

# HT78XX Series

## 500 mA CMOS Linear Regulator

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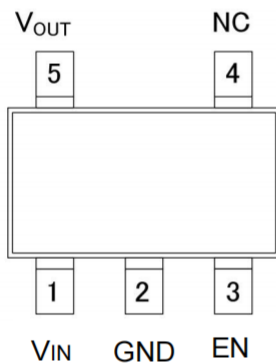
### Features

- 4 $\mu$ A Current at no Load
- $\pm 2\%$  Output Accuracy
- 500mA Output Current
- Current Limit Protection

### Applications

- Industrial Controls
- Home Automation
- Modules (Wireless, Camera, etc.)
- Portable, Battery Powered Equipment

### PIN CONFIGURATION



Pin Number	Pin Name	Pin Function
SOT23-5		
1	VIN	Input of Supply Voltage
2	GND	Ground
3	EN	Enable Control Input
4	NC	No Internal Connection
5	VOUT	Output of the Regulator

### Ordering Information

HT78XX-7

PACKAGE TYPE  
7: SOT23-5

OUTPUT VOLTAGE  
18 : 1.8V  
25 : 2.5V  
30 : 3.0V  
33 : 3.3V

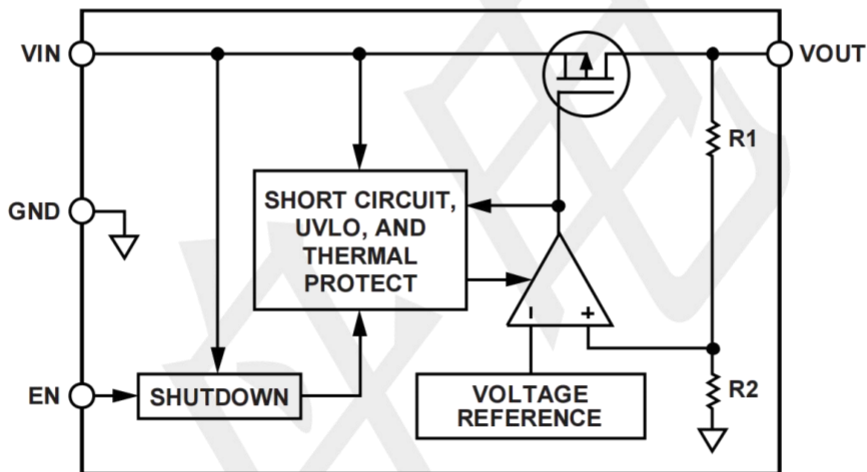
Example: HT7825-7  
→ 2.5V Version, in SOT23-5 Package & Tape & Reel Packing Type

### Absolute Maximum Ratings

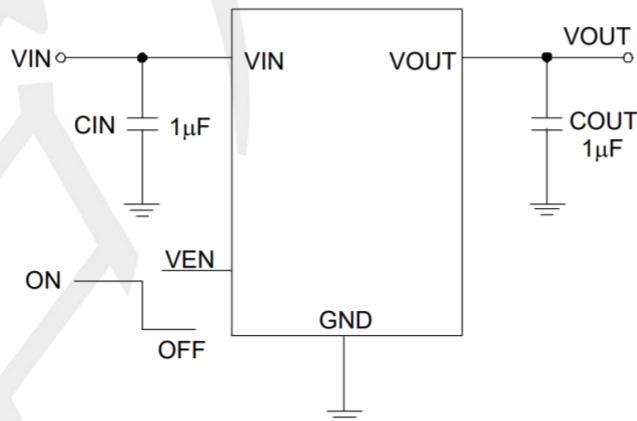
over operating free-air temperature range (unless otherwise noted)

		MIN	MAX	UNIT
VIN	Continuous input voltage range	-0.3	6.0	V
VOUT	Output voltage range	-0.3	6.0	
EN	EN pin voltage range	-0.3	6.0	
IOUT	Output pin current	Internally limited		mA
Temperature	Operating Temperature Range ,Topr	-40	+85	°C
	Storage, Tstg	-40	+125	

### BLOCK DIAGRAM



### Typical Application Circuit



### Electrical Characteristics

(VIN=15V, VEN=5V, TA=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST Conditions	MIN	TYP	MAX	UNIT
Supply Voltage	VIN		1.4	--	5.5	V
Output current	IOUT		500	--	--	mA
DC Output Voltage Accuracy		IOUT = 1mA	-2	--	2	%
Dropout Voltage (VIN-VOUT)	IOUT = 200mA	VOUT = 3.0V	--	130	--	mV
		VOUT = 5.0V	--	100	--	
Ground Current (IOUT = 0mA)	IQ	VOUT = 3.3V	--	--	4	uA
Shutdown Ground Current	ISD	VEN = 0V,	--	0.01	1	
VOUT Shutdown Leakage Current	ILEAK	VOUT = 0V	--	0.01	1	
Enable Threshold Voltage	VIH	EN Rising	1.0	--	--	V
	VIL	EN Falling	--	--	0.4	
EN Input Current	IEN	VEN = 5V	--	10	100	nA
Line Regulation	ΔLINE	IOUT = 1mA, 2 ≤ VIN ≤ 5V	--	0.3	--	%
Load Regulation	ΔLOAD	10mA ≤ IOUT ≤ 100mA	--	0.3	--	
Output Current Limit	ILIM	VOUT = 0.9 × VOUT(NOM)	600	--	--	mA
Power Supply Rejection Ratio	PSRR	VOUT = 3.3V, IOUT = 40mA, VIN = 5.5V, f = 1kHz	--	70	--	dB
Package Thermal Resistance θJA (Note 1)	Thermal Resistance Junction-to Ambient		--	210	--	°C/W
Total Power Dissipation TC=25°C	PDTOT		--	0.2	--	W

Note: Test condition: For SOT23-5, the device is mounted on FR-4 substrate PC board, with minimum recommended pad layout.

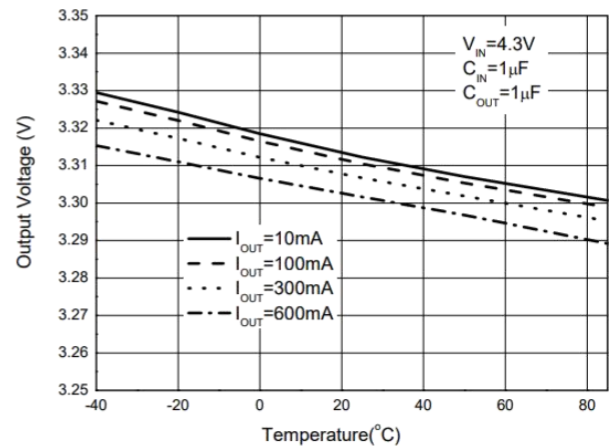
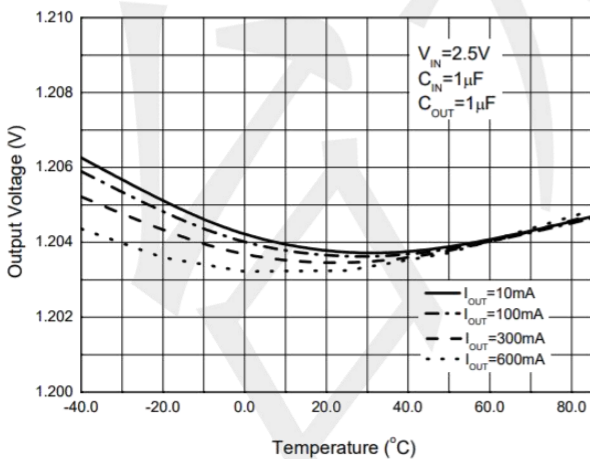
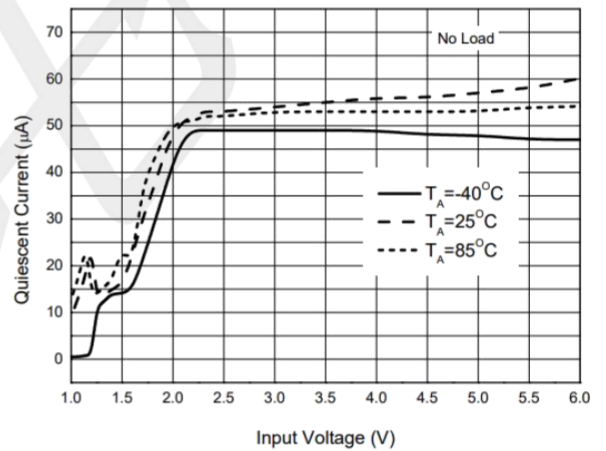
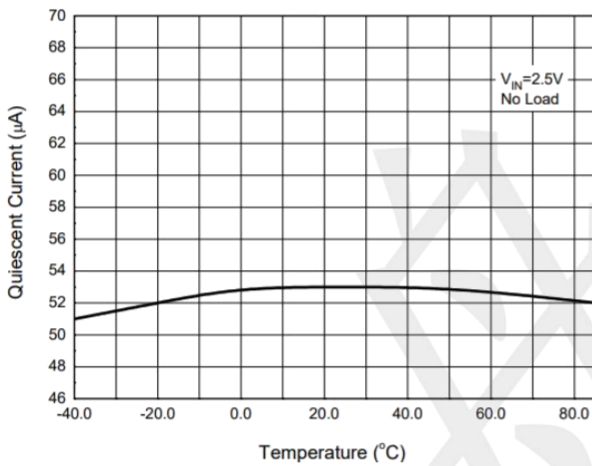
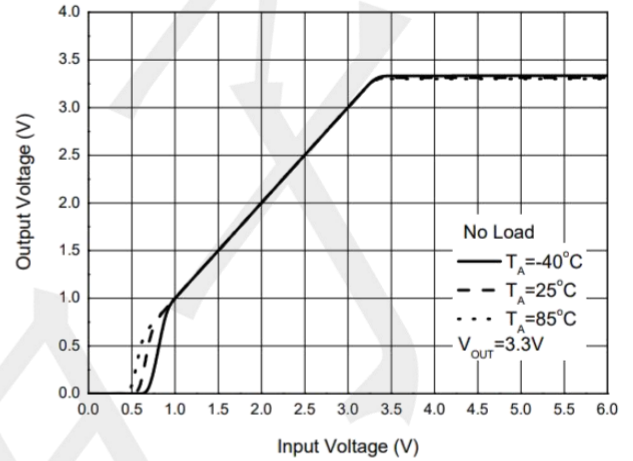
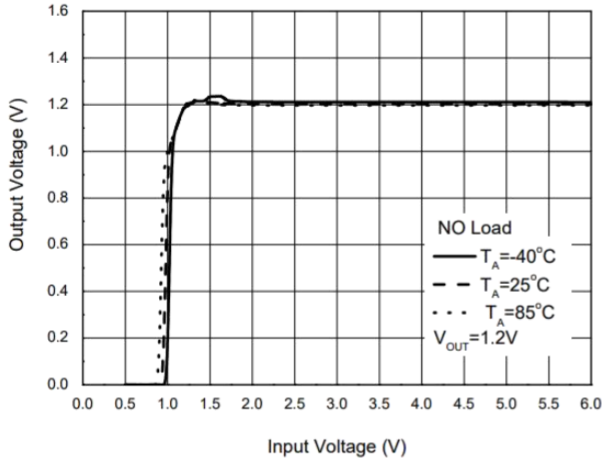
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### Typical Operating Characteristics (25 °C, unless otherwise noted)

Unless otherwise specified:  $T_A = 25^\circ\text{C}$ ,  $V_{IN} = V_O(\text{NOM}) + 1\text{ V}$ ,  $C_{OUT} = 1\ \mu\text{F}$ ,  $C_{IN} = 1\ \mu\text{F}$  all voltage options, EN pin tied to  $V_{IN}$ .



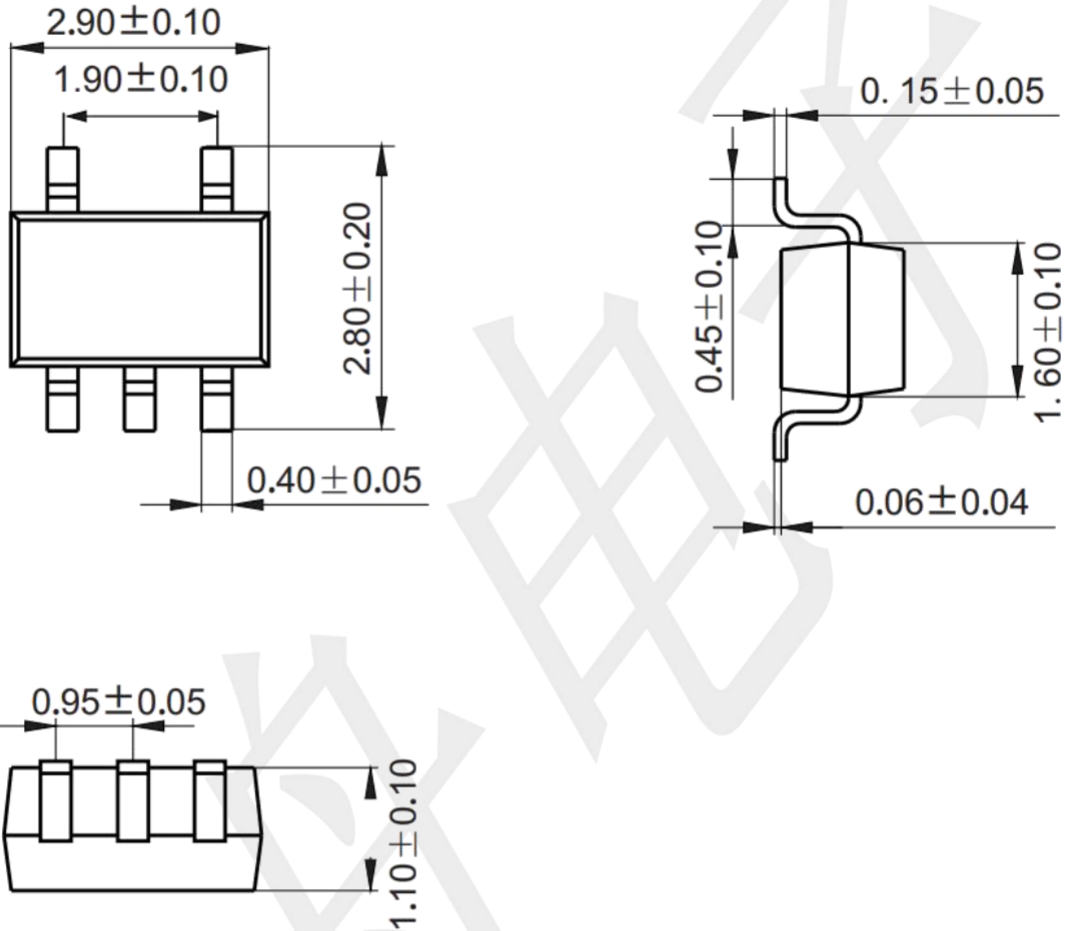
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### Package Outline Dimensions (unit: mm)

SOT23-5



### Mounting Pad Layout (unit: mm)

