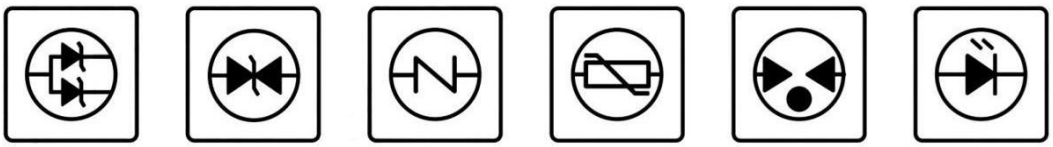
MSKSEMI 美森科
SEMICONDUCTOR



HT73XX-1-MS

产品规格手册

概述

HT73XX-1-MS是一款采用CMOS技术的低压差线性稳压器。输出电流为300mA，允许的最高输入电压为 24V。具有几个固定的输出电压，范围从 3.0V 到 5.0V 。CMOS 技术可确保其具有低压降和低静态电流的特性。

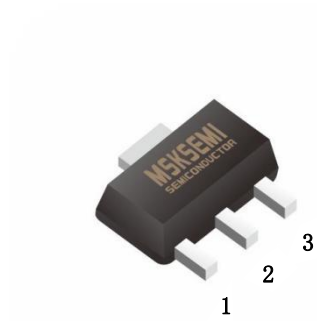
典型应用

- 各类电源设备
- 通信设备
- 音频、视频设备

主要特点

- 低功耗
- 低压降
- 较低的温度系数
- 最高工作电压可达 24V
- 静态电流 1.5μA
- 输出电压精度： ±2%
- 输出电流：300mA
- 封装类型：SOT23-3,SOT89

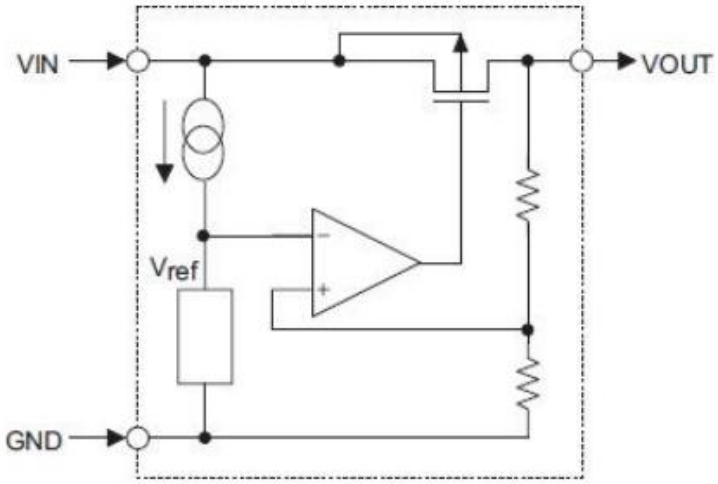
参考信息

封装		引脚排列
		1. GND 接地脚 2. VIN 输入端 3. VOUT 输出端
SOT-89	SOT-23	

输出电压选型表

P/N	输出电压	封装类型
HT7330-1-MS	3.0V	SOT-89/SOT-23
HT7333-1-MS	3.3V	
HT7336-1-MS	3.6V	
HT7350-1-MS	5.0V	

电路功能框图



最大额定值

参数说明	符号	数值范围	单位
工作电压	VIN	−0.3~+24	V
贮存温度	TSTG	−45 ~ +120	℃
工作温度	TA	− 35~ +80	℃

注意：如果器件运行条件超过上述各项最大额定值，可能对器件造成永久性损坏。上述参数仅是运行条件的极大值，我们不建议器件在该规范范围外运行。如果器件长时间工作在绝对最大极限条件 下，其稳定性可能会受到影响。

散热信息

参数说明	符号	封装类型	数值范围	单位
热阻	θ JA	SOT23	200	℃/W
		SOT89	500	℃/W
功耗	PD	SOT23	0.2	W
		SOT89	0.5	W

（PD 值是在 Ta=25℃时测得）

直流电特性 (除特别说明外， TA =＋25°C)

输出型号 HT7330-1-MS

参数说明	符号	测试条件	最小值	典型值	最大值	单位
输出电压	VOUT	VIN=VOUT+1V IOUT=40mA	2.910	3.000	3.090	V
输出电流	IOUT	VIN=VOUT+1V IOUT≥2.7V	300	—	—	mA
负载调整率	△VOUT	VIN= VOUT+1.0V 1 mA≤ IOUT≤ 80 mA	—	45	90	mV
低压差	VDIF	IOUT= 40mA ， △VOUT=2%	—	95	—	mV
静态电流	ISS	无负载	—	1.5	3	μA
线性调整率	△VOUT/ VOUT * △VIN	IOUT+ 1.0V≤VIN≤21V, IOUT= 40mA	—	0.2	0.3	%/V
输入电压	VIN	—	—	—	24	V
温度系数	△VOUT/ △TA	VOUT+1.0V ， IOUT=40mA， －40 ℃ ≤ TA≤ 85 ℃	—	±0.7	—	Mv/℃

注：当 VIN=VOUT+2.0V，固定负载条件下使输出电压下降 2%，此时输入电压和输出电压的差值为低压差值 VDIF。

输出型号 HT7333-1-MS

参数说明	符号	测试条件	最小值	典型值	最大值	单位
输出电压	VOUT	VIN=VOUT+1V IOUT=40mA	3.201	3.300	3.399	V
输出电流	IOUT	VIN=VOUT+1V IOUT≥2.97V	300	—	—	mA
负载调整率	△VOUT	VIN= VOUT+1.0V 1 mA≤ IOUT≤ 80 mA	—	45	90	mV
低压差	VDIF	IOUT= 40mA ， △VOUT=2%	—	90	—	mV
静态电流	ISS	无负载	—	1.5	3	μA
线性调整率	△VOUT/ VOUT * △VIN	IOUT+ 1.0V≤VIN≤21V, IOUT= 40mA	—	0.2	0.3	%/V
输入电压	VIN	—	—	—	24	V
温度系数	△VOUT/ △TA *VOUT	VOUT+1.0V ， IOUT=40mA， －40 ℃ ≤ TA≤ 85 ℃	—	±0.7	—	Mv/℃

注：当 VIN=VOUT+1.0V，固定负载条件下使输出电压下降 2%，此时输入电压和输出电压的差值为低压差值 VDIF。

输出型号 HT7336-1-MS

参数说明	符号	测试条件	最小值	典型值	最大值	单位
输出电压	VOUT	VIN=VOUT+1V IOUT=40mA	3.492	3.6	3.708	V
输出电流	IOUT	VIN=VOUT+1V IOUT≥3.2V	300	—	—	mA
负载调整率	△VOUT	VIN= VOUT+1.0V 1 mA≤ IOUT≤ 80 mA	—	45	90	mV
低压差	VDIF	IOUT= 40mA ， △VOUT=2%	—	80	—	mV
静态电流	ISS	无负载	—	1.5	3	μA
线性调整率	△VOUT/ VOUT * △VIN	IOUT+ 1.0V≤VIN≤21V， IOUT= 40mA	—	0.2	0.3	%/V
输入电压	VIN	—	—	—	24	V
温度系数	△VOUT/ △TA *VOUT	VOUT+1.0V ， IOUT=80mA， - 40 ℃ ≤ TA≤ 85 ℃	—	±0.7	—	Mv/℃

注：当 VIN=VOUT+1.0V，固定负载条件下使输出电压下降 2%，此时输入电压和输出电压的差值为低压差值 VDIF。

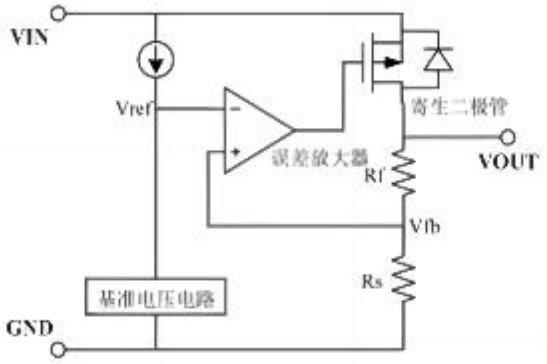
输出型号 HT7350-1-MS

参数说明	符号	测试条件	最小值	典型值	最大值	单位
输出电压	VOUT	VIN=VOUT+1V IOUT=40mA	4.85	5	5.150	V
输出电流	IOUT	VIN=VOUT+1V IOUT≥4.5V	300	—	—	mA
负载调整率	△VOUT	VIN= VOUT+1.0V 1 mA≤ IOUT≤ 80 mA	—	25	55	mV
低压差	VDIF	IOUT= 40mA ， △VOUT=2%	—	60	—	mV
静态电流	ISS	无负载	—	1.5	3	μA
线性调整率	△VOUT/ VOUT * △VIN	IOUT+ 1.0V≤VIN≤21V， IOUT= 40mA	—	0.2	0.3	%/V
输入电压	VIN	—	—	—	24	V
温度系数	△VOUT/ △TA *VOUT	VOUT+1.0V ， IOUT=80mA， - 40 ℃ ≤ TA≤ 85 ℃	—	±0.7	—	Mv/℃

注：当 VIN=VOUT+1.0V，固定负载条件下使输出电压下降 2%，此时输入电压和输出电压的差值为低压差值 VDIF。

功能描述

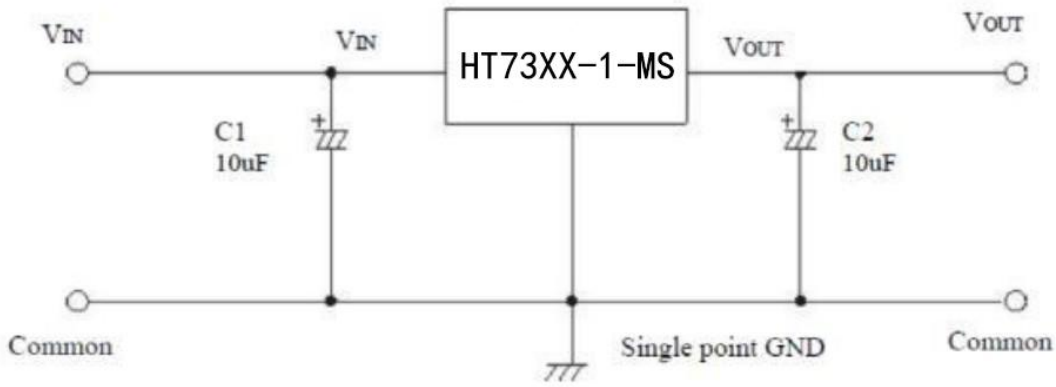
误差放大器根据反馈电阻 Rs 及 Rf 所构成的分压电阻的输入电压 Vfb 同基准电压(Vref)相比 较。通过此误差放大器向输出晶体管提供必要的门极电压，而使输出电压不受输入电压或温度变化 的影响而保持一定。



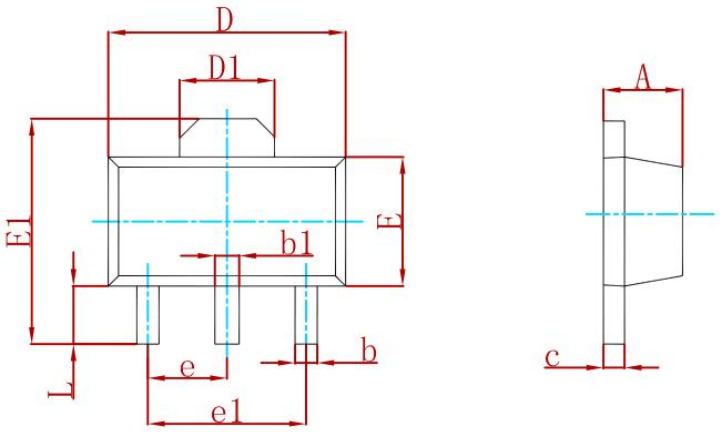
1. 应用时尽量将电容接到 VIN 和 VOUT 脚位附近。
2. 电路内部使用了相位补偿电路和利用输出电容的 ESR 来补偿。
   所以输出到地一定要接大于 2.2μF 的电容器，推荐使用钽电容。
3. 注意输入输出电压、负载电流的使用条件，避免 IC 内部的功耗超出封装允许的最大功耗值。

典型应用线路图

基本应用图

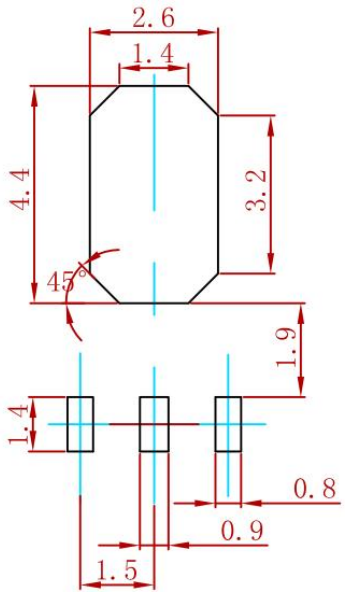


包装数据



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
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	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP .		0.060 TYP.	
e1	3.000 TYP .		0.118 TYP.	
L	0.900	1.200	0.035	0.047

参考焊盘布局

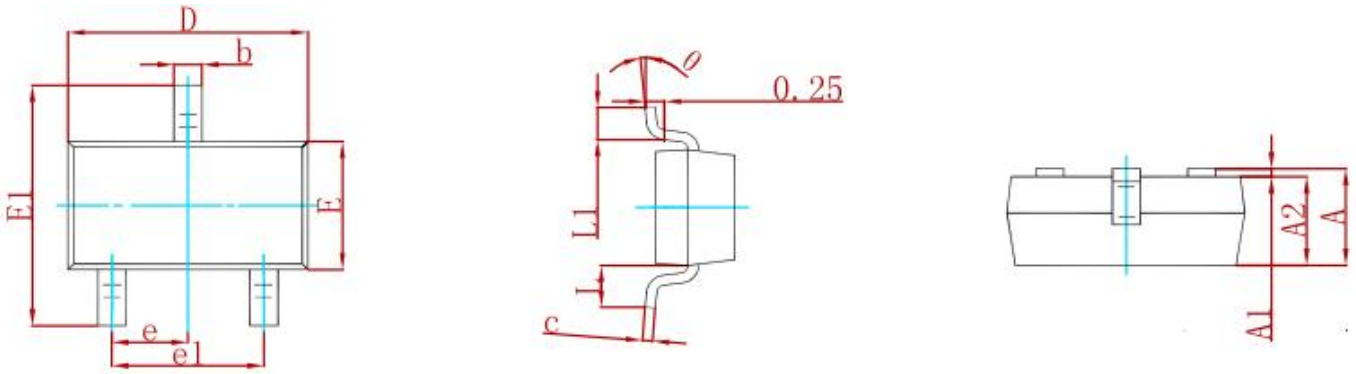


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

卷轴规格

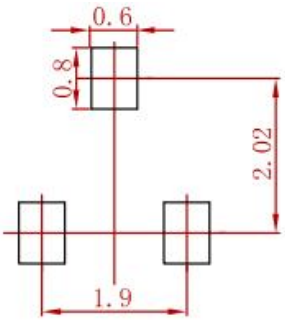
P/N	PKG	QTY
HT73XX-1-MS	SOT-89	1000

包装数据



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°

参考焊盘布局



Note:
1.Controlling dimension:In millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

卷轴规格

P/N	PKG	QTY
HT73XX-1-MS	SOT-23	3000

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