概述

NCP603 系列是以CMOS工艺制造的高精度，低噪音，快速响应低压差线性稳压器。该系列的稳压器内置固定的参考电压，误差修正电路，限流电路，相位补偿电路以及低内阻的MOSFET，达到高纹波抑制，低输出噪音，快速响应低压差的性能。

NCP603 系列兼容体积比钽电容更小的陶瓷电容，而且不需使用 0.1uF 的 By-pass 电容，更能节省空间，降低了成本。因具有高精度的输出稳定性，以及快速瞬态响应性能，从而能应付负载电流的波动，所以特别适合应用在手持设备及射频产品上。

通过控制芯片上的CE脚，可将输出关断，关断输出后的静态电流只有0.1uA（Typ值），从而大大降低了功耗。

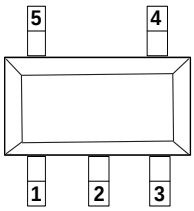
特点

- 输出范围：1.2V-3.6V
- 300mA输出电流
- 高电源抑制比: 70分贝1千赫
- 极低的静态偏置电流: 70uA(典型)
- 在关机模式下小于1uA
- 交界处的温度运作为-40°C至+85°C

应用场合

- CDMA/GSM 移动电话
- PDAS/MP3
- WLAN和蓝牙设备
- 无绳电话
- 电池供电系统

封装脚位描述



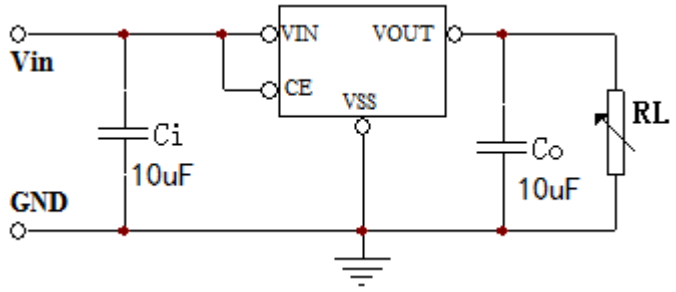
SOT-23-5L(TSOP-5)

PIN脚位 SOT-23-5L (TSOP-5)	符号	功能说明
1	V_{IN}	电源输入端
2	V_{SS}	地
3	CE	使能端
4	NC	悬空
5	V_{OUT}	电源输出端

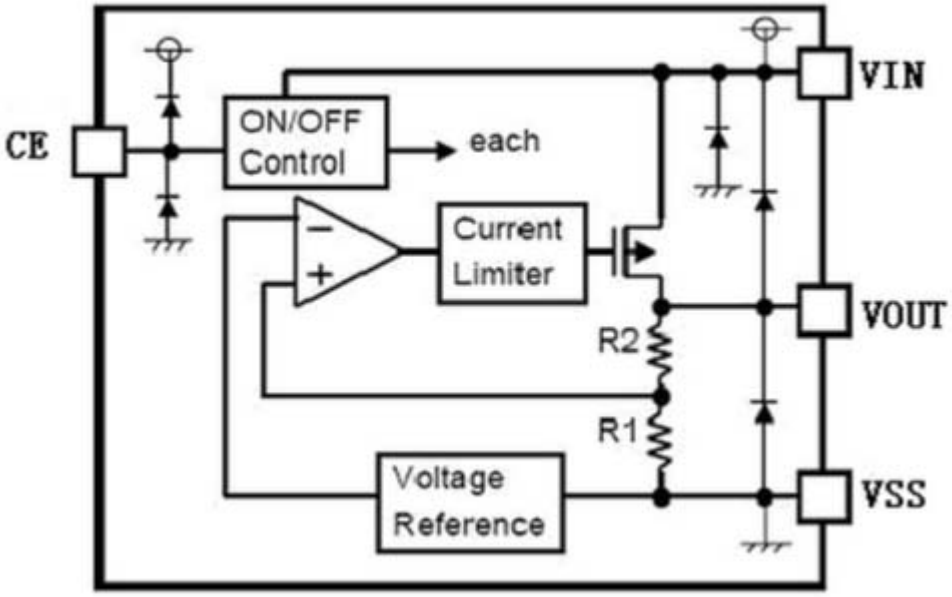
型号介绍

型号名	封装	输出电压	包装信息
NCP603SN120T1G	SOT-23-5L(TSOP-5)	1.2V	3000/盘
NCP603SN180T1G	SOT-23-5L(TSOP-5)	1.8V	3000/盘
NCP603SN250T1G	SOT-23-5L(TSOP-5)	2.5V	3000/盘
NCP603SN280T1G	SOT-23-5L(TSOP-5)	2.8V	3000/盘
NCP603SN300T1G	SOT-23-5L(TSOP-5)	3.0V	3000/盘
NCP603SN330T1G	SOT-23-5L(TSOP-5)	3.3V	3000/盘
NCP603SN360T1G	SOT-23-5L(TSOP-5)	3.6V	3000/盘

典型应用图



功能框图



绝对最大额定值

参数	符号	范围	单位
输入电压	V_{IN}	6	V
输出电流	I_{OUT}	450	mA
输出电压	V_{OUT}	Vss-0.3～V_{IN} +0.3	V
使能电压	V_{CE}	Vss-0.3～V_{IN} +0.3	V
耗散功率	P_D	300	mW
工作温度范围	T_{OPR}	－40～＋80	°C
存储温度范围	T_{STG}	－40～＋150	°C
焊接温度		260°C，10sec	

电气参数

(Ci=Co=10uF, Ta=25℃ 除特别指定)

特性	符号	测试条件	最小值	典型值	最大值	单位
输出电压	V_{OUT}(E)	I_{OUT}=1mA，V_{IN}=5V，V_{CE}=1.6V	$V_{OUT(T)}$* 0.98	$V_{OUT(T)}$	$V_{OUT(T)}$* 1.02	V
最大输出电流	I_{OUT} (max)	V_{IN}=V_{OUT}+1V		300		mA
负载稳定度	ΔV_{OUT}	V_{IN}=V_{OUT}+1V，1mA≤I_{OUT}≤100mA		50		mV
输入稳定度	$\Delta V_{OUT}/(\Delta V_{IN} \cdot V_{OUT})$	I_{OUT}=40mA，4.3V≤V_{IN}≤15V		0.05		%/V
跌落压差	V_{drop1}	V_{IN}=4.3V，I_{OUT}=100mA		90		mV
	V_{drop2}	V_{IN}=4.3V，I_{OUT}=200mA		230		mV
静态电流	I_{SS1}	V_{IN}=V_{CE}=5V		70		μA
	I_{SS2}	V_{IN}=5V，V_{CE}=V_{SS}			1	μA
CE 输入电压	V_{CEH}		0.3		V_{IN}	V
	V_{CEL}		0		0.4	V
CE 输入电流	I_{CE}	V_{CE}=0V to V_{IN}			1	uA
纹波抑制比	PSRR	V_{IN}=(V_{OUT}+1)+1$V_{p\text{-}pAC}$ I_{OUT}=40mA，f=1kHz		70		dB
输出噪声	en	I_{OUT}=40mA，300Hz~50kHz		50		uVrms
输入电压	V_{IN}				6	V

注 ：1、V_{OUT} (T)：规定的输出电压。

2、V_{OUT} (E) ：有效输出电压(即当I_{OUT} 保持一定数值，V_{IN} = (V_{OUT}(T)+1.0V)时的输出电压。

3、VCE ：考虑到高低温和工艺偏差，建议客户将 CE PIN 的使能电压设置为 1.1V，保留有余量。芯片内部 CE PIN 对 GND PIN 之间有内置 1MΩ电阻。

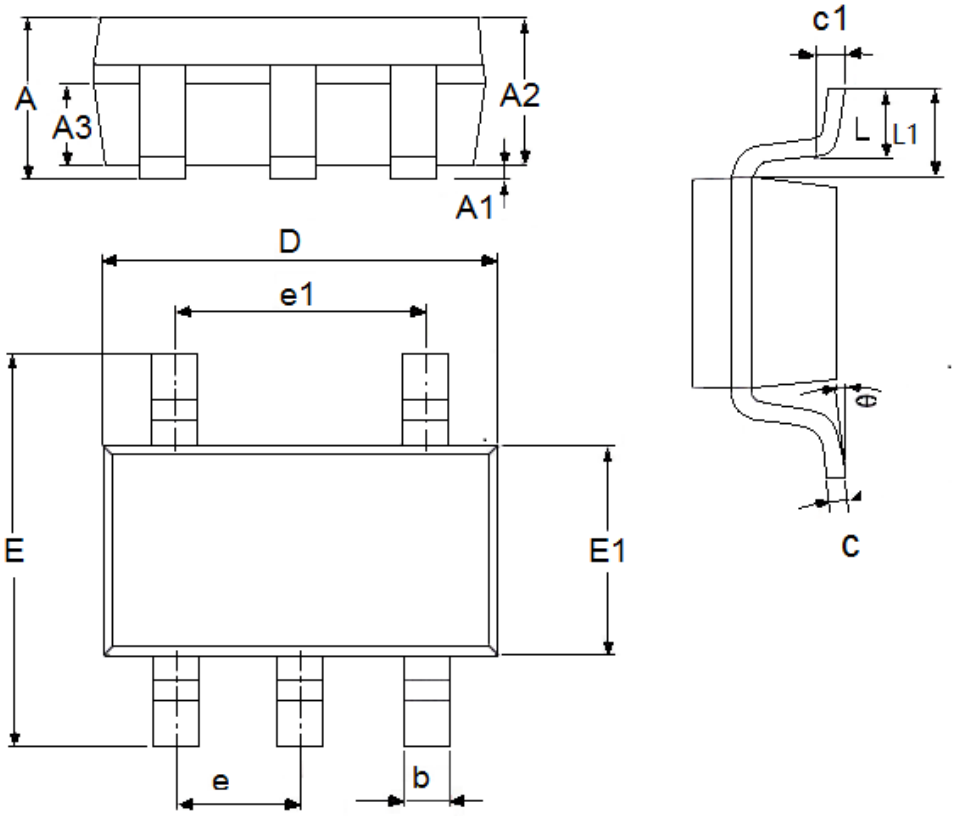
4、V_{dif} ： V_{IN1} – V_{OUT} (E)'

V_{IN1}：逐渐减小输入电压，当输出电压降为 V_{OUT}(E)98% 时的输入电压。

V_{OUT}(E)' = V_{OUT}(E)X98% 。

封装信息

- **SOT-23-5L(TSOP-5)**



参数	尺寸（mm）		尺寸（Inch）	
	最小值	最大值	最小值	最大值
A	1.05	1.45	0.0413	0.0571
A1	0	0.15	0.0000	0.0059
A2	0.9	1.3	0.0354	0.0512
A3	0.6	0.7	0.0236	0.0276
b	0.25	0.5	0.0098	0.0197
c	0.1	0.23	0.0039	0.0091
D	2.82	3.05	0.1110	0.1201
e1	1.9(TYP)		0.0748(TYP)	
E	2.6	3.05	0.1024	0.1201
E1	1.5	1.75	0.0512	0.0689
e	0.95(TYP)		0.0374(TYP)	
L	0.25	0.6	0.0098	0.0236
L1	0.59(TYP)		0.0232(TYP)	
θ	0	8°	0.0000	8°
c1	0.2(TYP)		0.0079(TYP)	

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