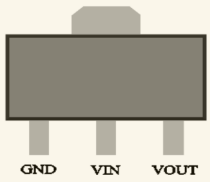
100mA Low Power LDO

Features

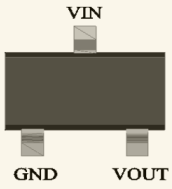
- Low power consumption
- Low voltage drop
- Low temperature coefficient
- Highinputvoltage(upto30V)
- High output current : 100mA
- Output voltage accuracy: tolerance ±3%
- SOT-89-3L and SOT-23

Applications

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



SOT-89-3L



SOT-23

General Description

The HT75xx-1 series is a set of three-terminal high current low voltage regulator implemented in CMOS technology. They can deliver 100mA output current and allowaninputvoltageashighas30V.Theyareavail - able with several fixed output voltages ranging from 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 Voltag	Package	Marking	
HT7521-1/HT7521	2.1V	SOT-89-3L SOT-23	SOT-89-3L 75xx-1	SOT-23 HTxx
HT7523-1/HT7523	2.3V			
HT7525-1/HT7525	2.5V			
HT7527-1/HT7527	2.7V			
HT7530-1/HT7530	3.0V			
HT7533-1/HT7533	3.3V			
HT7536-1/HT7536	3.6V			
HT7540-1/HT7540	4.0V			
HT7544-1/HT7544	4.4V			
HT7550-1/HT7550	5.0V			
HT7560-1/HT7560	6.0V			
HT7570-1/HT7570	7.0V			
HT7580-1/HT7580	8.0V			
HT7590-1/HT7590	9.0V			
HT75A0-1/HT75A0	10.0V			
HT75C0-1/HT75C0	12.0V			

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Supply Voltage	V_{IN}	- 3 to + 30	V
Power Dissipation	P_{tot}	500	mW
Operating Temperature	T_A	- 40 to + 85	°C
Storage Temperature Range	T_{stg}	- 50 to + 125	°C

Electrical Characteristics

HT7521-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	3.1V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7523-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	3.3V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7525-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	3.5V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7527-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	3.7V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7530-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	4.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7533-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	4.5V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7536-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	4.6V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7540-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	5.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7544-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	5.4V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7550-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	6.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7560-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	7.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7570-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	8.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta T_a}$	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.

HT7580-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	9.0V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta Ta}$	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.

HT7590-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	10V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta Ta}$	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.

HT75A0-1, +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
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	11V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta Ta}$	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.

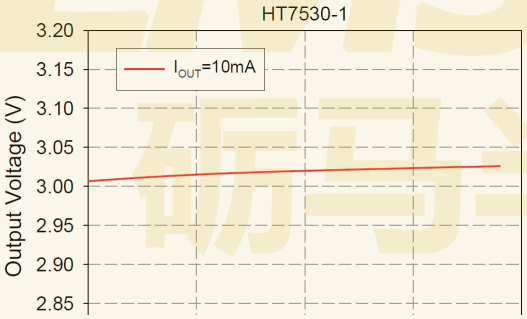
HT75C0-1, +12.0V Output Type

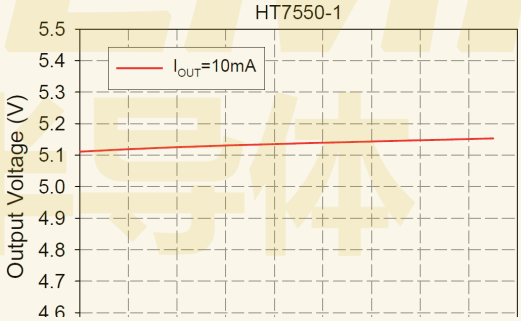
Ta=25°C

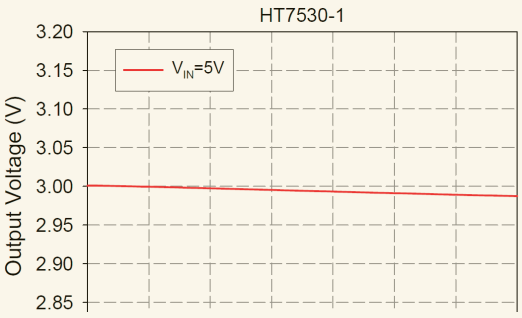
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	14V	I_{OUT}=10mA	11.64	12.0	12.36	V
I_{OUT}	Output Current	14V	—	150	—	—	mA
ΔV_{OUT}	Load Regulation	14V	1mA≤I_{OUT}≤70mA	—	60	150	mV
V_{DIF}	Voltage Drop (Note)	—	I_{OUT}=1mA, ΔV_{OUT}=2%	—	100	—	mV
I_{SS}	Current Consumption	14V	No load	—	2.5	5.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	—	13V≤V_{IN}≤24V I_{OUT}=1mA	—	0.2	—	%/V
V_{IN}	Input Voltage	—	—	—	—	28	V
$\frac{\Delta V_{DET}}{\Delta Ta}$	Temperature Coefficient	14V	I_{OUT}=10mA -40°C<Ta<85°C	—	±1.45	—	mV/°C

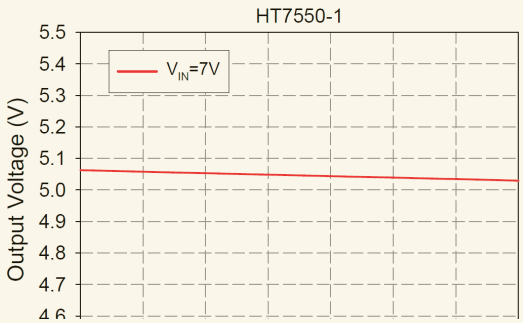
Note: Dropout voltage is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V_{IN} = V_{OUT}+2V with a fixed load.

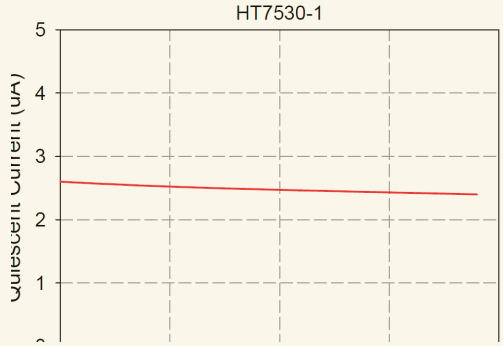
Typical Performance Characteristics










HT7530-1
Quiescent Current (uA)
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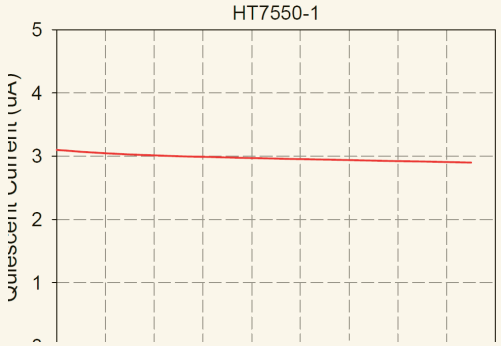
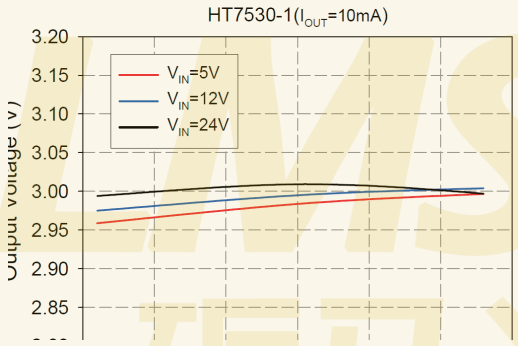
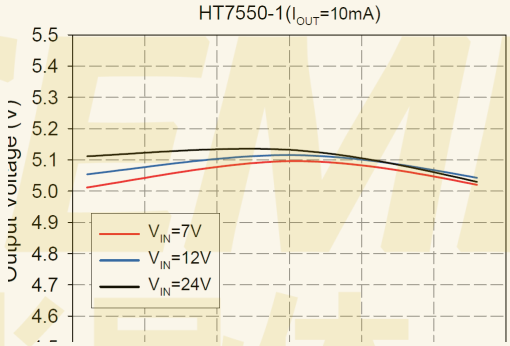
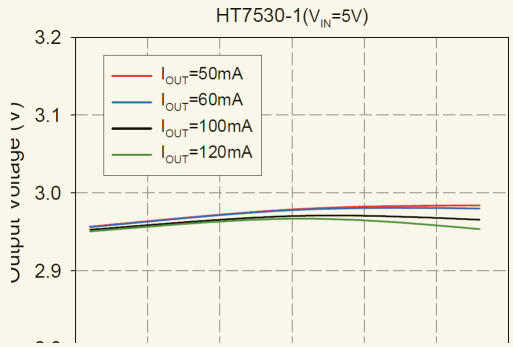
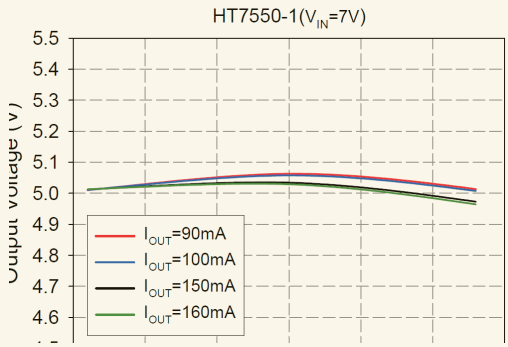
2
1

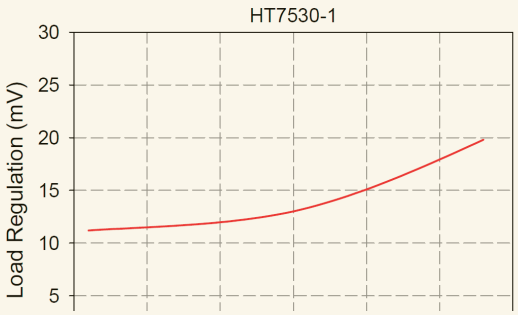

HT7550-1
Quiescent Current (uA)
5
4
3
2
1

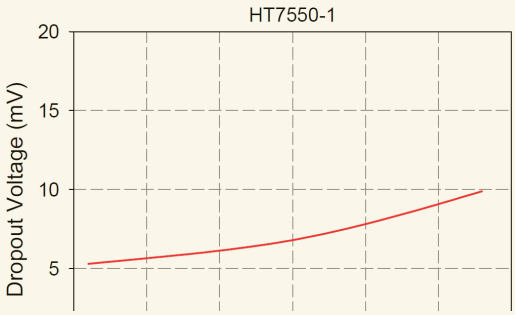

HT7530-1(IOUT=10mA)
Output Voltage (V)
3.20
3.15
3.10
3.05
3.00
2.95
2.90
2.85
VIN=5V
VIN=12V
VIN=24V

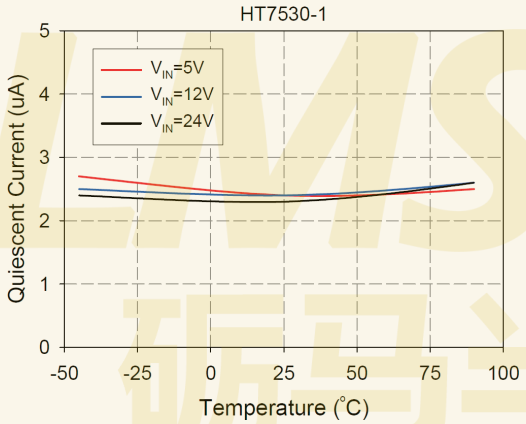

HT7550-1(IOUT=10mA)
Output Voltage (V)
5.5
5.4
5.3
5.2
5.1
5.0
4.9
4.8
4.7
4.6
VIN=7V
VIN=12V
VIN=24V

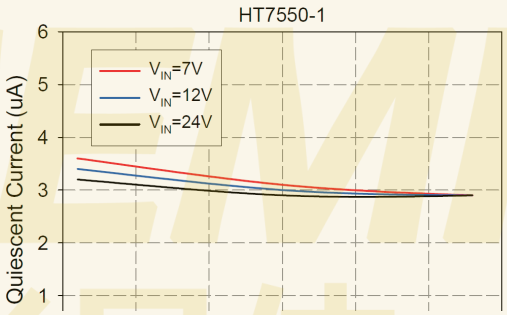

HT7530-1(VIN=5V)
Output Voltage (V)
3.2
3.1
3.0
2.9
IOUT=50mA
IOUT=60mA
IOUT=100mA
IOUT=120mA

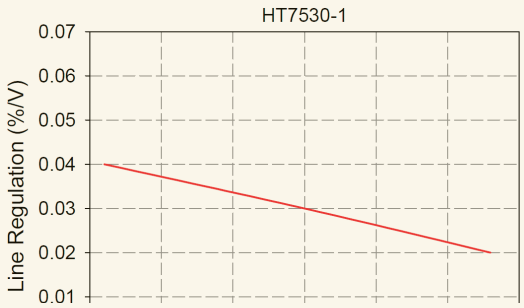

HT7550-1(VIN=7V)
Output Voltage (V)
5.5
5.4
5.3
5.2
5.1
5.0
4.9
4.8
4.7
4.6
IOUT=90mA
IOUT=100mA
IOUT=150mA
IOUT=160mA

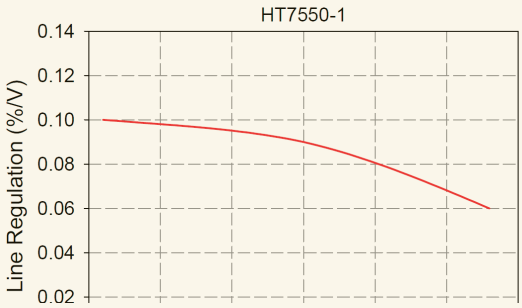

HT7530-1
Load Regulation (mV)
30
25
20
15
10
5


HT7550-1
Dropout Voltage (mV)
20
15
10
5


HT7530-1
Quiescent Current (uA)
V_IN=5V
V_IN=12V
V_IN=24V
5
4
3
2
1
0
-50
-25
0
25
50
75
100
Temperature (°C)


HT7550-1
Quiescent Current (uA)
V_IN=7V
V_IN=12V
V_IN=24V
6
5
4
3
2
1

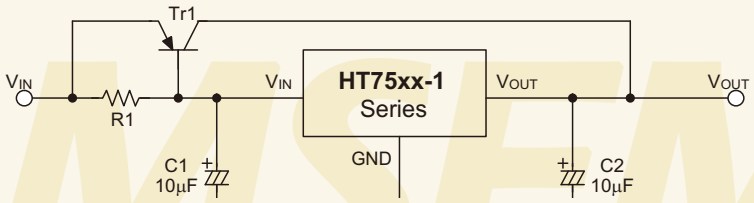

HT7530-1
Line Regulation (%/V)
0.07
0.06
0.05
0.04
0.03
0.02
0.01


HT7550-1
Line Regulation (%/V)
0.14
0.12
0.10
0.08
0.06
0.04
0.02

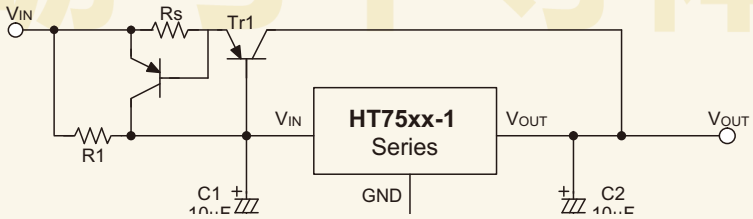
Application Circuits

Basic Circuit

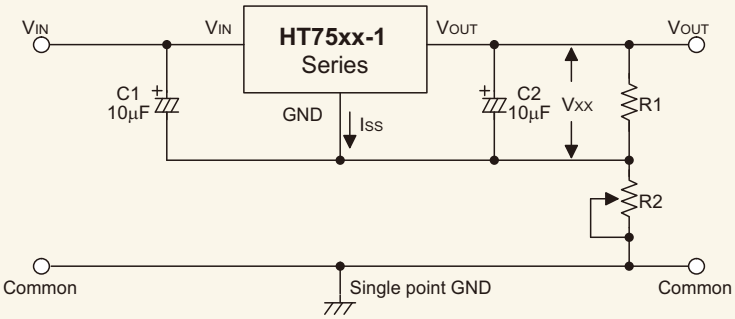
High Output Current Positive Voltage Regulator



Short-Circuit Protection for Tr1

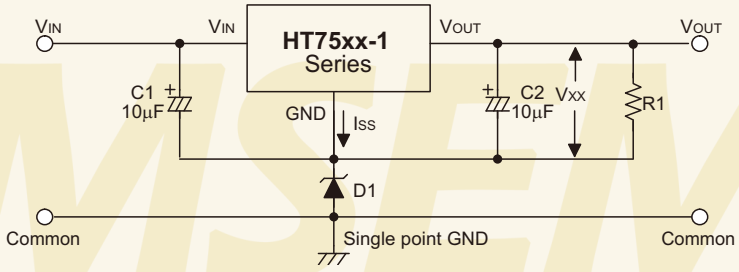


Circuit for Increasing Output Voltage



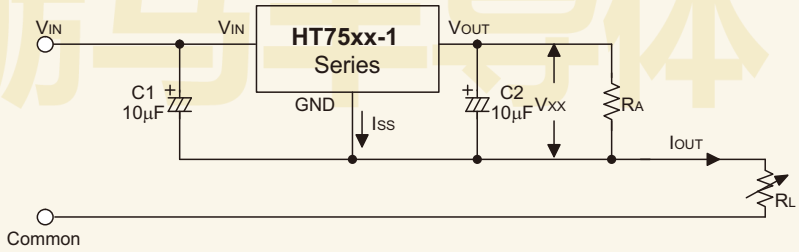
$$V_{OUT} = V_{XX} \left(1 + \frac{R2}{R1}\right) + I_{SS} R2$$

Circuit for Increasing Output Voltage



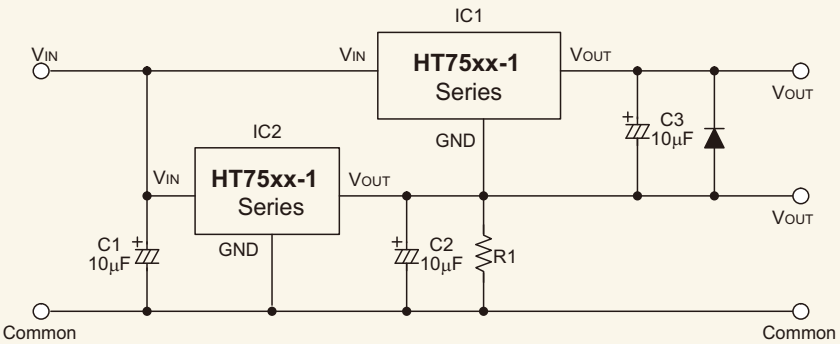
$$V_{OUT} = V_{XX} + V_{D1}$$

Constant Current Regulator

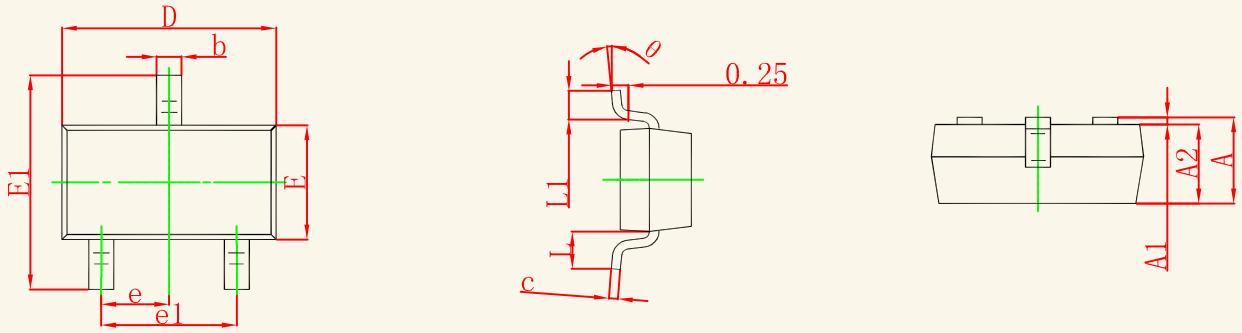


$$I_{OUT} = \frac{V_{XX}}{R_A} + I_{SS}$$

Dual Supply

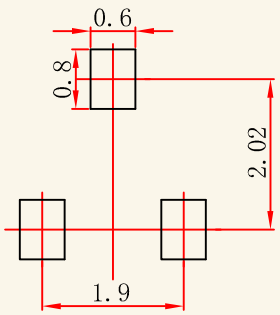


SOT-23 Package Outline Dimensions



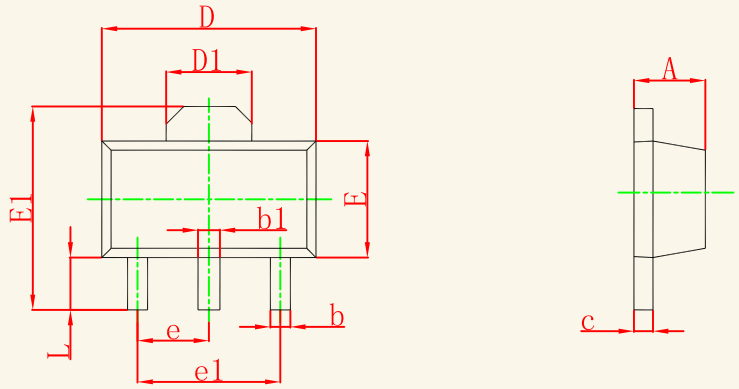
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.	1.	0.	0.045
A1	9000.	1500.	0350.	0.004
A2	0000.	1001.	0000.	0.041
b	9000.	0500.	0350.	0.020
c	3000.	5000.	0120.	0.006
D	0802.	1503.	0030.	0.118
E	8001.	0001.	1100.	0.055
E1	2002.	4002.	0470.	0.100
e	0.950 TYP		0.037 TYP	
e1	2501.	5502.	0890.	0.079
L	0.550 REF		0.022 REF	
L1	8000.	0000.	0710.	0.020
θ				8°
	300	500	012	
	0°	8°	0°	

SOT-23 Suggested Pad Layout



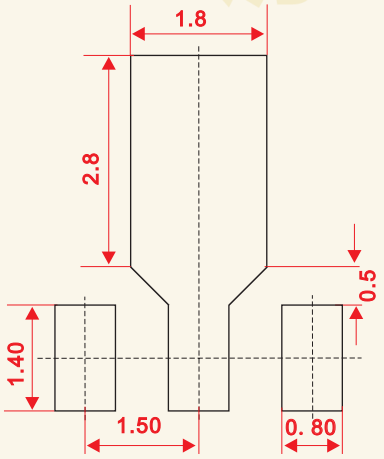
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

SOT-89-3L Package 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

SOT-89-3L Suggested Pad Layout



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