Features

- Low power consumption
- Low voltage drop
- Low temperature coefficient
- High input voltage (up to 36V)
- High output current : 100mA
- Output voltage accuracy: tolerance ±3%
- SOT23-3, SOT89 and SOT23-5 package

Applications

- Battery-powered equipment
- Communication equipment
- Audio/Video equipment

General Description

The ASPL75XX series is a set of three-terminal high cur-rent low voltage regulator implemented in CMOS tech-nology. They can deliver 100mA output current and allow an input voltage as high as 36V. They are avail-able with several fixed output voltages ranging 2.1V to 12.0V. CMOS technology ensures low voltage drop and low quiescent current.

Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain variable voltages and currents.

Selection Table

Part No.	Output Voltage	Package
ASPL7521	2.1V	SOT23-3 SOT89 SOT23-5
ASPL7523	2.3V	
ASPL7525	2.5V	
ASPL7527	2.7V	
ASPL7530	3.0V	
ASPL7533	3.3V	
ASPL7536	3.6V	
ASPL7540	4.0V	
ASPL7544	4.4V	
ASPL7550	5.0V	
ASPL7560	6.0V	
ASPL7570	7.0V	
ASPL7580	8.0V	
ASPL7590	9.0V	
ASPL75A0	10.0V	
ASPL75C0	12.0V	

Note: ″xx″ stands for output voltages.

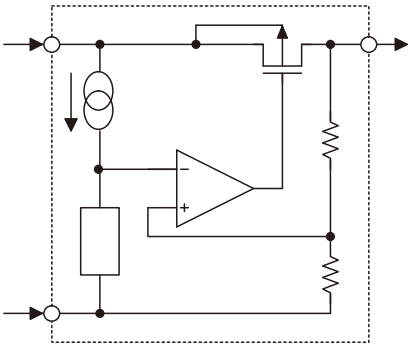
Both lead free and green compound devices are available. Note the symbol marks below:

″#″ stands for lead free devices.

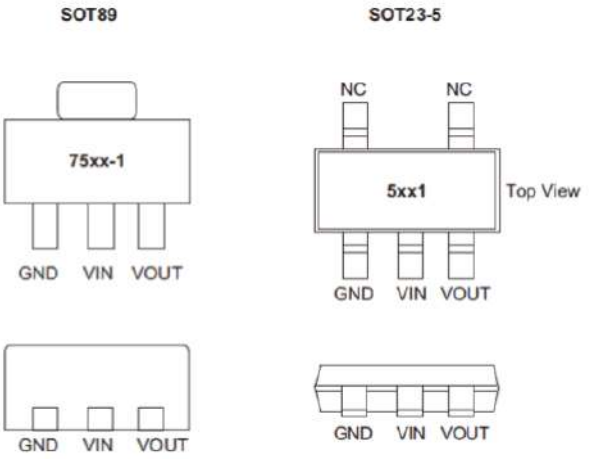
Blank and ″+″ stands for green compound devices, which are Lead-free and Halogen-free.

For the SOT23-3 package, the symbol mark will be at the end of the date code. Whereas for the SOT89 and SOT23-5, the symbol mask will be located at the end of IC marking.

Block Diagram



Pin Assignment



Absolute Maximum Ratings

Supply Voltage .....–0.3V to 36V

Operating Temperature .....–40°C to 85°C

Storage Temperature .....–50°C to 125°C

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.

Thermal Information

Symbol	Parameter	Package	Max.	Unit
θ_{JA}	Thermal Resistance (Junction to Ambient) (Assume no ambient airflow, no heat sink)	SOT23-5	500	°C/W
		SOT89	200	°C/W
		SOT23-3	200	°C/W
P_D	Power Dissipation	SOT23-5	0.20	W
		SOT89	0.50	W
		SOT23-3	0.50	W

Note: P_D is measured at Ta= 25°C

Electrical Characteristics

ASPL7521, +2.1V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	4.1V	I_{OUT}=10mA	2.037	2.1	2.163	V
I_{OUT}	Output Current	4.1V	—	60	100	—	mA
ΔV_{OUT}	Load Regulation	4.1V	1mA≤I_{OUT}≤50mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	4.1V	No load	—	2.5	5.0	μA
$\frac{}{IN \times V}$	Line Regulation	—	3.1V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
$\frac{}{}$	Temperature Coefficient	4.1V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.37	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7523, +2.3V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	4.3V	I_{OUT}=10mA	2.231	2.3	2.369	V
I_{OUT}	Output Current	4.3V	—	60	100	—	mA
ΔV_{OUT}	Load Regulation	4.3V	1mA≤I_{OUT}≤50mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	4.3V	No load	—	2.5	5.0	μA
$\frac{}{IN \times V}$	Line Regulation	—	3.3V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
$\frac{}{}$	Temperature Coefficient	4.3V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.39	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7525, +2.5V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	4.5V	I_{OUT}=10mA	2.425	2.5	2.575	V
I_{OUT}	Output Current	4.5V	—	60	100	—	mA
ΔV_{OUT}	Load Regulation	4.5V	1mA≤I_{OUT}≤50mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	4.5V	No load	—	2.5	5.0	μA
$\frac{}{IN \times V}$	Line Regulation	—	3.5V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	4.5V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.41	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7527, +2.7V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	4.7V	I_{OUT}=10mA	2.619	2.7	2.781	V
I_{OUT}	Output Current	4.7V	—	60	100	—	mA
ΔV_{OUT}	Load Regulation	4.7V	1mA≤I_{OUT}≤50mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	4.7V	No load	—	2.5	5.0	μA
$\frac{}{IN \times V}$	Line Regulation	—	3.7V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	4.7V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.43	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7530, +3.0V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	5.0V	I_{OUT}=10mA	2.91	3.0	3.09	V
I_{OUT}	Output Current	5.0V	—	60	100	—	mA
ΔV_{OUT}	Load Regulation	5.0V	1mA≤I_{OUT}≤50mA		60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	5.0V	No load	—	2.5	5.0	μA
$\frac{\quad}{IN \times V}$	Line Regulation	—	4.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	5.0V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.45	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7533, +3.3V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	5.5V	I_{OUT}=10mA	3.201	3.3	3.399	V
I_{OUT}	Output Current	5.5V	—	60	100	—	mA
ΔV_{OUT}	Load Regulation	5.5V	1mA≤I_{OUT}≤50mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	5.5V	No load	—	2.5	5.0	μA
$\frac{\quad}{IN \times V}$	Line Regulation	—	4.5V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	5.5V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.5	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7536, +3.6V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	5.6V	I_{OUT}=10mA	3.492	3.6	3.708	V
I_{OUT}	Output Current	5.6V	—	60	100	—	mA
ΔV_{OUT}	Load Regulation	5.6V	1mA≤I_{OUT}≤50mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	5.6V	No load	—	2.5	5.0	μA
$\frac{\quad}{IN \times V}$	Line Regulation	—	4.6V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	5.6V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.6	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7540, +4.0V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	6.0V	I_{OUT}=10mA	3.88	4.0	4.12	V
I_{OUT}	Output Current	6.0V	—	60	100	—	mA
ΔV_{OUT}	Load Regulation	6.0V	1mA≤I_{OUT}≤50mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	6.0V	No load	—	2.5	5.0	μA
$\frac{\quad}{IN \times V}$	Line Regulation	—	5.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	6.0V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.7	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7544, +4.4V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	6.4V	I_{OUT}=10mA	4.268	4.4	4.532	V
I_{OUT}	Output Current	6.4V	—	60	100	—	mA
ΔV_{OUT}	Load Regulation	6.4V	1mA≤I_{OUT}≤50mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	6.4V	No load	—	2.5	5.0	μA
$\frac{}{IN \times V}$	Line Regulation	—	5.4V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	6.4V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.7	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7550, +5.0V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	7.0V	I_{OUT}=10mA	4.85	5.0	5.15	V
I_{OUT}	Output Current	7.0V	—	100	150	—	mA
ΔV_{OUT}	Load Regulation	7.0V	1mA≤I_{OUT}≤70mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	7.0V	No load	—	2.5	5.0	μA
$\frac{}{IN \times V}$	Line Regulation	—	6.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	7.0V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.75	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7560, +6.0V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	8.0V	I_{OUT}=10mA	5.82	6.0	6.18	V
I_{OUT}	Output Current	8.0V	—	150	—	—	mA
ΔV_{OUT}	Load Regulation	8.0V	1mA≤I_{OUT}≤70mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	8.0V	No load	—	2.5	5.0	μA
$\frac{\quad}{IN \times V}$	Line Regulation	—	7.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	8.0V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.85	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7570, +7.0V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	9.0V	I_{OUT}=10mA	6.79	7.0	7.21	V
I_{OUT}	Output Current	9.0V	—	150	—	—	mA
ΔV_{OUT}	Load Regulation	9.0V	1mA≤I_{OUT}≤70mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	9.0V	No load	—	2.5	5.0	μA
$\frac{\quad}{IN \times V}$	Line Regulation	—	8.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	9.0V	I_{OUT}=10mA -40°C<Ta<85°C	—	±0.95	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7580, +8.0V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	10V	I_{OUT}=10mA	7.76	8.0	8.24	V
I_{OUT}	Output Current	10V	—	150	—	—	mA
ΔV_{OUT}	Load Regulation	10V	1mA≤I_{OUT}≤70mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	10V	No load	—	2.5	5.0	μA
$\frac{\quad}{IN \times V}$	Line Regulation	—	9.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	10V	I_{OUT}=10mA -40°C<Ta<85°C	—	±1.10	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL7590, +9.0V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	11V	I_{OUT}=10mA	8.73	9.0	9.27	V
I_{OUT}	Output Current	11V	—	150	—	—	mA
ΔV_{OUT}	Load Regulation	11V	1mA≤I_{OUT}≤70mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	11V	No load	—	2.5	5.0	μA
$\frac{\quad}{IN \times V}$	Line Regulation	—	10V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	11V	I_{OUT}=10mA -40°C<Ta<85°C	—	±1.15	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

ASPL75A0, +10.0V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	12V	I_{OUT}=10mA	9.7	10.0	10.3	V
I_{OUT}	Output Current	12V	—	150	—	—	mA
ΔV_{OUT}	Load Regulation	12V	1mA≤I_{OUT}≤70mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	12V	No load	—	2.5	5.0	μA
$\frac{}{IN \times V}$	Line Regulation	—	11V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	12V	I_{OUT}=10mA -40°C<Ta<85°C	—	±1.25	—	mV/°C

Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

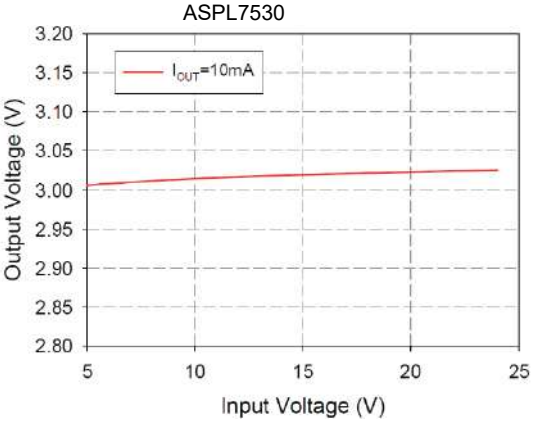
ASPL75C0, +12.0V Output Type Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	14V	I_{OUT}=10mA	11.64	12.0	12.36	V
I_{OUT}	Output Current	14V	—	150	—	—	mA
ΔV_{OUT}	Load Regulation	14V	1mA≤I_{OUT}≤70mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	14V	No load	—	2.5	5.0	μA
$\frac{}{IN \times V}$	Line Regulation	—	13V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	36	V
———	Temperature Coefficient	14V	I_{OUT}=10mA -40°C<Ta<85°C	—	±1.45	—	mV/°C

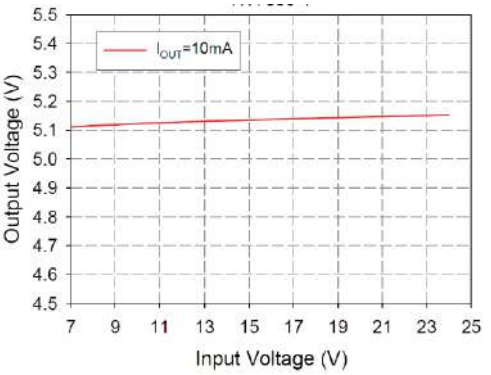
Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

Typical Performance Characteristics

ASPL7530



ASPL7550



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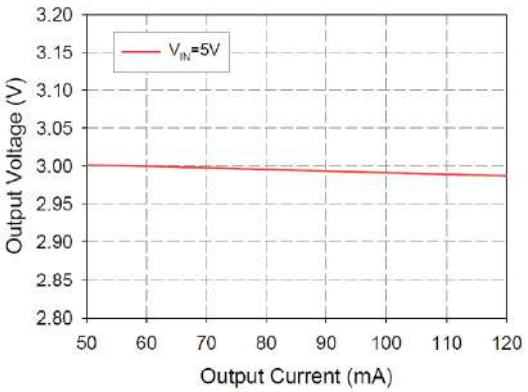

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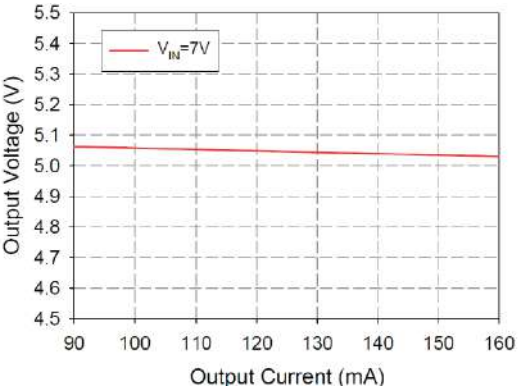

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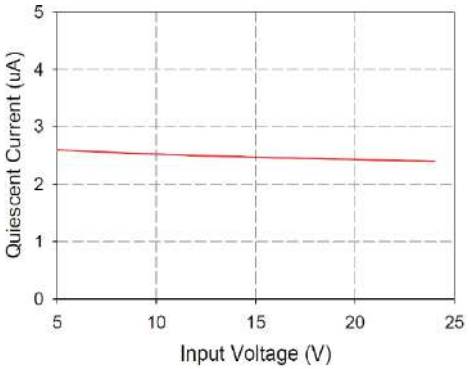

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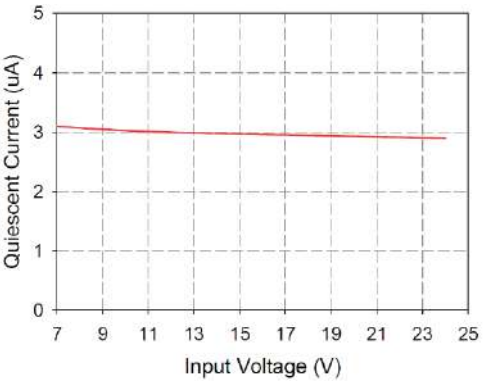

ASPL7530
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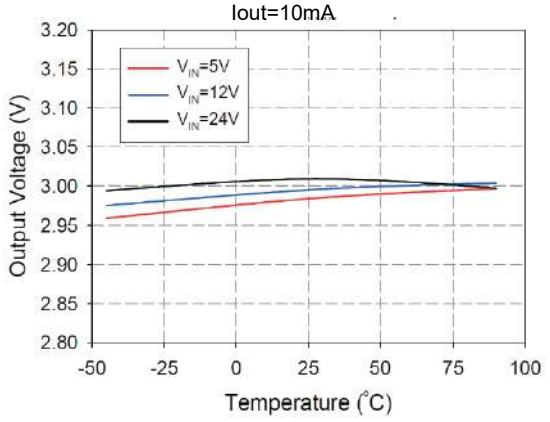
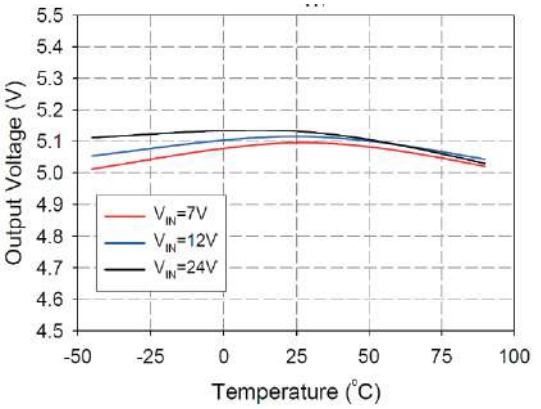
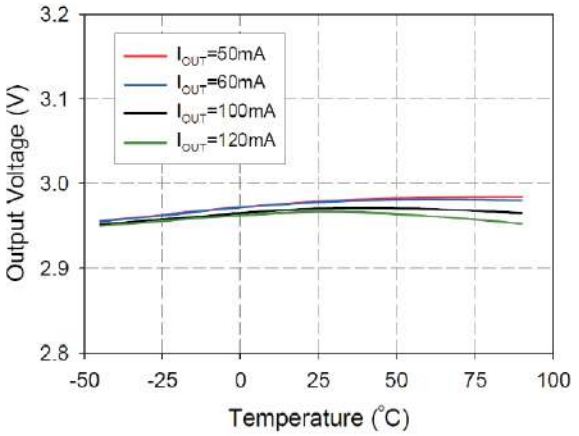


ASPL7550
Iout=10mA



ASPL7530
VIN=5V



ASPL7550
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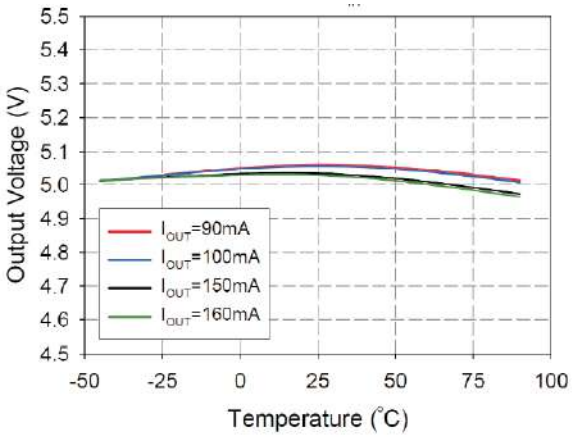

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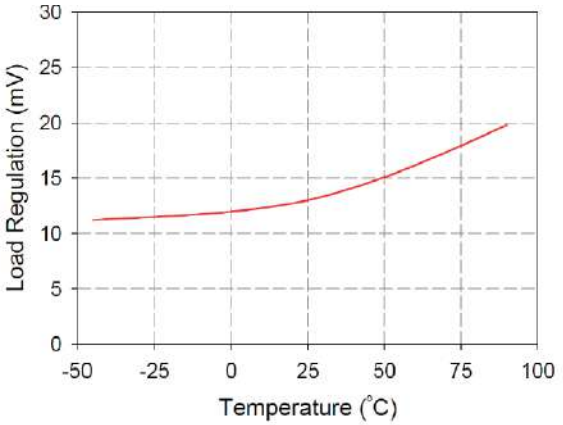

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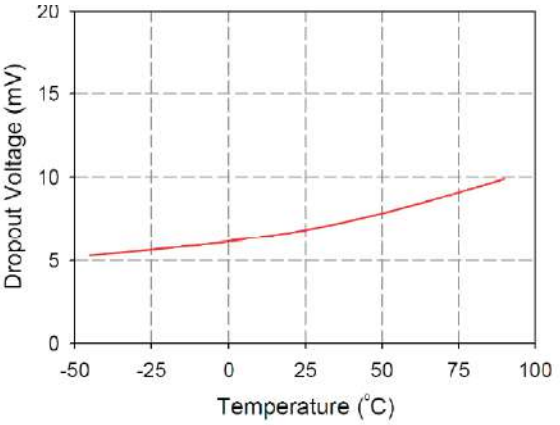

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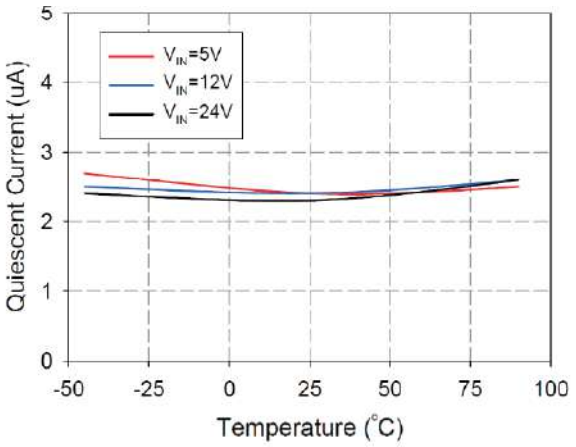

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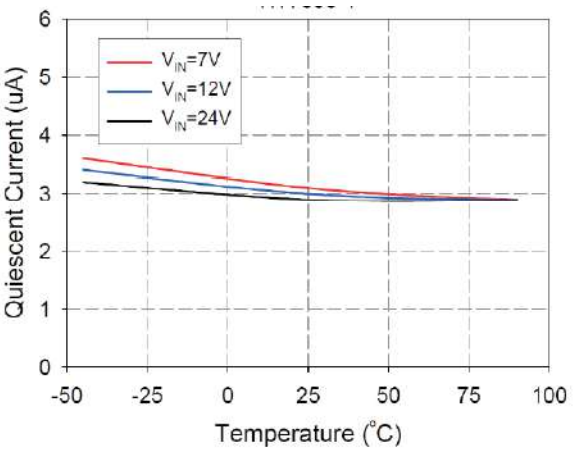

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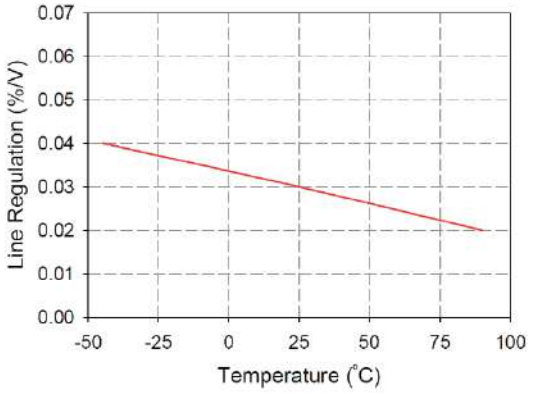

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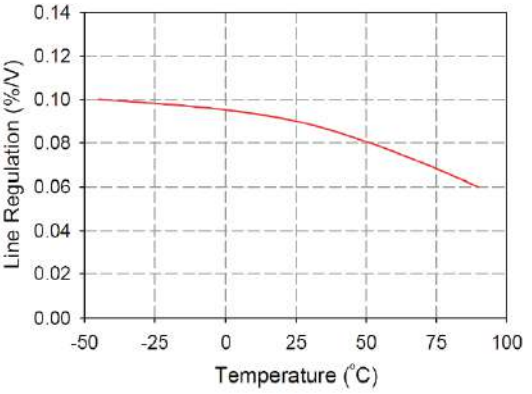
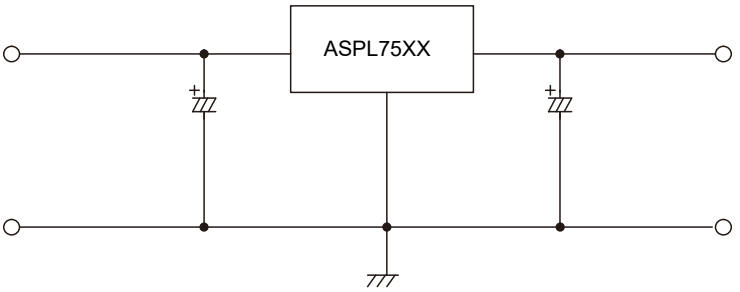
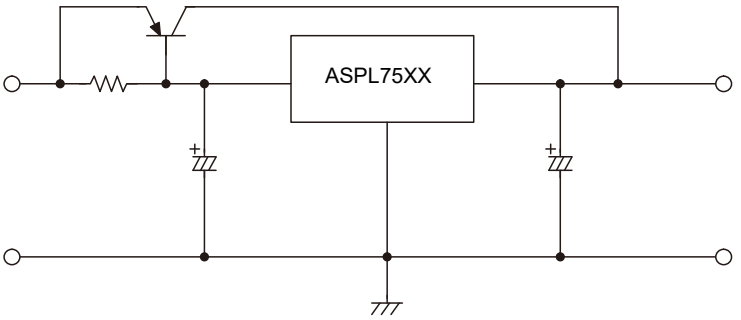


Application Circuits

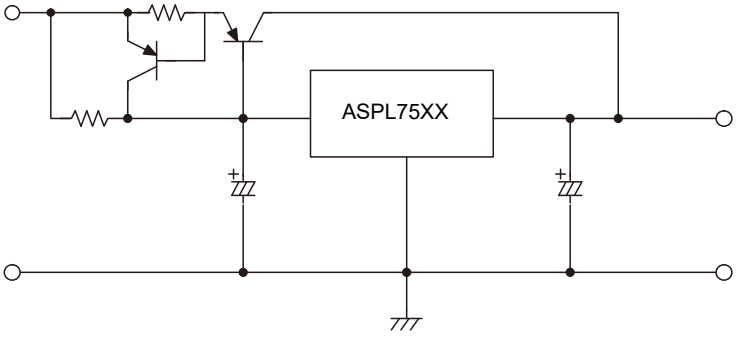
Basic Circuit



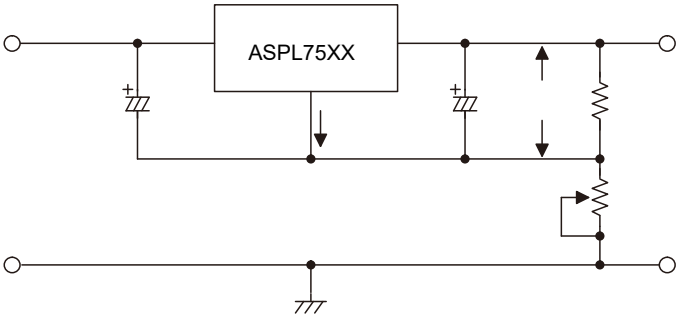
High Output Current Positive Voltage Regulator



Short-Circuit Protection for Tr1

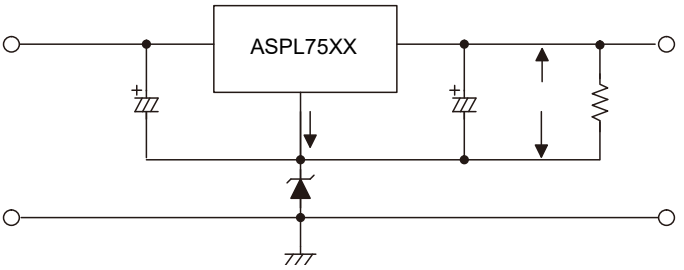


Circuit for Increasing Output Voltage



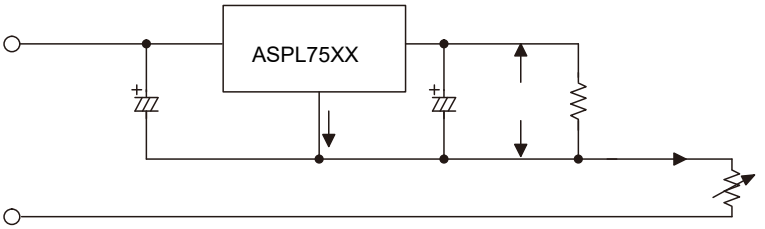
$$V_{OUT} = V_{XX} \left(1 + \frac{R2}{R1}\right) + I_{SS} R2$$

Circuit for Increasing Output Voltage



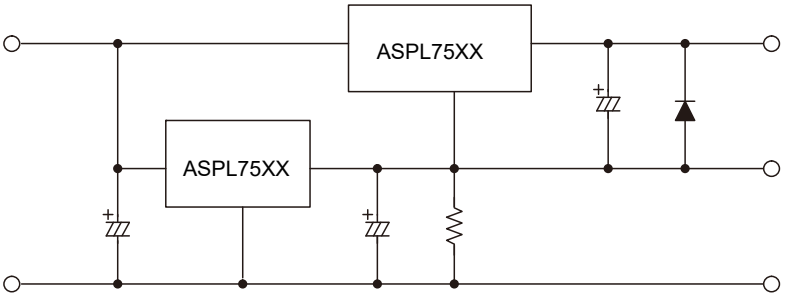
$$V_{OUT} = V_{XX} + V_{D1}$$

Constant Current Regulator



$$I_{OUT} = \frac{V_{XX}}{R_A} + I_{SS}$$

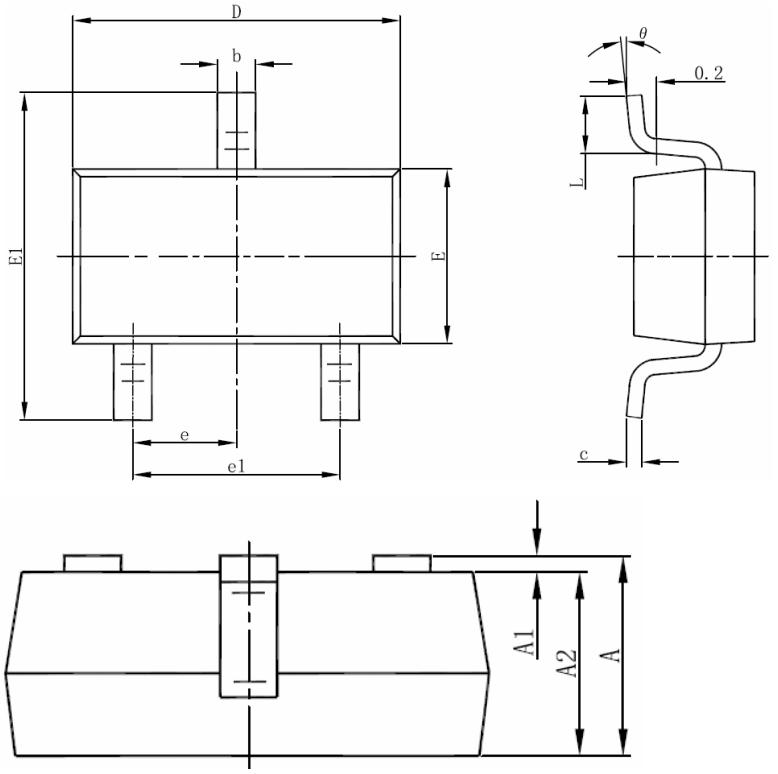
Dual Supply



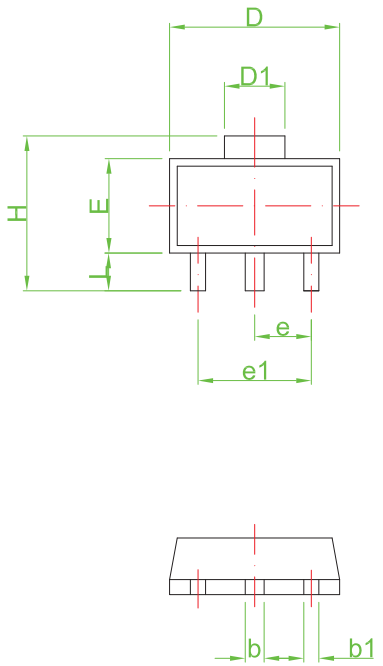
Ordering and Marking Information

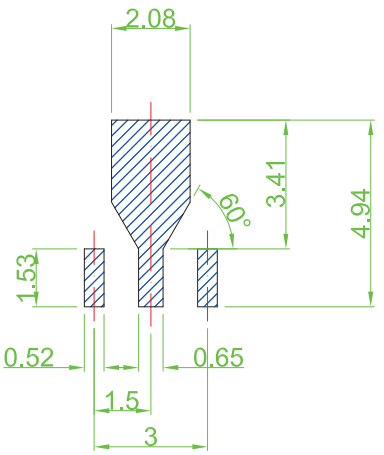
Device	Marking	Package	Packaging	Quantity	Reel Size	Tape width
ASPL75XXLP	75XX	SOT23-3	REEL	3000	-	-
ASPL75XXZD	75XX	SOT23-5	REEL	3000	-	-
ASPL75XXDI	75XX	SOT89-3	REEL	1000	-	-

PACKAGE	MARKING
SOT23-3 SOT23-5 SOT89-3	正面丝印



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°

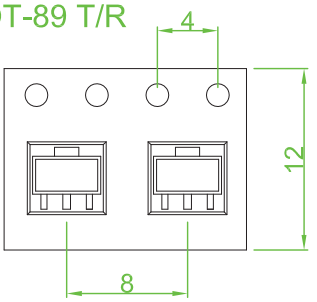


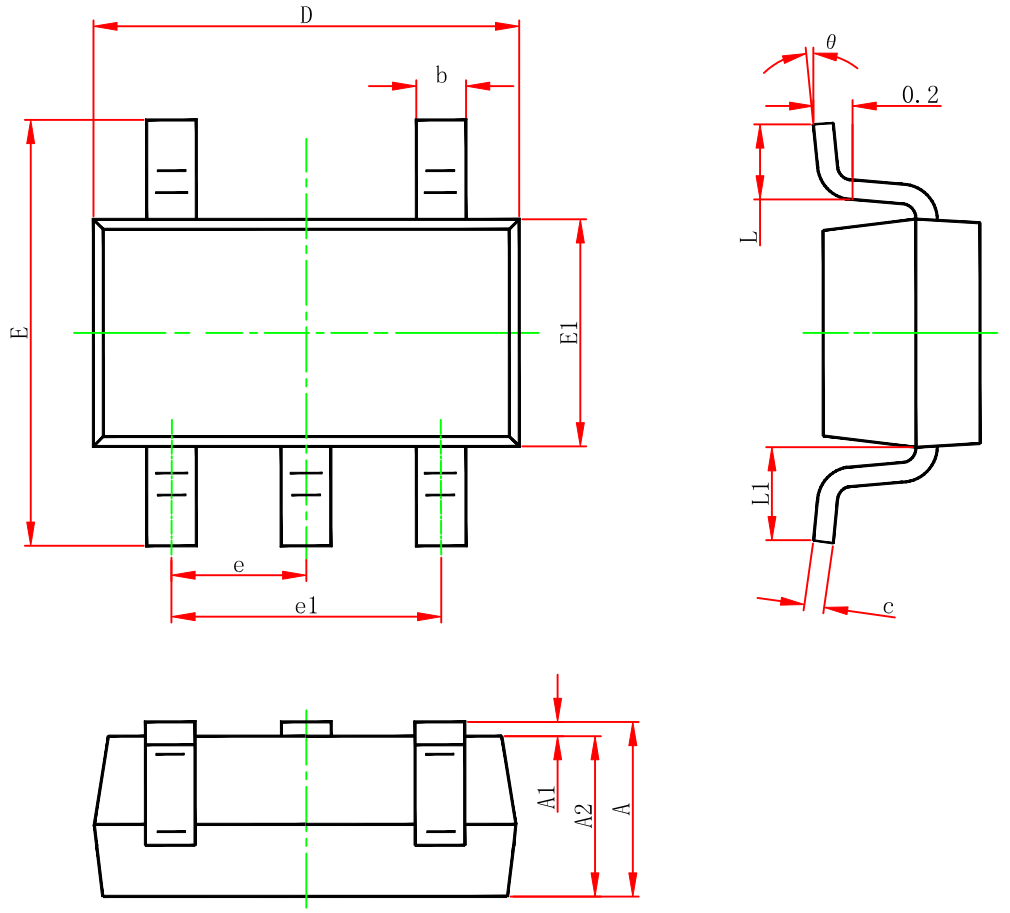


Recommended Land Pattern

Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	1.30	1.70	0.051	0.067
b	0.40	0.60	0.016	0.024
b1	0.25	0.55	0.010	0.022
C	0.30	0.50	0.012	0.020
D	4.30	4.70	0.169	0.185
D1	1.40	1.80	0.055	0.071
E	2.30	2.70	0.091	0.106
e	1.5TYP		0.059TYP	
e1	2.90	3.10	0.114	0.122
H	3.90	4.40	0.154	0.173
L	0.80	1.20	0.031	0.047

SOT-89 T/R





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
E1	1.500	1.700	0.059	0.067
E	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
L1	0.600REF.		0.024REF.	
θ	0°	8°	0°	8°

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