Features

- Low power consumption
- · Low voltage drop
- · Low temperature coefficient
- High input voltage (up to 30V)
- Quiescent current 2.5µA
- High output current: 100mA
- Output voltage accuracy: tolerance ±1%
- 3-pin TO92, 3-pin SOT89 and 5-pin SOT23 packages

Applications

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

General Description

The HT75xx-2 series is a set of three-terminal low power high voltage implemented in CMOS technology. They can deliver 100mA output current and allow an input voltage as high as 30V. They are available 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

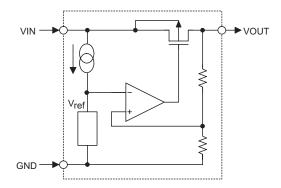
Part No.	Output Voltage	Package	Marking
HT7521-2	2.1V		
HT7523-2	2.3V		
HT7525-2	2.5V		
HT7527-2	2.7V		
HT7530-2	3.0V		
HT7533-2	3.3V		
HT7536-2	3.6V	TO92 SOT89 SOT23-5	
HT7540-2	4.0V		75xx-2 (for TO92)
HT7544-2	4.4V		75xx-2 (for SOT89) 5xx2 (for SOT23-5)
HT7550-2	5.0V		(
HT7560-2	6.0V		
HT7570-2	7.0V		
HT7580-2	8.0V		
HT7590-2	9.0V		
HT75A0-2	10.0V		
HT75C0-2	12.0V		

Note: "xx" stands for output voltages.

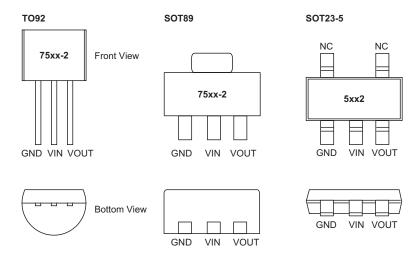
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Block Diagram



Pin Assignment



Absolute Maximum Ratings

Supply Voltage0.3V to 33V	Operating Temperature40°C to 85°C
Storage Temperature50°C to 160°C	Maximum Junction Temperature

Note: These are stress ratings only. Stresses exceeding the range specified under "AbsolutemAximum 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 conditionsmAy affect device reliability.

Thermal Information

Symbol	Parameter	Package	Max.	Unit
		SOT23-5	500	°C/W
θЈΑ	Thermal Resistance (Junction to Ambient) (Assume no ambient airflow, no heat sink)	SOT89	200	°C/W
	(Assume no ambient aimow, no neat sink)	TO92	200	°C/W
		SOT23-5	0.20	W
PD	Power Dissipation	SOT89	0.50	W
		TO92	0.50	W

Note: P_D is measured at Ta=25°C

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Pin Descriptions

Pin No.	Pin Name	Pin Description
1	GND	Ground pin
2	VIN	Input pin
3	VOUT	Output pin

Electrical Characteristics

HT7521-2, +2.1V Output Type

Ta=25°C

Cymphol	Parameter	Test Conditions	Min.	Tim	Max.	Unit
Symbol	Parameter	Conditions	IVIIII.	Тур.	IVIAX.	Unit
V _{IN}	Input Voltage	_	_	_	30	V
V _{оит}	Output Voltage	V _{IN} =4.1V, I _{OUT} =10mA	2.079	2.100	2.121	V
Гоит	Output Current	V _{IN} =4.1V	70	100	_	mA
ΔV_{OUT}	Load Regulation	V _{IN} =4.1V, 1mA≤I _{OUT} ≤50mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	I _{OUT} =1mA, ΔV _{OUT} =2%	_	30	100	mV
Iss	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	3.1V≤V _{IN} ≤30V, I _{OUT} =1mA	_	_	0.2	%/V
$\frac{\Delta V_{OUT}}{\Delta T_{a} \times V_{OUT}}$	Temperature Coefficient	I _{оит} =10mA, -40°С<Т _а <85°С	_	100	_	ppm/°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.

HT7523-2, +2.3V Output Type

Ta=25°C

Comple al	Downwoodow	Test Conditions	Min	T	Mari	11
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
Vin	Input Voltage	_	_	_	30	V
V _{оит}	Output Voltage	V _{IN} =4.3V, I _{OUT} =10mA	2.277	2.300	2.323	V
Гоит	Output Current	V _{IN} =4.3V	70	100	_	mA
ΔV_{OUT}	Load Regulation	V _{IN} =4.3V, 1mA≤I _{OUT} ≤50mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	Ι _{ΟυΤ} =1mA, ΔV _{ΟυΤ} =2%	_	30	100	mV
Iss	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	3.3V≤V _{IN} ≤30V, I _{OUT} =1mA	_	_	0.2	%/V
$\frac{\Delta V_{OUT}}{\Delta T_{a} \times V_{OUT}}$	Temperature Coefficient	I _{оит} =10mA, -40°С<Та<85°С	_	100	_	ppm/°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.

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HT7525-2, +2.5V Output Type

Ta=25°C

Ob. al	D	Test Conditions	Min	T		1114
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
Vin	Input Voltage	_	_	_	30	V
Vout	Output Voltage	V _{IN} =4.5V, I _{OUT} =10mA	2.475	2.500	2.525	V
I _{OUT}	Output Current	V _{IN} =4.5V	70	100	_	mA
ΔVουτ	Load Regulation	V _{IN} =4.5V, 1mA≤I _{OUT} ≤50mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	I _{OUT} =1mA, ΔV _{OUT} =2%	_	30	100	mV
I _{SS}	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	3.5V≤V _{IN} ≤30V, I _{OUT} =1mA	_	_	0.2	%/V
ΔV OUT ΔT a \times V OUT	Temperature Coefficient	І _{оит} =10mA, -40°C<Т _а <85°C	_	100	_	ppm/°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.

HT7527-2, +2.7V Output Type

Ta=25°C

Comple ed	Downwater	Test Conditions	Min	T	Max	11::4
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
V _{IN}	Input Voltage	_	_	_	30	V
Vout	Output Voltage	V _{IN} =4.7V, I _{OUT} =10mA	2.673	2.700	2.727	V
Гоит	Output Current	V _{IN} =4.7V	70	100	_	mA
ΔVουτ	Load Regulation	V _{IN} =4.7V, 1mA≤I _{OUT} ≤50mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	I _{OUT} =1mA, ΔV _{OUT} =2%	_	30	100	mV
I _{SS}	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	3.7V≤V _{IN} ≤30V, I _{OUT} =1mA	_	_	0.2	%/V
ΔV OUT $\Delta T_a \times V$ OUT	Temperature Coefficient	I _{оит} =10mA, -40°С<Т _а <85°С	_	100	_	ppm/°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.

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HT7530-2, +3.0V Output Type

Ta=25°C

Ob. al	D	Test Conditions	B.41	T		1114
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
Vin	Input Voltage	_	_	_	30	V
Vout	Output Voltage	V _{IN} =5.0V, I _{OUT} =10mA	2.970	3.000	3.030	V
I _{OUT}	Output Current	V _{IN} =5.0V	70	100	_	mA
ΔVουτ	Load Regulation	V _{IN} =5.0V, 1mA≤I _{OUT} ≤50mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	Ι _{ΟυΤ} =1mA, ΔV _{ΟυΤ} =2%	_	30	100	mV
I _{SS}	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	4.0V≤V _{IN} ≤30V, I _{OUT} =1mA	_	_	0.2	%/V
ΔV OUT ΔT a \times V OUT	Temperature Coefficient	I _{оит} =10mA, -40°C <t<sub>a<85°C</t<sub>	_	100	_	ppm/°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.

HT7533-2, +3.3V Output Type

Ta=25°C

Comple ed	Downwater	Test Conditions	Min	T	Mary	11:0:4
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
Vin	Input Voltage	_	_	_	30	V
Vout	Output Voltage	V _{IN} =5.3V, I _{OUT} =10mA	3.267	3.300	3.333	V
Гоит	Output Current	V _{IN} =5.3V	70	100	_	mA
ΔVουτ	Load Regulation	V _{IN} =5.3V, 1mA≤I _{OUT} ≤50mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	I _{OUT} =1mA, ΔV _{OUT} =2%	_	25	55	mV
I _{SS}	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	4.3V≤V _{IN} ≤30V, I _{OUT} =1mA	_	_	0.2	%/V
ΔV OUT $\Delta T_a \times V$ OUT	Temperature Coefficient	I _{OUT} =10mA, -40°C <t<sub>a<85°C</t<sub>	_	100	_	ppm/°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 $V_{\rm IN}=V_{\rm OUT}+2V$ with a fixed load.

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HT7536-2, +3.6V Output Type

Ta=25°C

Ob. al	Barranadara	Test Conditions	Min	.		1114
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
Vin	Input Voltage	_	_	_	30	V
Vout	Output Voltage	V _{IN} =5.6V, I _{OUT} =10mA	3.564	3.600	3.636	V
I _{OUT}	Output Current	V _{IN} =5.6V	70	100	_	mA
ΔVουτ	Load Regulation	V _{IN} =5.6V, 1mA≤I _{OUT} ≤50mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	Ι _{ουτ} =1mA, ΔV _{ουτ} =2%	_	25	55	mV
I _{SS}	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	4.6V≤V _{IN} ≤30V, I _{OUT} =1mA	_	_	0.2	%/V
ΔV OUT $\Delta T_a \times V$ OUT	Temperature Coefficient	І _{оит} =10mA, -40°С<Т _а <85°С	_	100	_	ppm/°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.

HT7540-2, +4.0V Output Type

Ta=25°C

Comple ed	Domomoton	Test Conditions	Min	T	Marr	11:0:4
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
Vin	Input Voltage	_	_	_	30	V
Vout	Output Voltage	V _{IN} =6.0V, I _{OUT} =10mA	3.960	4.000	4.040	V
Гоит	Output Current	V _{IN} =6.0V	70	100	_	mA
ΔVουτ	Load Regulation	V _{IN} =6.0V, 1mA≤I _{OUT} ≤50mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	I _{OUT} =1mA, ΔV _{OUT} =2%	_	25	55	mV
I _{SS}	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	5.0V≤V _{IN} ≤30V, I _{OUT} =1mA	_	_	0.2	%/V
ΔV OUT $\Delta T_a \times V$ OUT	Temperature Coefficient	I _{OUT} =10mA, -40°C <t<sub>a<85°C</t<sub>	_	100	_	ppm/°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 $V_{\rm IN}=V_{\rm OUT}+2V$ with a fixed load.

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HT7544-2, +4.4V Output Type

Ta=25°C

Ob. al	D	Test Conditions	Balin Trum			1114
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
V _{IN}	Input Voltage	_	_	_	30	V
Vout	Output Voltage	V _{IN} =6.4V, I _{OUT} =10mA	4.356	4.400	4.444	V
I _{OUT}	Output Current	V _{IN} =6.4V	70	100	_	mA
ΔVουτ	Load Regulation	V _{IN} =6.4V, 1mA≤I _{OUT} ≤50mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	Ι _{ΟυΤ} =1mA, ΔV _{ΟυΤ} =2%	_	25	55	mV
I _{SS}	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	5.4V≤V _{IN} ≤30V, I _{OUT} =1mA	_	_	0.2	%/V
ΔV OUT ΔT a \times V OUT	Temperature Coefficient	І _{оит} =10mA, -40°С<Т _а <85°С	_	100	_	ppm/°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.

HT7550-2, +5.0V Output Type

Ta=25°C

Symbol	Parameter	Test Conditions	Min.	Tun	Max.	Unit
Syllibol	Farameter	Conditions	IVIIII.	Тур.	IVIAX.	Offic
V _{IN}	Input Voltage	_	_	_	30	V
V _{OUT}	Output Voltage	V _{IN} =7.0V, I _{OUT} =10mA	4.950	5.000	5.050	V
Гоит	Output Current	V _{IN} =7.0V	100	150	_	mA
ΔV_{OUT}	Load Regulation	V _{IN} =7.0V, 1mA≤I _{OUT} ≤70mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	I _{OUT} =1mA, ΔV _{OUT} =2%	_	25	55	mV
Iss	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	6.0V≤V _{IN} ≤30V, I _{OUT} =1mA	_	_	0.2	%/V
$\frac{\Delta V_{OUT}}{\Delta T_{a} \times V_{OUT}}$	Temperature Coefficient	I _{ОUT} =10mA, -40°C <t<sub>a<85°C</t<sub>	_	100	_	ppm/°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.

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HT7560-2, +6.0V Output Type

Ta=25°C

Cumbal	Parameter	Test Conditions	Min	Min. Tvp. Max.		Unit
Symbol	Parameter	Conditions	IVIIII.	Тур.	IVIAX.	Unit
V _{IN}	Input Voltage	_	_	_	30	V
Vout	Output Voltage	V _{IN} =8.0V, I _{OUT} =10mA	5.940	6.000	6.060	V
Гоит	Output Current	V _{IN} =8.0V	150	_	_	mA
ΔV_{OUT}	Load Regulation	V _{IN} =8.0V, 1mA≤I _{OUT} ≤70mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	I _{OUT} =1mA, ΔV _{OUT} =2%	_	25	55	mV
Iss	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V \text{OUT}}{\Delta V \text{IN} \times V \text{OUT}}$	Line Regulation	7.0V≤V _{IN} ≤30V, I _{OUT} =1mA	_	0.2	_	%/V
$\frac{\Delta V_{OUT}}{\Delta T_{a} \times V_{OUT}}$	Temperature Coefficient	I _{о∪т} =10mA, -40°C <t<sub>a<85°C</t<sub>	_	100	_	ppm/°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.

HT7570-2, +7.0V Output Type

Ta=25°C

Cumbal	Dovemeter	Test Conditions	Min	Tim	May	Unit
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
V _{IN}	Input Voltage	_	_	_	30	V
Vout	Output Voltage	V _{IN} =9.0V, I _{OUT} =10mA	6.930	7.000	7.070	V
Гоит	Output Current	V _{IN} =9.0V	150	_	_	mA
ΔVουτ	Load Regulation	V _{IN} =9.0V, 1mA≤I _{OUT} ≤70mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	I _{OUT} =1mA, ΔV _{OUT} =2%	_	25	55	mV
Iss	Quiescent Current	No load	_	2.5	4.0	μΑ
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	8.0V≤V _{IN} ≤30V, I _{OUT} =1mA	_	0.2	_	%/V
ΔV OUT $\Delta T_a \times V$ OUT	Temperature Coefficient	I _{о∪т} =10mA, -40°C <t<sub>a<85°C</t<sub>	_	100	_	ppm/°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.

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HT7580-2, +8.0V Output Type

Ta=25°C

Cumbal	Parameter	Test Conditions	Min.	Tim	Max.	Unit
Symbol	Parameter	Conditions	IVIIII.	Тур.	IVIAX.	Unit
V _{IN}	Input Voltage	_	_	_	30	V
V _{оит}	Output Voltage	V _{IN} =10.0V, I _{OUT} =10mA	7.920	8.000	8.080	V
Гоит	Output Current	V _{IN} =10.0V	150	_	_	mA
ΔV_{OUT}	Load Regulation	V _{IN} =10.0V, 1mA≤I _{OUT} ≤70mA	_	25	60	mV
V _{DIF}	Dropout Voltage (Note)	Ι _{ΟυΤ} =1mA, ΔV _{ΟυΤ} =2%	_	25	55	mV
Iss	Quiescent Current	No load	_	2.5	4.0	μΑ
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	9.0V≤V _{IN} ≤30V, I _{OUT} =1mA	_	0.2	_	%/V
$\frac{\Delta V_{OUT}}{\Delta T_{a} \times V_{OUT}}$	Temperature Coefficient	І _{оит} =10mA, -40°С<Т _а <85°С	_	100	_	ppm/°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 $V_{\rm IN}=V_{\rm OUT}+2V$ with a fixed load.

HT7590-2, +9.0V Output Type

Ta=25°C

Comple at	Davamatan	Test Conditions	Min	T	May	I I mit
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
V _{IN}	Input Voltage	_	_	_	30	V
V _{OUT}	Output Voltage	V _{IN} =11.0V, I _{OUT} =10mA	8.910	9.000	9.090	V
Гоит	Output Current	V _{IN} =11.0V	150	_	_	mA
ΔV_{OUT}	Load Regulation	V _{IN} =11.0V, 1mA≤I _{OUT} ≤70mA	_	25	70	mV
V _{DIF}	Dropout Voltage (Note)	I _{OUT} =1mA, ΔV _{OUT} =2%	_	25	55	mV
Iss	Quiescent Current	No load	_	2.5	4.0	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	10.0V≤V _{IN} ≤30V, I _{OUT} =1mA	_	0.2	_	%/V
ΔV OUT $\Delta T_a \times V$ OUT	Temperature Coefficient	I _{OUT} =10mA, -40°C <t<sub>a<85°C</t<sub>	_	100	_	ppm/°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 $V_{\text{IN}} = V_{\text{OUT}} + 2V$ with a fixed load.

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HT75A0-2, +10.0V Output Type

Ta=25°C

0	D	Test Conditions	B.41	True Many		1114
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
Vin	Input Voltage	_	_	_	30	V
V _{OUT}	Output Voltage	V _{IN} =12.0V, I _{OUT} =10mA	9.900	10.000	10.100	V
Гоит	Output Current	V _{IN} =12.0V	150	_	_	mA
ΔV_OUT	Load Regulation	V _{IN} =12.0V, 1mA≤I _{OUT} ≤70mA	_	25	70	mV
V _{DIF}	Dropout Voltage (Note)	I _{OUT} =1mA, ΔV _{OUT} =2%	_	25	55	mV
Iss	Quiescent Current	No load	_	2.5	4.0	μΑ
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	11.0V≤V _{IN} ≤30V, I _{OUT} =1mA	_	0.2	_	%/V
$\Delta V_{OUT} \over \Delta T_a \times V_{OUT}$	Temperature Coefficient	I _{о∪т} =10mA, -40°C <t<sub>a<85°C</t<sub>	_	100	_	ppm/°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.

HT75C0-2, +12.0V Output Type

Ta=25°C

Counch al	Davamatau	Test Conditions	Min Ton	Marr	11::4	
Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
V _{IN}	Input Voltage	_	_	_	30	V
V _{оит}	Output Voltage	V _{IN} =14.0V, I _{OUT} =10mA	11.880	12.000	12.120	V
Гоит	Output Current	V _{IN} =14.0V	150	_	_	mA
ΔV_OUT	Load Regulation	V _{IN} =14.0V, 1mA≤I _{OUT} ≤70mA	_	25	70	mV
V _{DIF}	Dropout Voltage (Note)	I _{OUT} =1mA, ΔV _{OUT} =2%	_	25	55	mV
Iss	Quiescent Current	No load	_	2.5	4.0	μΑ
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	13.0V≤V _{IN} ≤30V, I _{OUT} =1mA	_	0.2	_	%/V
ΔV OUT ΔT a \times V OUT	Temperature Coefficient	I _{оит} =10mA, -40°С<Т _а <85°С	_	100	_	ppm/°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.

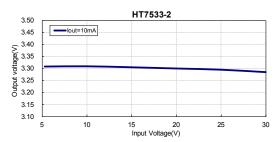
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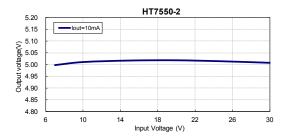


Typical Performance Characteristics

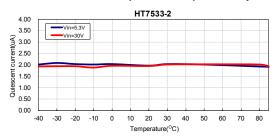
Test Condition: Vin=Vout+2V, I_{OUT}=10mA, T_J=25°C, unless otherwise noted

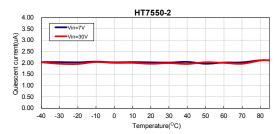
Output Voltage vs Input Voltage



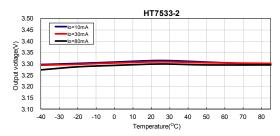


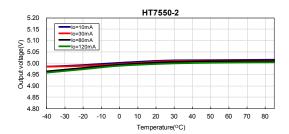
Quiescent current (lout=0mA) vs Temperature



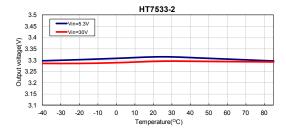


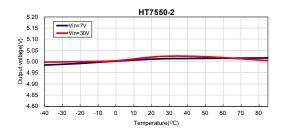
Output Voltage vs Temperature





Output Voltage vs Temperature

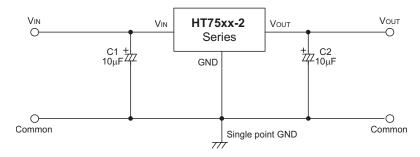




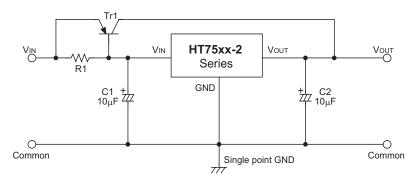


Application Circuits

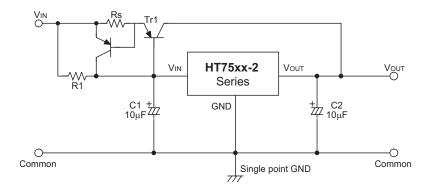
Basic Circuit



High Output Current Positive Voltage Regulator

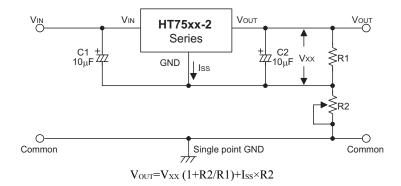


Short-Circuit Protection for Tr1

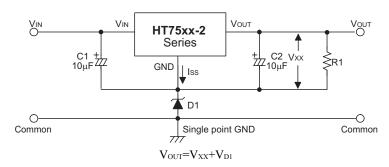




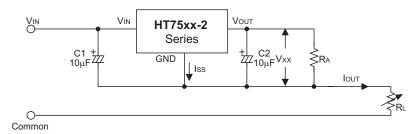
Circuit for Increasing Output Voltage



Circuit for Increasing Output Voltage

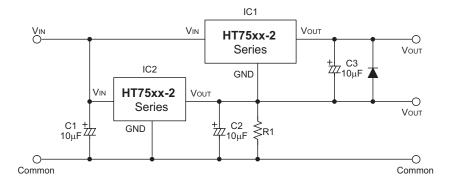


Constant Current Regulator



 $I_{\text{OUT}} \!\!=\!\! V_{\text{XX}} \!/ R_{\text{A}} \!\!+\!\! I_{\text{SS}}$

Dual Supply





Package Information

Note that the package information provided here is for consultation purposes only. As this information may be updated at regular intervals users are reminded to consult the <u>Holtek website</u> for the latest version of the <u>Package/Carton Information</u>.

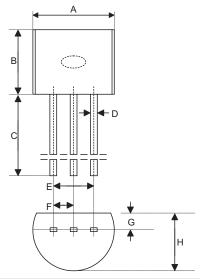
Additional supplementary information with regard to packaging is listed below. Click on the relevant section to be transferred to the relevant website page.

- Further Package Information (include Outline Dimensions, Product Tape and Reel Specifications)
- Packing Meterials Information
- Carton information

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3-pin TO92 Outline Dimensions



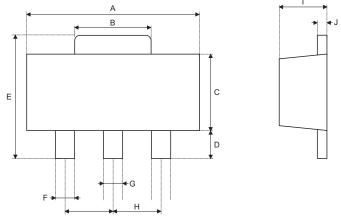
Symbol	Dimensions in inch					
Symbol	Min.	Nom.	Max.			
A	0.173	0.180	0.205			
В	0.170	_	0.210			
С	0.500	0.580	_			
D	_	0.015 BSC	_			
E	_	0.010 BSC	_			
F	_	0.050 BSC	_			
G	_	0.035 BSC	_			
Н	0.125	0.142	0.165			

Symbol	Dimensions in mm				
Symbol	Min.	Nom.	Max.		
А	4.39	4.57	5.21		
В	4.32	_	5.33		
С	12.70	14.73	_		
D	_	0.38 BSC	_		
E	_	2.54 BSC	_		
F	_	1.27 BSC	_		
G	_	0.89 BSC	_		
Н	3.18	3.61	4.19		

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3-pin SOT89 Outline Dimensions

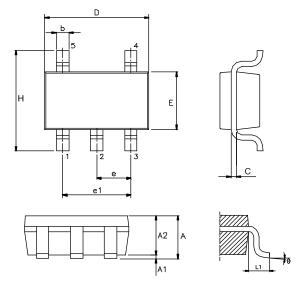


Cumbal	Dimensions in inch					
Symbol	Min.	Nom.	Max.			
A	0.173	_	0.185			
В	0.053	_	0.072			
С	0.090	_	0.106			
D	0.031	_	0.047			
E	0.155	_	0.173			
F	0.014	_	0.019			
G	0.017	_	0.022			
Н	_	0.059 BSC	_			
I	0.055	_	0.063			
J	0.014	_	0.017			

Cumhal	Dimensions in mm					
Symbol	Min.	Nom.	Max.			
A	4.40	_	4.70			
В	1.35	_	1.83			
С	2.29	_	2.70			
D	0.89	_	1.20			
E	3.94	_	4.40			
F	0.36	_	0.48			
G	0.44	_	0.56			
Н	_	1.50 BSC	_			
I	1.40	_	1.60			
J	0.35	_	0.44			



5-pin SOT23 Outline Dimensions



Symbol	Dimensions in inch		
	Min.	Nom.	Max.
Α	_	_	0.057
A1	_	_	0.006
A2	0.035	0.045	0.051
b	0.012	_	0.020
С	0.003	_	0.009
D	_	0.114 BSC	_
E	_	0.063 BSC	_
е	_	0.037 BSC	_
e1	_	0.075 BSC	_
Н	_	0.110 BSC	_
L1	_	0.024 BSC	_
θ	0°	_	8°

Symbol	Dimensions in mm		
	Min.	Nom.	Max.
А	_	_	1.45
A1	_	_	0.15
A2	0.90	1.15	1.30
b	0.30	_	0.50
С	0.08	_	0.22
D	_	2.90 BSC	_
Е	_	1.60 BSC	_
е	_	0.95 BSC	_
e1	_	1.90 BSC	_
Н	_	2.80 BSC	_
L1	_	0.60 BSC	_
θ	0°	_	8°



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