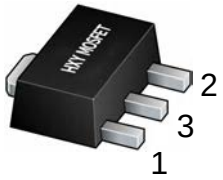
■ 产品简介

HT78XX 系列是高纹波抑制率、低功耗、低压差，具有过流和短路保护的CMOS降压型电压稳压器。这些器件具有很低的静态偏置电流(2μA Typ.)，它们能在输入、输出电压差极小的情况下提供400mA的输出电流，并且仍能保持良好的调整率。由于输入输出间的电压差很小和静态偏置电流很小，这些器件特别适用于希望延长电池寿命的电池供电类产品，如计算机、消费类产品和工业设备等。



SOT-89

管脚编号	管脚名	功能描述
1	VSS	接地
2	VOUT	输出
3	VIN	电源输入

■ 产品特点

- 高精度输出电压：±2%
- 输出电压：2.8V～5.0V(步长 0.1V)
- 极低的静态偏置电流(Typ.=2.0μA)
- 低的温度调整系数
- 最高输入电压可达 12V
- 输入输出电压差低
- 封装形式：SOT-89

■ 产品用途

- 电池供电系统
- 无绳电话设备
- 无线控制系统
- 便携/手掌式计算机
- 便携式消费类设备
- 便携式仪器
- 汽车电子设备

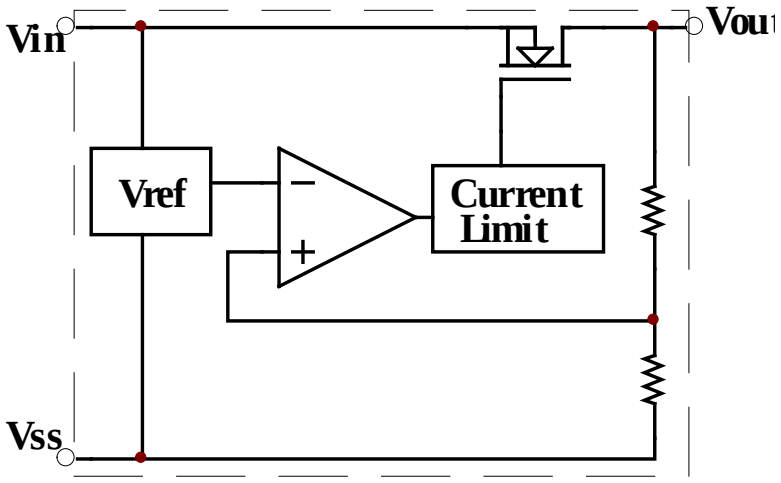
■ 极限参数

项目	符号	参数	极限值	单位
电压	Vin	输入电压	12	V
	Vout	输出电压	Vss-0.3 ~Vout+0.3	V
电流	Iout	输出电流	450	mA
功耗	PD	最大允许功耗	500	mW
温度	Tw	工作温度	-25～+80	℃
	Tc	存储温度	-40～+125	℃
	Th	焊接温度	260	℃,10s

■ 型号选择

型号	输出电压	封装形式
HT7828	2.8V	SOT-89
HT7830	3.0V	
HT7833	3.3V	
HT7836	3.6V	
HT7850	5.0V	

■ 功能框图



■ 电学特性 (Cin=Cout=10uF,Ta=25°C除特别指定)

特性	符号	条件	最小值	典型值	最大值	单位
输出电压	$V_{OUT}(E)$	I_{OUT}=1mA， V_{IN}= $V_{OUT}(T)$+2V	$V_{OUT}(T)$ *0.98	$V_{OUT}(T)$	$V_{OUT}(T)$* 1.02	V
最大输出电流	I_{OUT} (max)	V_{IN}=$V_{OUT}(T)$+2V	300	450		mA
低压差	V_{DIF}	I_{OUT} =100mA ， △V_{OUT} =2%		195	300	mV
静态电流	I_{SS}	V_{IN}= $V_{OUT}(T)$+2V		2		μA
负载稳定度	ΔV_{OUT}	V_{IN}= $V_{OUT}(T)$+2V， 1mA≤I_{OUT}≤300mA		37		mV
输入稳定度	$\Delta V_{OUT}/(\Delta V_{IN} \cdot V_{OUT})$	I_{OUT} =1mA， $V_{OUT}(T)$+0.5V ≤V_{IN}≤8V		0.1	0.2	%/V
输出电压温度系数	$\Delta V_{OUT}/(\Delta Ta \cdot V_{OUT})$	V_{IN}= $V_{OUT}(T)$+2V， I_{OUT}=10mA -40℃≤Ta≤85℃		±100		ppm/℃
输入电压	V_{IN}			--	10	V
纹波抑制比	PSRR	V_{IN}= [$V_{OUT}(T)$+1]V +1Vp-pAC I_{OUT} =10mA, f=1kHz		65		dB

注：当 V_{IN}=V_{OUT}+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 V_{DIF}。

■ 测试电路

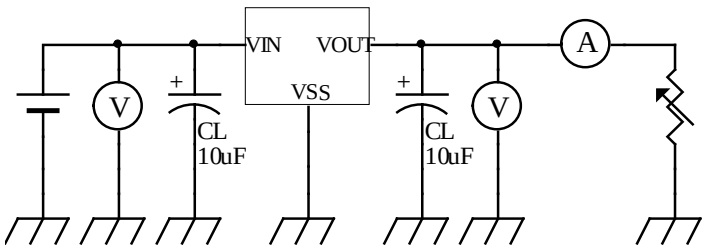


图 1

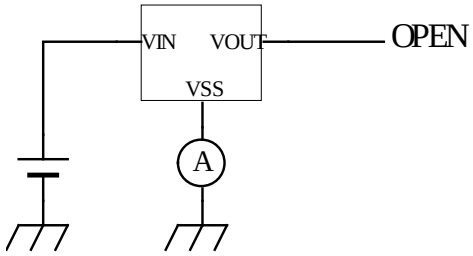
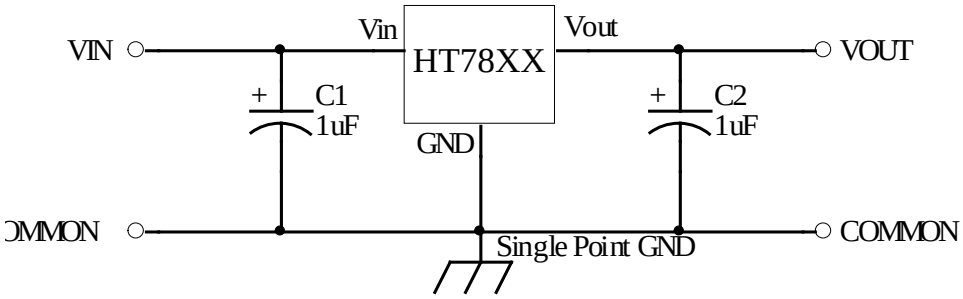
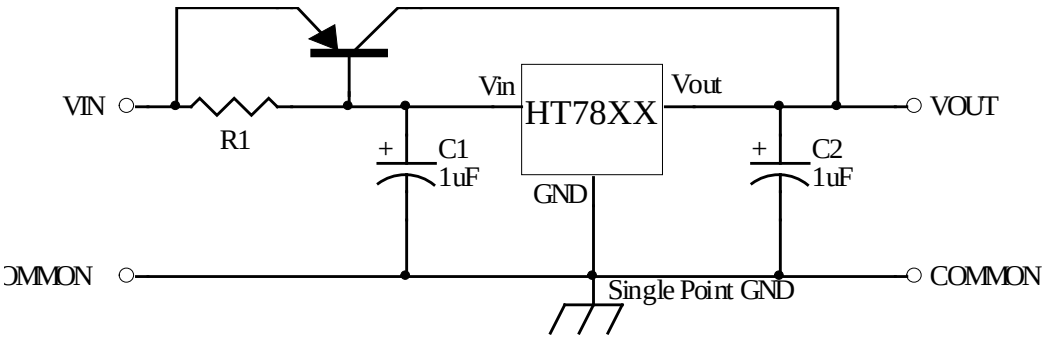


图 2

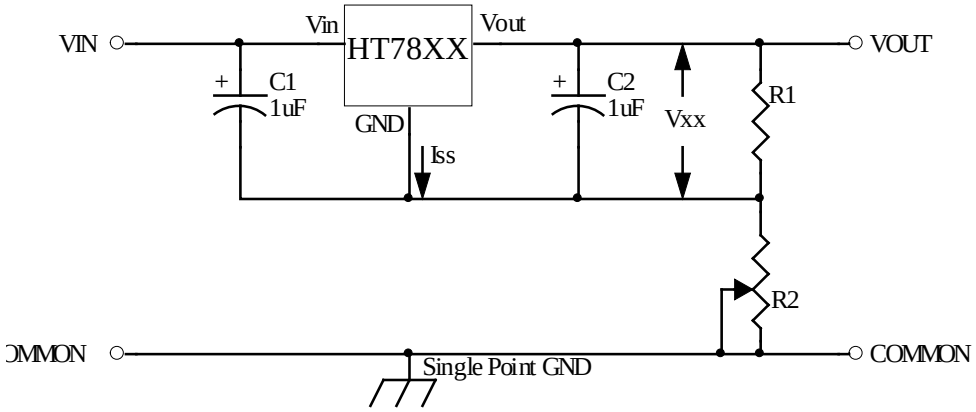
1、基本电路



2、大输出电流正电压型电压调整器

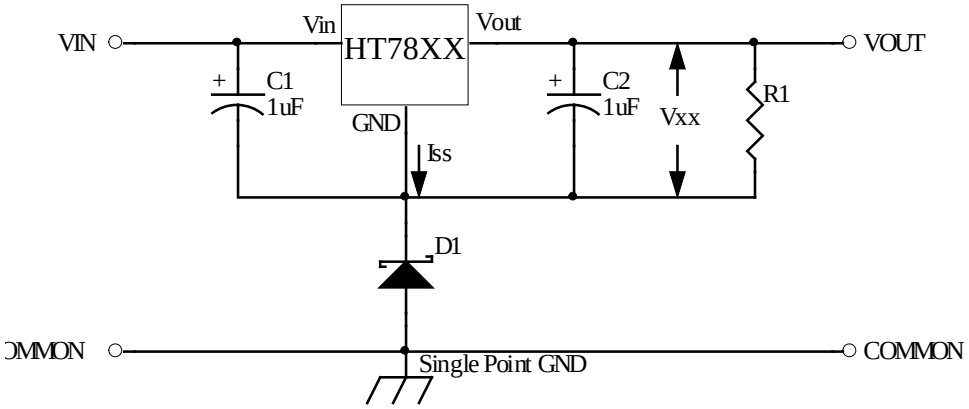


3、提高输出电压值电路（1）



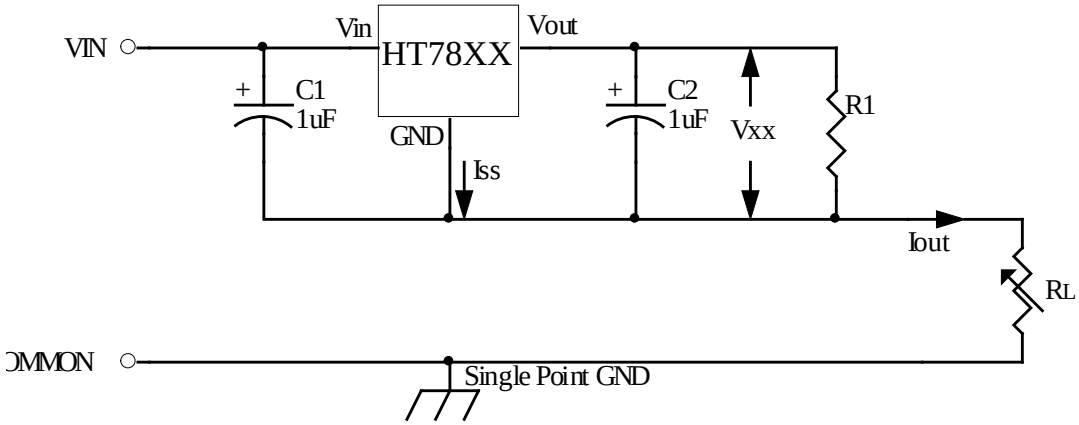
$$Vout=Vxx(1+R2/R1)+IssR2$$

4、提高输出电压电路（2）



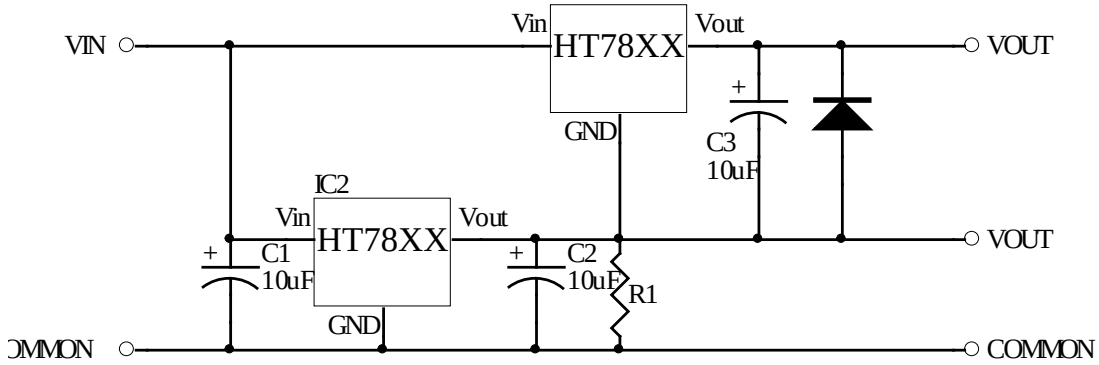
$Vout=Vxx+V_{D1}$

5、恒流调整器



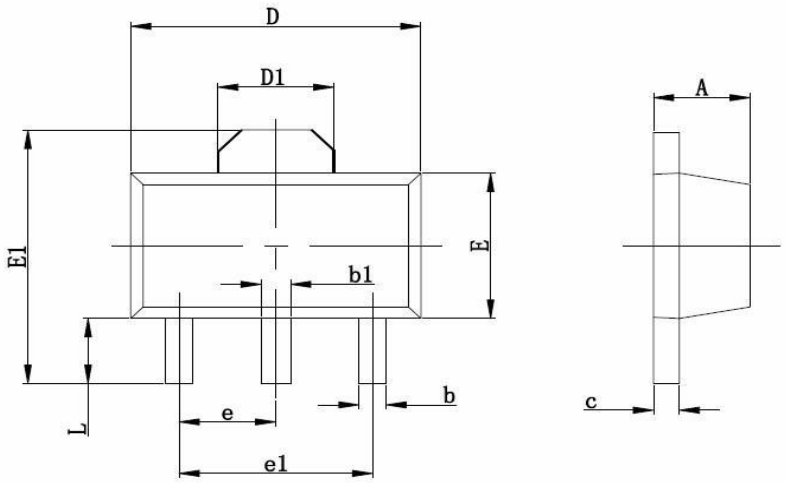
$Iout=Vxx/R_A+Iss$

6、双输出



■ 封装信息

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

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