RoHS Compliant



Description

The HT73xx series is a set of three-terminal, low power, high voltage regulators implemented in CMOS technology. The series features extremely low quiescent current which is typically 1.5μ A. They allow input voltages as high as 20V. The device provides large current with a significantly small dropout voltage.

The HT73xx consists of a high-precision voltage reference, an error correction circuit, and a current limited output driver. They are available with several fixed output voltages ranging from 1.8V to 5.0V. CMOS technology ensures low dropoutvoltage and low current consumption. Although designed primarily as fixed voltage regulators, these devices can be used with external components to generate variable voltages and currents.

Features

- Ultra low quiescent current: 1.5µA (typ.)
- High input voltage (up to 20V)
- Output voltage: 1.8V, 2.5V, 2.7V, 3.0V, 3.3V, 3.5V, 4.15V, 5.0V
- Output voltage accuracy: tolerance ±3%
- Maximum output current: 300mA
- Low dropout voltage
- · Low temperature coefficient
- 3-pin SOT89 package

Applications

- · Battery-powered equipment
- Voltage regulator for microprocessor
- Voltage regulator for LAN cards
- · Wireless Communication equipment
- Audio/Video equipment

Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating
Supply Voltage	Vss	0.3 to 20V
Power Consumption	Pc	500mW
Junction Temperature	TJ	150°C
Operating Temperature	Top	40°C to 85°C
Storage Temperature range	Tsтg	-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. The guaranteed specifications apply only for the test conditiaons listed.

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Electrical Characteristic Ta = 25°C

HT7330, +3.0V output type

Parameter	Symbol	Test conditons		Min	True	Max	11
		VIN	Conditions	WIN	тур	wax	Unit
Output Voltage	Vout	4V	Ιουτ=40mA	2.91	3	3.09	V
Maximum Output Current	Iout(max)	4V	Vouт≥2.7V	250			mA
Load Regulation	∆Vouт∗	4V	1mA≤ lou⊤ ≤ 80mA		45	90	mV
Dropout Voltage	VDROP**		Ιουτ =40mA		95		
Quiescent Current	lss	4V	No load		1.5	3	μA
Line Regulation	riangle Vout $ riangle V$ in Vout		lou⊤=40mA 4V ≤ Vın ≤ 12V		0.2	0.3	%/V
Input Voltage	Vin					12	V
Temperature Coefficient	∆Vо∪т ∆Та	4V	lо∪т=40mA -40°C <ta<85°c< td=""><td></td><td>±0.7</td><td></td><td>mV/°C</td></ta<85°c<>		±0.7		mV/°C

HT7333, +3.3V Output Type

Parameter	Symbol	Test conditons		Min	True	Max	Unit
		VIN	Conditions		тур	wax	Unit
Output Voltage	Vout	4.3V	Ιουτ=40mA	3.201	3.3	3.399	V
Maximum Output Current	Iout(max)	4.3V	Vouт≥2.97V	250			mA
Load Regulation	∆Vouт∗	4.3V	1mA≤ Iou⊤ ≤ 80mA		45	90	mV
Dropout Voltage	Vdrop**		Ιουτ=40mA		90		
Quiescent Current	lss	4.3V	No load		1.5	3	μA
Line Regulation	riangle Vουτ riangle Vιν V ουτ		lou⊤=40mA 4.3V ≤ Vın ≤ 12V		0.2	0.3	%/V
Input Voltage	Vin					12	V
Temperature Coefficient	∆Vо∪т ∆ Та	4.3V	lо∪т=40mA -40°C <ta<85°c< td=""><td></td><td>±0.7</td><td></td><td>mV/°C</td></ta<85°c<>		±0.7		mV/°C

HT7335, +3.5V Output Type

Parameter	Symbol	Test conditons		Min	True	Max	Unit
	Symbol	VIN	Conditions		тур	wax	Unit
Output Voltage	Vout	4.5V	Ιουτ =40mA	3.395	3.5	3.605	V
Maximum Output Current	Iout(max)	4.5V	Vouт≥3.15V	250			mA
Load Regulation	∆Vouт∗	4.5V	1mA≤ Iou⊤ ≤ 80mA		45	90	mV
Dropout Voltage	Vdrop**		Ιουτ =40mA		80		
Quiescent Current	lss	4.5V	No load		1.5	3	μA
Line Regulation	riangle Vout $ riangle V$ in Vout		lou⊤=40mA 4.5V ≤ ViN ≤ 12V		0.2	0.3	%/V
Input Voltage	Vin					12	V
Temperature Coefficient	∆Vо∪т ∆ Та	4.5V	lо∪т=80mA -40°C <ta<85°c< td=""><td></td><td>±0.7</td><td></td><td>mV/°C</td></ta<85°c<>		±0.7		mV/°C

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Application Circuits

Basic circuits



Diagram



Block Diagram



Pin Assignment



Part Number Table

Description	Part Number
Low Dropout Voltage Regulator, 3.0V, 2%, SOT 89	HT7330
Low Dropout Voltage Regulator, 3.3V, 2%, SOT 89	HT7333
Low Dropout Voltage Regulator, 5V, 2%, SOT 89	HT7350

Dimensions : Millimetres

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