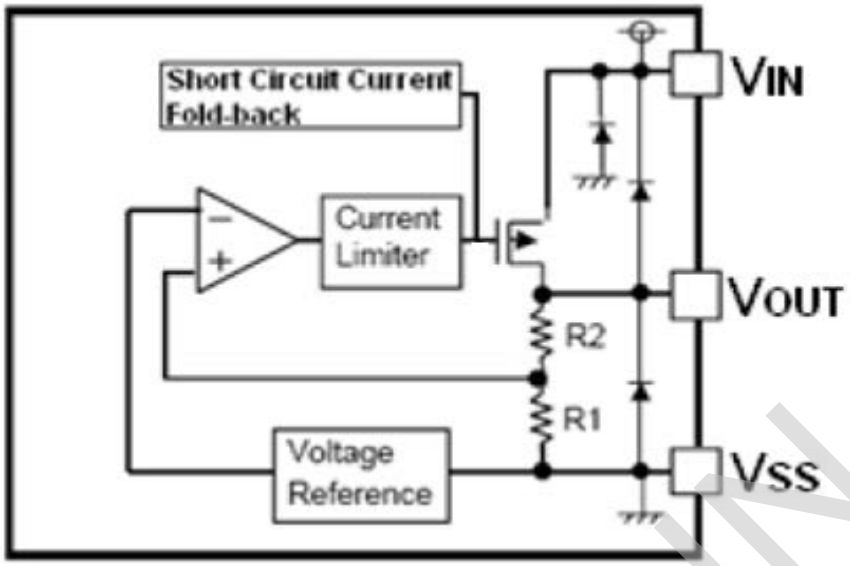
Typical Application



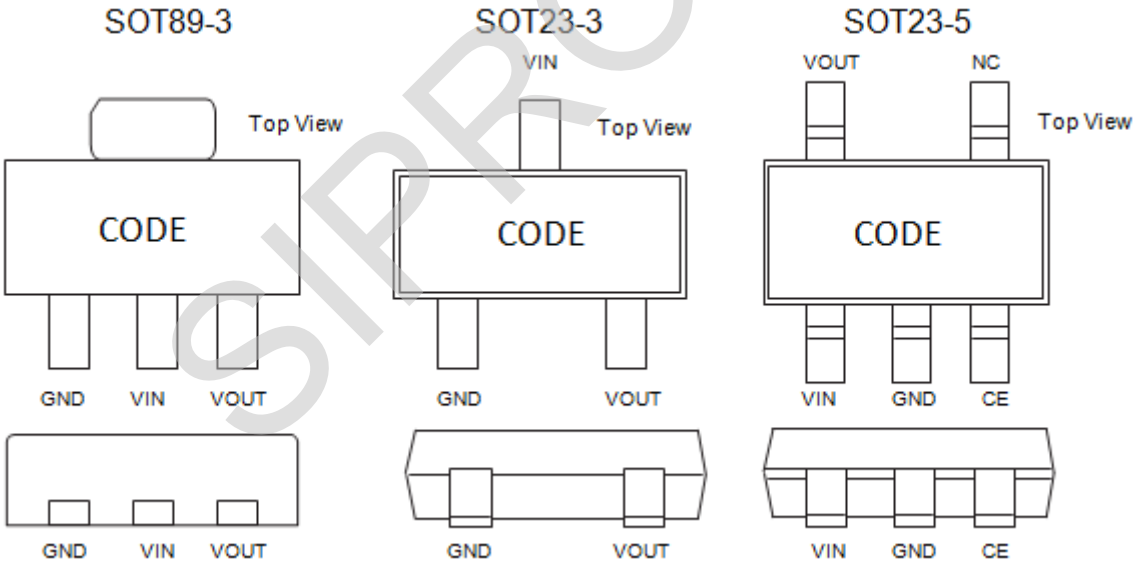
Note1:Input capacitor CIN=1uF.

Note2:Ouput capacitor COUT=1uF/6.8uF(1uF Tantalum capacitor or 6.8uF ceramic capacitor is recommended).

Block Diagram



Pin Assignment



Absolute Maximum Ratings

Supply Voltage .....-0.3V to 18V

Storage Temperature .....-40℃ to 125℃

Operating Temperature .....-40℃ to 85℃

Note: These are stress ratings only. Stresses exceeding the range specified under “Absolute Maximum Ratings” may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability.

Electrical Characteristics

SSP7603 for any output voltage （Ta=25℃）

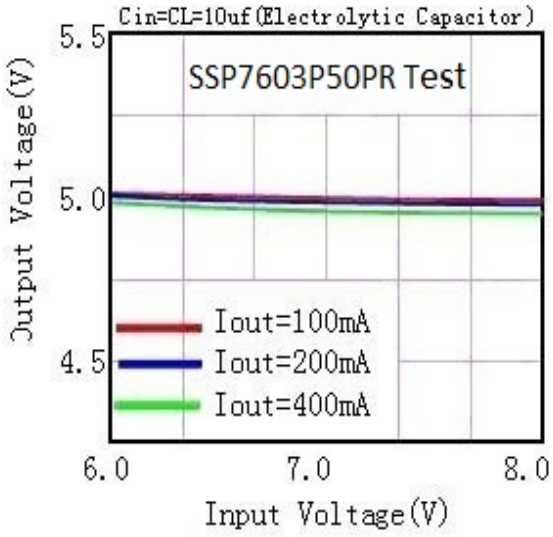
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	Vout	Vin=Vout+1V 1.0mA≤Iout≤30mA	Vout×0.98	--	Vout×1.02	V
Output Current*1	Iout	Vin-Vout=1V	--	500	--	mA
Low dropout*2	V_{drop}	Refer to the next table				
Line Regulation	△Vout1/(Vin·Vout)	1.6V≤Vin≤8V Iout=100mA	--	0.05	0.2	%/V
Load Regulation	△Vout	Vin= Vout+1V 1.0mA≤Iout≤100mA	--	12	30	mV
Output voltage Temperature Coefficiency	△Vout/(Ta·Vout)	Iout=30mA 0℃≤Ta≤70℃	--	±100	--	Ppm/℃
PSRR	PSRR	F=1KHz Vin=Vout+1V	--	40	--	dB
Supply Current	Iss1	--	--	1	2	uA
Input Voltage	Vin	--	3.5	--	15	V

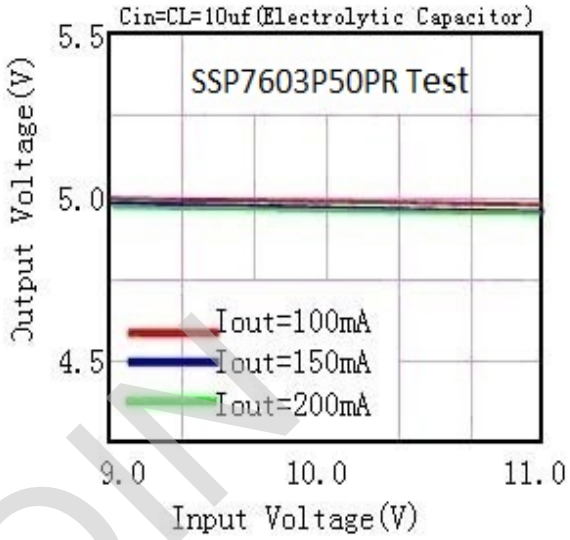
Electrical Characteristics by Output Voltage：

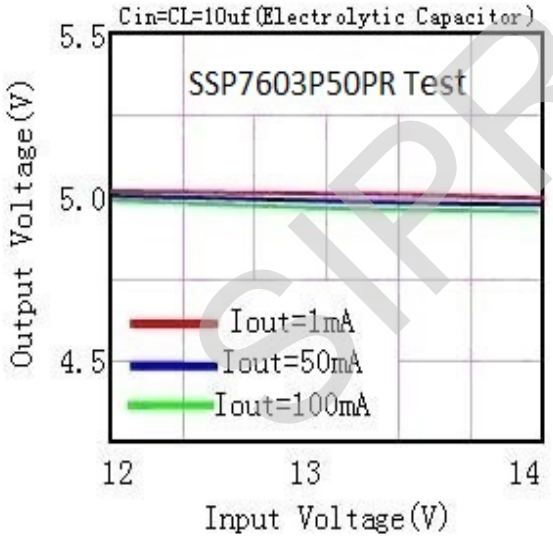
Output Voltage Vout(V)	Dropout Voltage Vdif（V）		
	Conditions	Typ.	Max.
Vout ≤ 2.0V	Iout=60 mA	0.1	0.12
2.0 < Vout ≤ 3.0	Iout=80 mA	0.12	0.14
3.0 < Vout ≤ 4.0	Iout=100 mA	0.16	0.18
4.0 < Vout ≤ 5.0		0.17	0.18
3.0 < Vout ≤ 4.0	Iout=200 mA	0.21	0.24
4.0 < Vout ≤ 6.0		0.20	0.22
3.0 < Vout ≤ 4.0	Iout=500 mA	0.8	0.85
4.0 < Vout ≤ 6.0		0.75	0.80

Typical Performance Characteristics

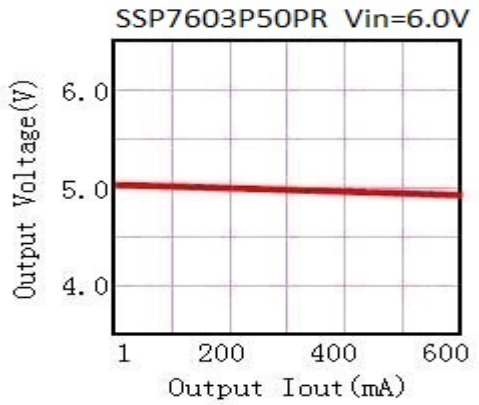
(1) Output Voltage vs Input voltage

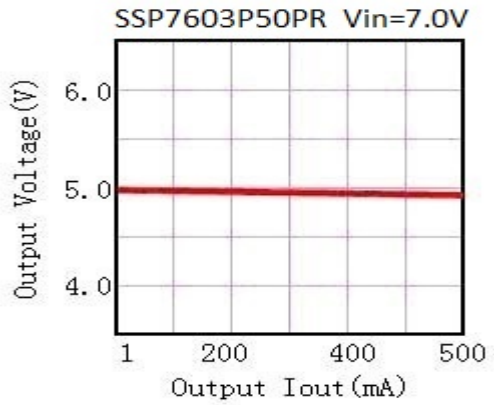


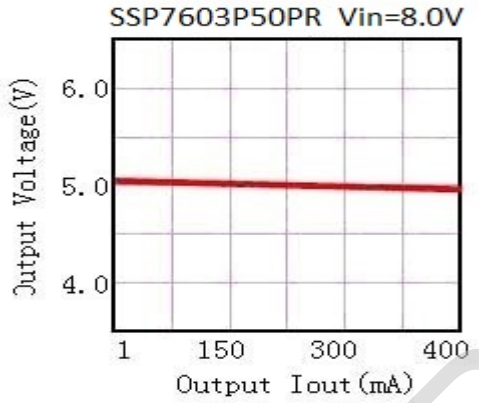


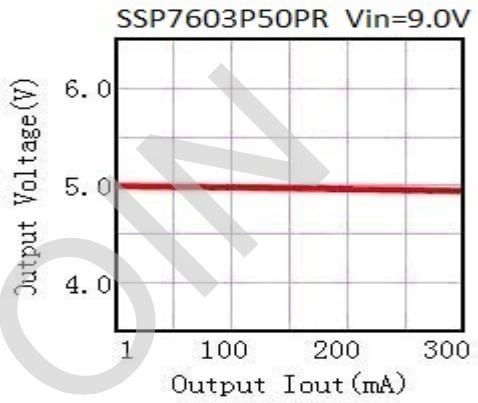


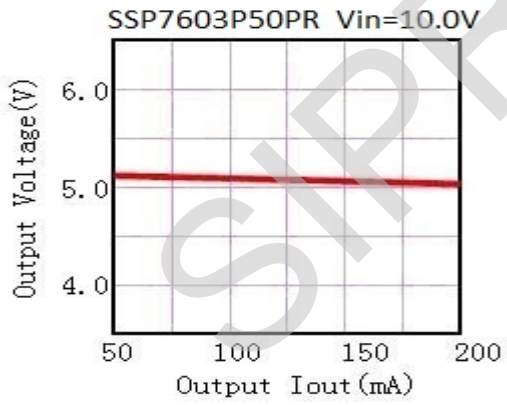
(2) Output Voltage vs.Output Current



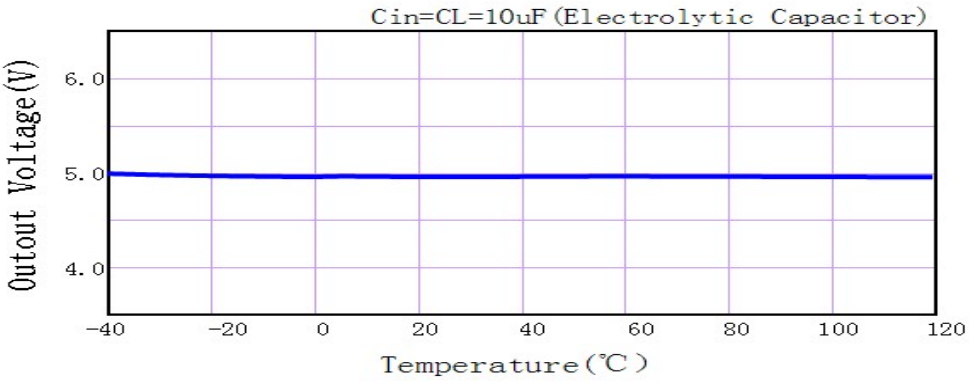






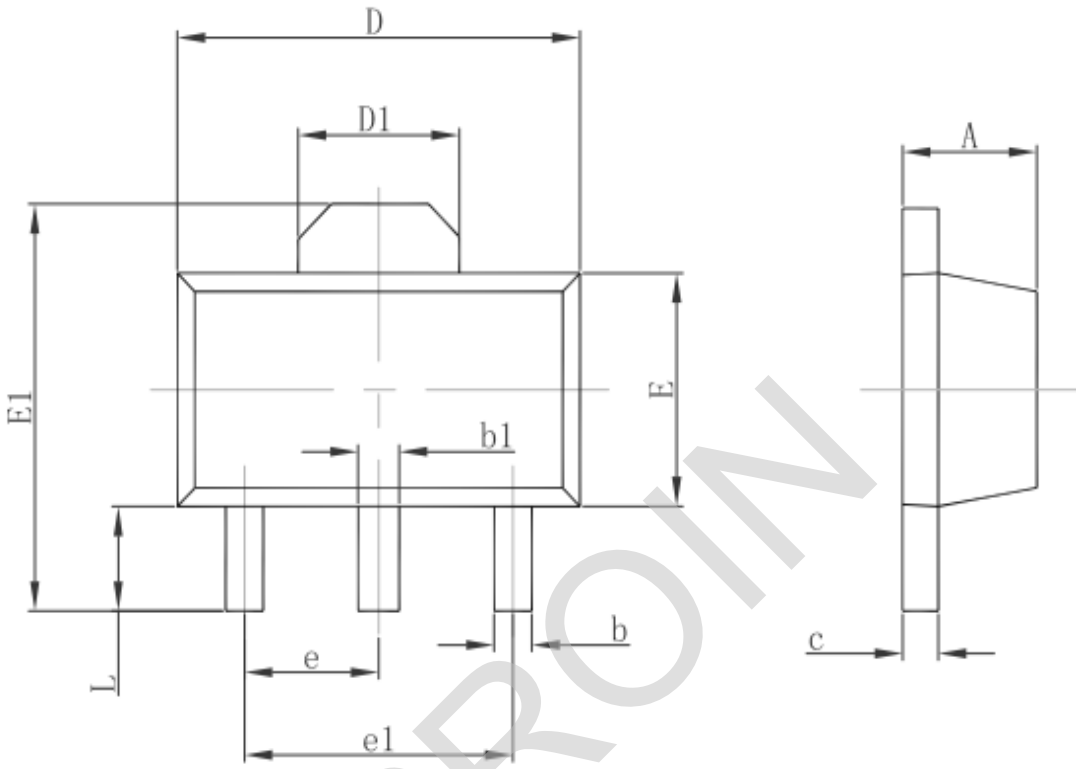


（3） Output Voltage vs.Ambient Temperature



Package Information

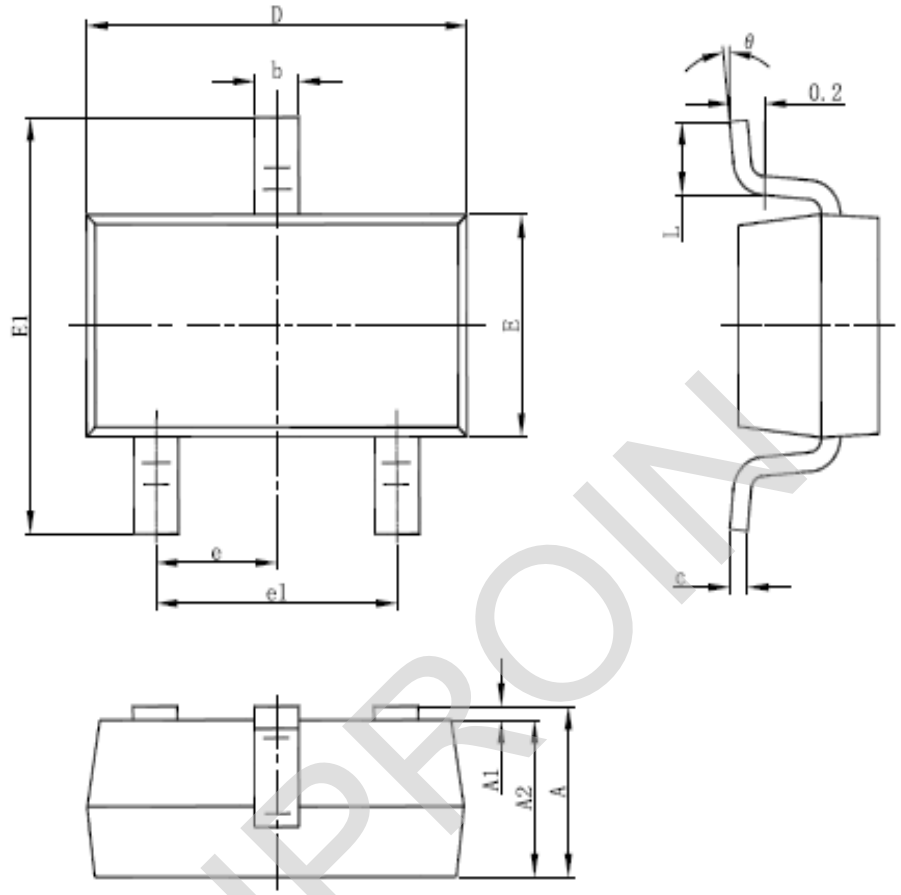
3-pin SOT89 Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047

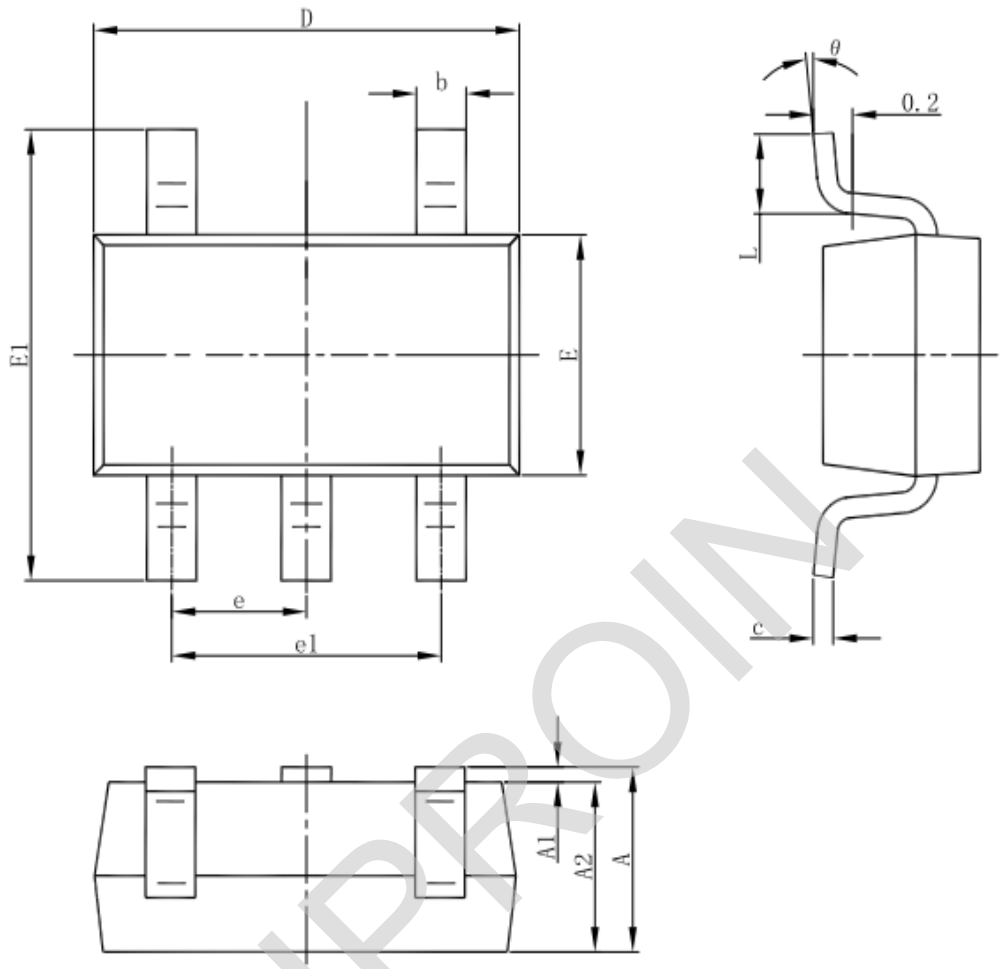
3-pin SOT23-3 Outline Dimensions

SOT-23-3L PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

SOT23-5 Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

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