概述

HT73XX-1是一款采用 CMOS 技术的低压差线性稳压器。最大输出电流为 250mA 且允许的最高输入电压为 18V。具有几个固定的输出电压，范围从 2.5V 到 5.0V。COMS 技术可确保其具有低压降和低静态电流的特性。

功能特点

- 低功耗
- 低压降
- 较低的温度系数
- 最高输入电压：18V
- 典型静态电流：2uA
- 最大输出电流：250mA
- 输出电压精度：±2%
- 封装类型：SOT-23，SOT-89

应用领域

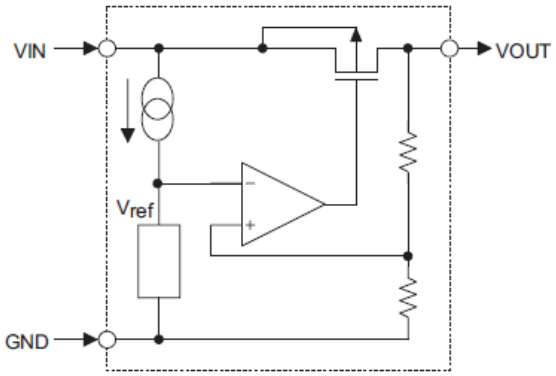
- 电池供电设备
- 通信设备
- 音频/视频设备

选型表

型号	输出电压	封装类型	正印
HT7325-1	2.5V	SOT-23 SOT-89	73xx-1(封装为 SOT-23) 73xx-1(封装为SOT-89)
HT7327-1	2.7V		
HT7330-1	3.0V		
HT7333-1	3.3V		
HT7336-1	3.6V		
HT7350-1	5.0V		

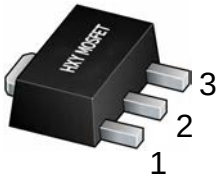
注：“xx”代表输出电压。

电路功能框图



引脚图

SOT-23



SOT-89

引脚说明

引脚序号	引脚名称	说明
1	GND	地
2	VIN	输入脚
3	VOUT	输出脚

极限参数

电源供应电压 ---------- -0.3V ~+18V　　工作环境温度 ---------- -40℃~+85℃
储存温度范围 ---------- -50℃~+125℃

注：这里只强调额定功率，超过极限参数所规定的范围将对芯片造成损害，无法预期芯片在上述标示范围外的工作状态，而且若长期在标示范围外的条件下工作，可能影响芯片的可靠性。

热能信息

符号	参数	封装类型	最大值	单位
θ_{JA}	热阻（与环境连接）（假设无环境气流、无散热片）	SOT-23	500	℃/W
		SOT-89	200	℃/W
P_D	功耗	SOT-23	0.2	W
		SOT-89	0.5	W

注： P_D值是在 Ta=25℃时测得。

直流电特性（除特别说明外，T_A =＋25℃）

HT7325-1 （T_{OPT}=25℃）

符号	参数	测试条件	最小值	典型值	最大值	单位
V_{OUT}	输出电压	V_{IN}=3.5V，I_{OUT}=40mA	2.425	2.5	2.575	V
I_{OUT}	输出电流	V_{IN}=3.5V，V_{OUT}≥2.25V	180	--	—	mA
△V_{OUT}	负载调节	V_{IN}=3.5V， 1mA≤I_{OUT} ≤60mA	—	45	90	mV
V_{DIF}	跌落电压	I_{OUT}=40mA	—	110	—	mV
I_{SS}	静态电流	V_{IN}=3.5V，空载	—	2	3	μA
$\Delta V_{OUT}/(\Delta V_{IN} * V_{OUT})$	Line Regulation	3.5V≤V_{IN}≤12V， I_{OUT}=40mA	—	0.2	0.3	%/V
V_{IN}	输入电压	—	—	—	18	V
$\Delta V_{OUT}/\Delta Ta$	温度系数	V_{IN}=3.5V，I_{OUT}=40mA， 0℃≤Ta≤85℃	—	±0.7	—	mV/℃

HT7327-1 （T_{OPT}=25℃）

符号	参数	测试条件	最小值	典型值	最大值	单位
V_{OUT}	输出电压	V_{IN}=3.7V，I_{OUT}=40mA	2.619	2.7	2.781	V
I_{OUT}	输出电流	V_{IN}=3.7V，V_{OUT}≥2.43V	200	--	—	mA
△V_{OUT}	负载调节	V_{IN}=3.7V， 1mA≤I_{OUT} ≤60mA	—	45	90	mV
V_{DIF}	跌落电压	I_{OUT}=40mA	—	100	—	mV
I_{SS}	静态电流	V_{IN}=3.7V，空载	—	2	3	μA
$\Delta V_{OUT}/(\Delta V_{IN} * V_{OUT})$	Line Regulation	3.7V≤V_{IN}≤12V， I_{OUT}=40mA	—	0.2	0.3	%/V
V_{IN}	输入电压	—	—	—	18	V
$\Delta V_{OUT}/\Delta Ta$	温度系数	V_{IN}=3.7V，I_{OUT}=40mA， 0℃≤Ta≤85℃	—	±0.7	—	mV/℃

HT7330-1 （T_{OPT}=25℃）

符号	参数	测试条件	最小值	典型值	最大值	单位
V_{OUT}	输出电压	V_{IN}=4V，I_{OUT}=40mA	2.91	3	3.09	V
I_{OUT}	输出电流	V_{IN}=4V，V_{OUT}≥2.7V	250	--	—	mA
△V_{OUT}	负载调节	V_{IN}=4V，1mA≤I_{OUT} ≤60mA	—	45	90	mV
V_{DIF}	跌落电压	I_{OUT}=40mA	—	95	—	mV
I_{SS}	静态电流	V_{IN}=4V，空载	—	2	3	μA
$\Delta V_{OUT}/(\Delta V_{IN} * V_{OUT})$	Line Regulation	4V≤V_{IN}≤12V，I_{OUT}=40mA	—	0.2	0.3	%/V
V_{IN}	输入电压	—	—	—	18	V
$\Delta V_{OUT}/\Delta Ta$	温度系数	V_{IN}=4V，I_{OUT}=40mA， 0℃≤Ta≤85℃	—	±0.7	—	mV/℃

HT7333-1 (T_{OPT}=25℃)

符号	参数	测试条件	最小值	典型值	最大值	单位
V_{OUT}	输出电压	V_{IN}=4.3V，I_{OUT}=40mA	3.201	3.3	3.399	V
I_{OUT}	输出电流	V_{IN}=4.3V，V_{OUT}≥2.97V	250	--	—	mA
$\triangle V_{OUT}$	负载调节	V_{IN}=4.3V， 1mA≤I_{OUT} ≤60mA	—	45	90	mV
V_{DIF}	跌落电压	I_{OUT}=40mA	—	90	—	mV
I_{SS}	静态电流	V_{IN}=4.3V，空载	—	2	3	μA
ΔV_{OUT} /(ΔV_{IN} * V_{OUT})	Line Regulation	4.3V≤V_{IN}≤12V， I_{OUT}=40mA	—	0.2	0.3	%/V
V_{IN}	输入电压	—	—	—	18	V
ΔV_{OUT} /ΔTa	温度系数	V_{IN}=4.3V，I_{OUT}=40mA， 0℃≤Ta≤85℃	—	±0.7	—	mV/℃

HT7336-1 (T_{OPT}=25℃)

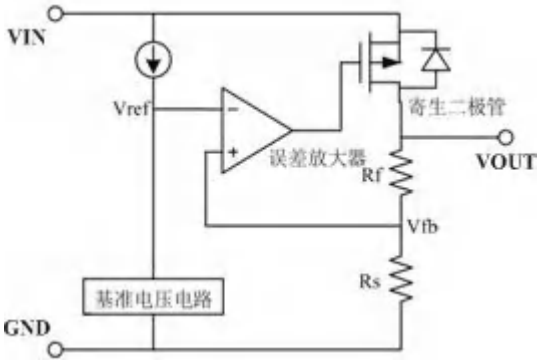
符号	参数	测试条件	最小值	典型值	最大值	单位
V_{OUT}	输出电压	V_{IN}=4.5V，I_{OUT}=40mA	3.495	3.6	3.705	V
I_{OUT}	输出电流	V_{IN}=4.5V，V_{OUT}≥3.15V	250	--	—	mA
$\triangle V_{OUT}$	负载调节	V_{IN}=4.5V， 1mA≤I_{OUT} ≤60mA	—	45	90	mV
V_{DIF}	跌落电压	I_{OUT}=40mA	—	80	—	mV
I_{SS}	静态电流	V_{IN}=4.5V，空载	—	2	3	μA
ΔV_{OUT} /(ΔV_{IN} * V_{OUT})	Line Regulation	4.5V≤V_{IN}≤12V， I_{OUT}=40mA	—	0.2	0.3	%/V
V_{IN}	输入电压	—	—	—	18	V
ΔV_{OUT} /ΔTa	温度系数	V_{IN}=4.5V，I_{OUT}=40mA， 0℃≤Ta≤85℃	—	±0.7	—	mV/℃

HT7350-1 (T_{OPT}=25℃)

符号	参数	测试条件	最小值	典型值	最大值	单位
V_{OUT}	输出电压	V_{IN}=6V，I_{OUT}=40mA	4.85	5	5.15	V
I_{OUT}	输出电流	V_{IN}=2.8V，V_{OUT}≥4.5V	250	--	—	mA
$\triangle V_{OUT}$	负载调节	V_{IN}=6V，1mA≤I_{OUT} ≤60mA	—	45	90	mV
V_{DIF}	跌落电压	I_{OUT}=40mA	—	60	—	mV
I_{SS}	静态电流	V_{IN}=6V，空载	—	2	3	μA
ΔV_{OUT} /(ΔV_{IN} * V_{OUT})	Line Regulation	6V≤V_{IN}≤12V，I_{OUT}=40mA	—	0.2	0.3	%/V
V_{IN}	输入电压	—	—	—	18	V
ΔV_{OUT} /ΔTa	温度系数	V_{IN}=6V，I_{OUT}=40mA， 0℃≤Ta≤85℃	—	±0.7	—	mV/℃

功能描述

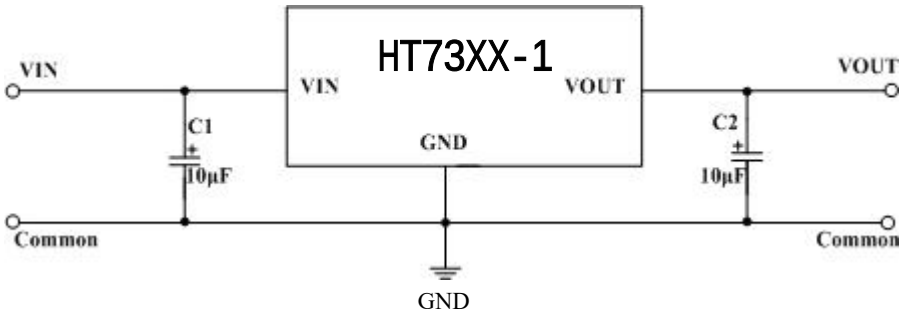
误差放大器根据反馈电阻 Rs 及 Rf 所构成的分压电阻的输入电压 Vfb 同基准电压（Vref）相比较。通过此误差放大器向输出晶体管提供必要的门极电压，而使输出电压不受输入电压或温度变化的影响而保持一定。



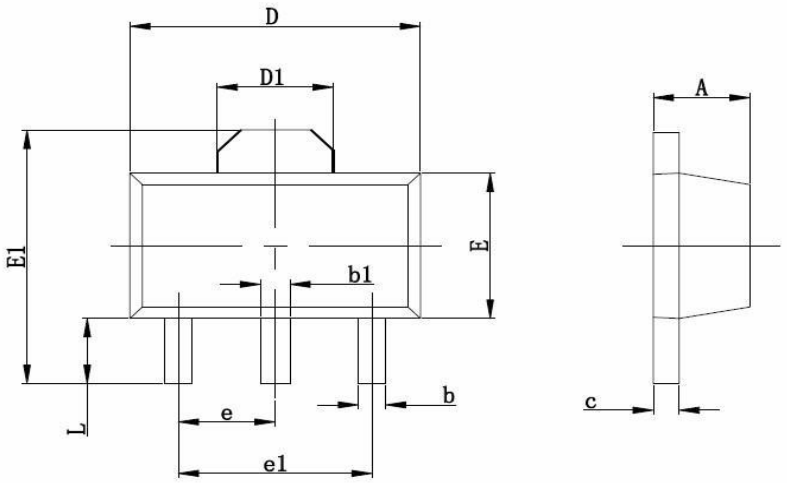
1、 应用时尽量将电容接到 VIN 和 VOUT 脚位附近。
2、 电路内部使用了相位补偿电路和利用输出电容的 ESR 来补偿。所以输出到地一定要接大于 2.2μF 的电容器，推荐使用钽电容。
3、 注意输入输出电压、负载电流的使用条件，避免 IC 内部的功耗超出封装允许的最大功耗值。

典型应用线路图

1、基本应用图

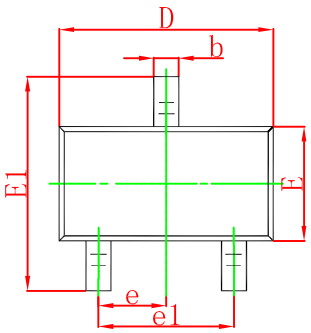


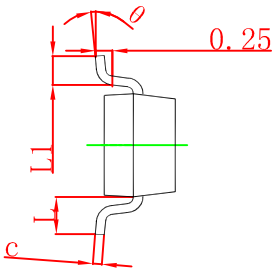
SOT-89 Package Outline Dimensions

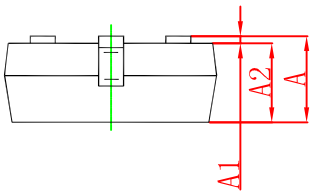


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.350	0.520	0.013	0.197
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.350	2.550	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060TYP	
e1	3.000 TYP		0.118TYP	
L	0.900	1.100	0.035	0.047

SOT-23 Package Outline Dimensions

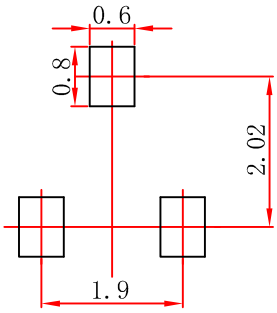






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

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.

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