

Features

- Input Voltage up to 35V
- Output current up to 150mA(Max)
- 3μA Current at no Load(Typ)
- ±2% Output Accuracy
- Compact package: SOT89-3&SOT23

Applications

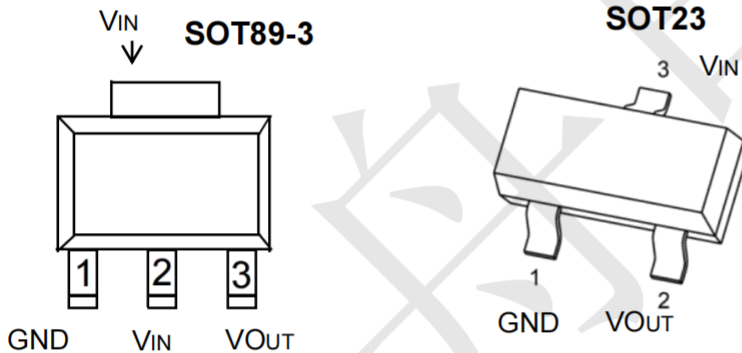
- Hand-Held Instruments
- Battery Powered Consumer Products
- Test and Measurement Equipment
- Industrial Power Supplies

Description

The HT75 series are micropower low dropout voltage regulators available in a wide variety of output voltages. These devices feature a very low quiescent current and thermal limiting protection are provided by the presence of a short circuit at the output and an internal thermal shutdown circuit.

Due to the low input-to-output voltage differential and bias current specifications, these devices are ideally suited for battery powered computer, consumer, and industrial equipment where an extension of useful battery life is desirable.

PIN CONFIGURATION (TOP VIEW)



SOT89-3	SOT23	Pin Name	Pin Function
1	1	GND	Ground
2	3	VIN	Input of Supply Voltage
3	2	VOUT	Output of the Regulator

Model Selection

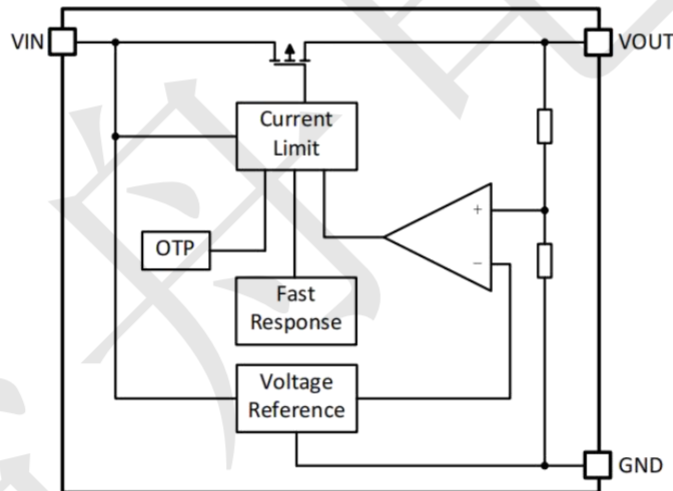
SOT23 Model	SOT89-3 Model	Output voltage	Input voltage	Output Accuracy
HT7530S-3	HT7530-3	3.0V	35V	±2%
HT7533S-3	HT7533-3	3.3V	35V	±2%
HT7536S-3	HT7536-3	3.6V	35V	±2%
HT7540S-3	HT7540-3	4.0V	35V	±2%
HT7544S-3	HT7544-3	4.4V	35V	±2%
HT7550S-3	HT7550-3	5.0V	35V	±2%

Absolute Maximum Ratings

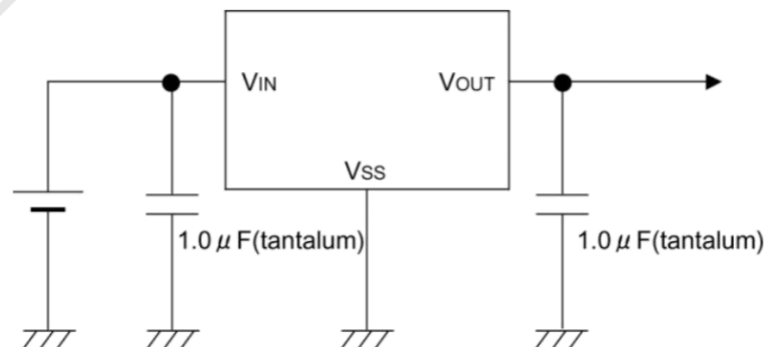
over operating free-air temperature range (unless otherwise noted)

SYMBOL	PARAMETER	RATINGS	UNIT
V _{IN}	Continuous input voltage range	-0.3 ~ +35	V
Current	Maximum output current	200	mA
T _J	Operating Junction Temperature Range	-40 ~ +125	°C
T _A	Ambient temperature	-40 ~ +85	°C
T _{stg}	Storage temperature range	-55 ~ 150	°C
PD	Power Dissipation SOT89-3	500	mW
PD	Power Dissipation SOT23	250	mW
θ _{JC}	Junction to Case SOT89-3	25	°C/W
θ _{JC}	Junction to Case SOT23	50	°C/W

BLOCK DIAGRAM



Typical Application Circuit



Electrical Characteristics (TA=25°C, unless otherwise specified)

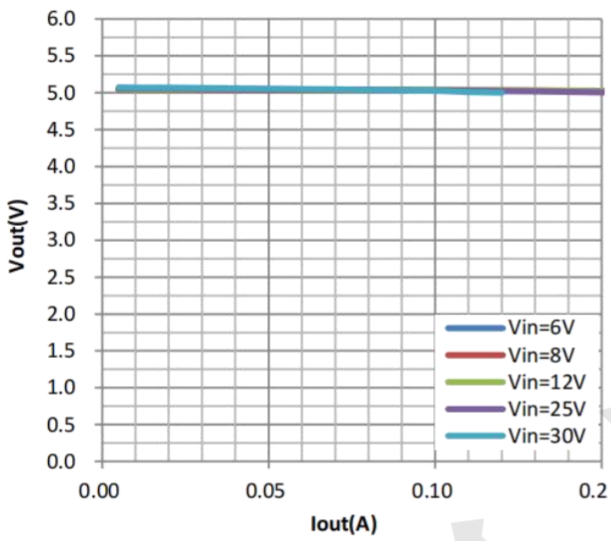
PARAMETER	SYMBOL	TEST Conditions	MIN	TYP	MAX	UNIT
Supply Voltage	V _{IN}	I _{OUT} = 1mA	--	--	35	V
Output current	I _{OUT}	V _{IN} -V _{OUT} =1V	--	150	200	mA
DC Output Voltage Accuracy		I _{OUT} = 1mA	-2	--	+2	%
Dropout Voltage (V _{IN} -V _{OUT})	I _{OUT} = 100mA	V _{OUT} = 5.0V	--	460	--	mV
Ground Current (I _{OUT} = 0mA)	I _Q		--	3	6	uA
Line Regulation	ΔLINE	I _{OUT} = 1mA, 10≤V _{IN} ≤18V	--	0.3	--	%
Load Regulation	ΔLOAD	10mA≤ I _{OUT} ≤ 100mA	--	0.3	--	
Output Current Limit	I _{LIM}	V _{OUT} =0.9× V _{OUT(NOM)}	--	300	--	mA
Power Supply Rejection Ratio	PSRR	V _{OUT} =5V, I _{OUT} =30mA, V _{IN} = 12V, f = 1kHz	--	60	--	dB
Thermal Shutdown Temperature	T _{SD}	I _{OUT} =10mA	--	160	--	°C
Thermal Shutdown Hysteresis	ΔT _{SD}		--	15	--	

Note:

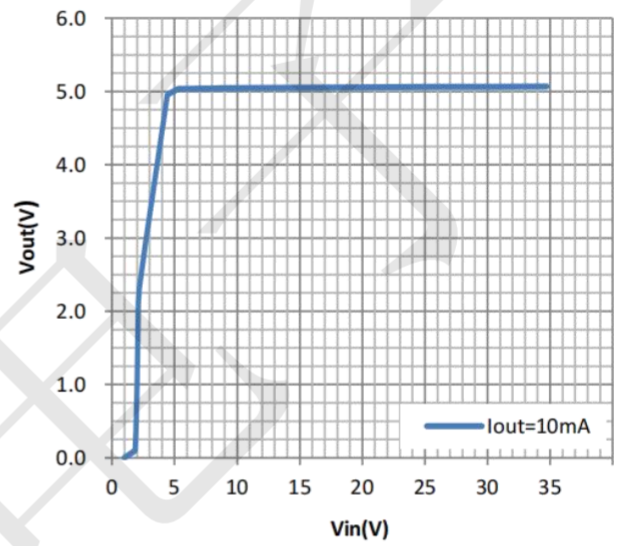
1. Test condition: the device is mounted on FR-4 substrate PC board, with minimum recommended pad layout.
2. V_{dif} :The Difference Of Output Voltage And Input Voltage When Input Voltage Is Decreased Gradually Till Output Voltage Equals To 98% Of V_{OUT} .

Typical Application Circuit

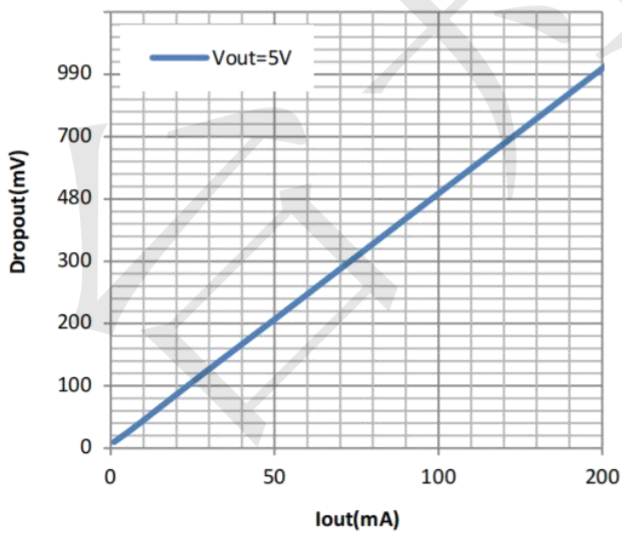
Load Regulation



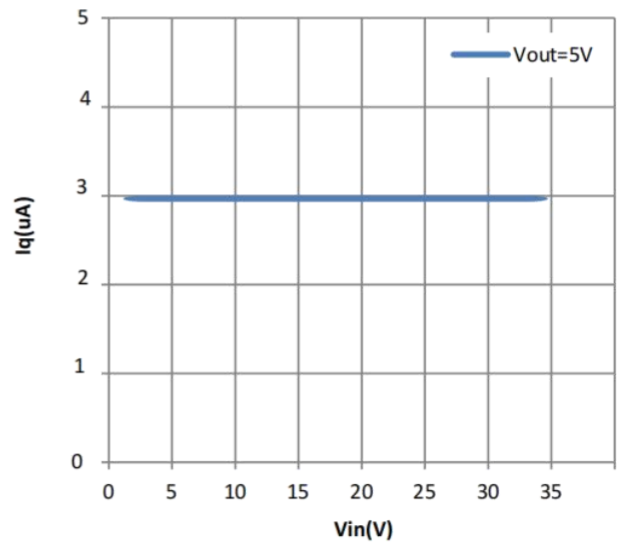
Line Regulation



Dropout

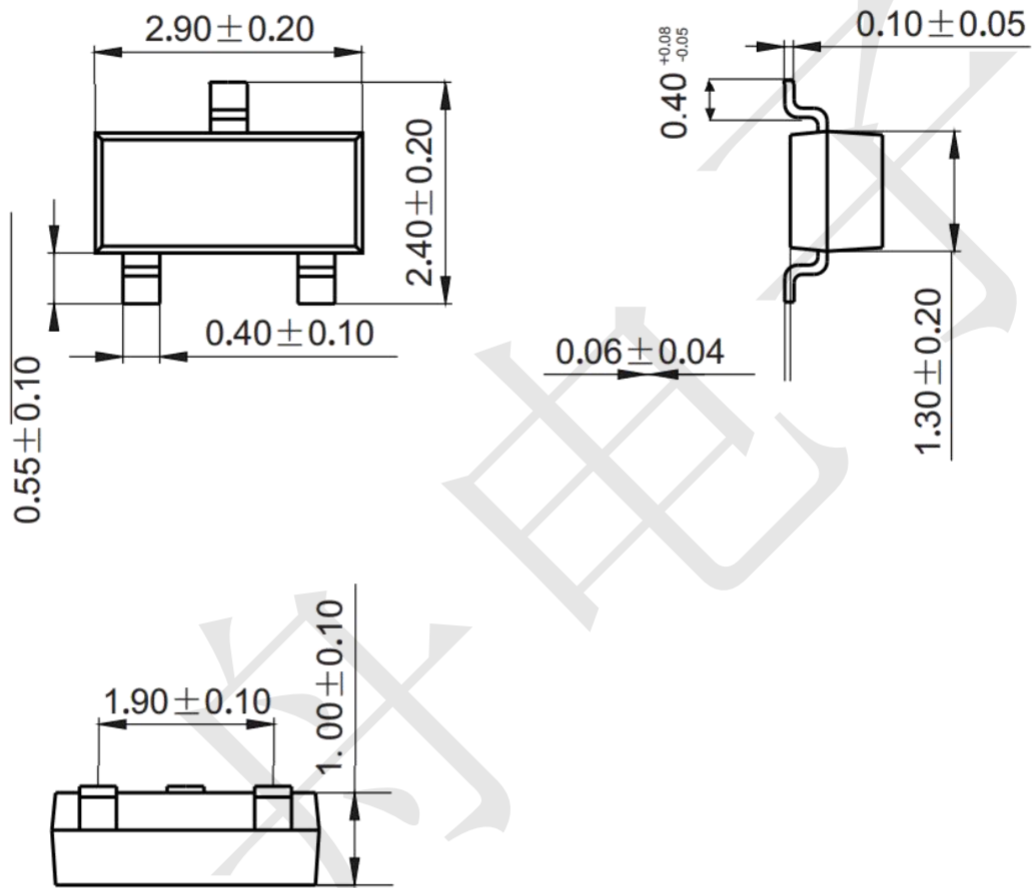


Iq

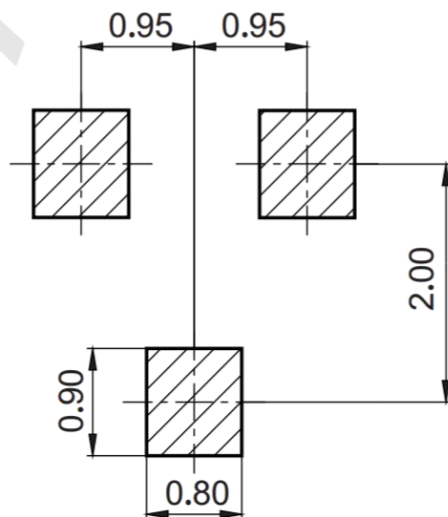


Package Outline Dimensions (unit: mm)

SOT23

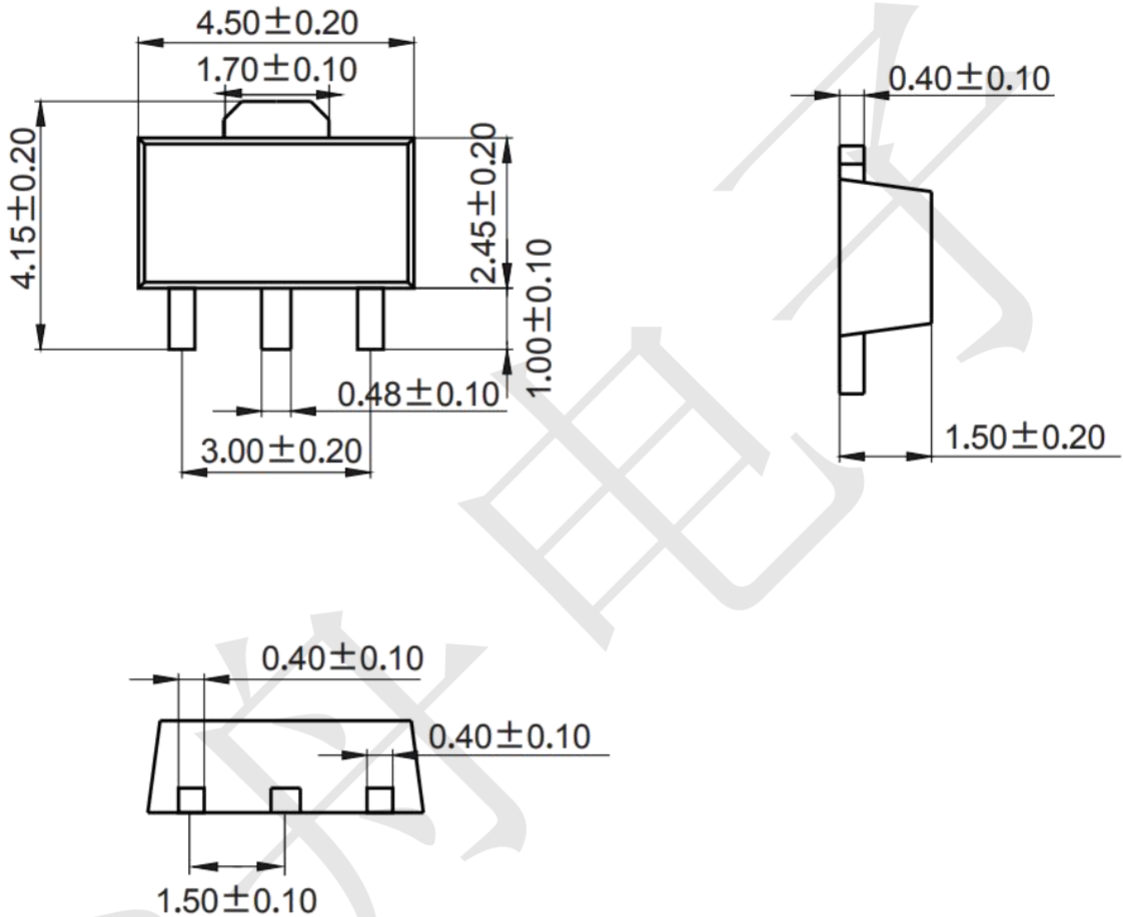


Mounting Pad Layout (unit: mm)



Package Outline Dimensions (unit: mm)

SOT89-3



Mounting Pad Layout (unit: mm)

