



## 产品描述

XC6206P302MR是具有高纹波抑制率、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（3.0  $\mu$ A Typ.），它们能在输入、输出电压差极小的情况下提供300mA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-23**

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

## 产品特点

- ◇ 最大输出电流：300mA
- ◇ 压差电压：160mV@50mA
- ◇ 最大工作电压：8V
- ◇ 输出电压范围：3.0V
- ◇ 高精度：2%
- ◇ 极低的静态工作电流：3  $\mu$ A（典型值）
- ◇ 内置过流和短路保护电路
- ◇ 工作温度范围：-40 ~ 85

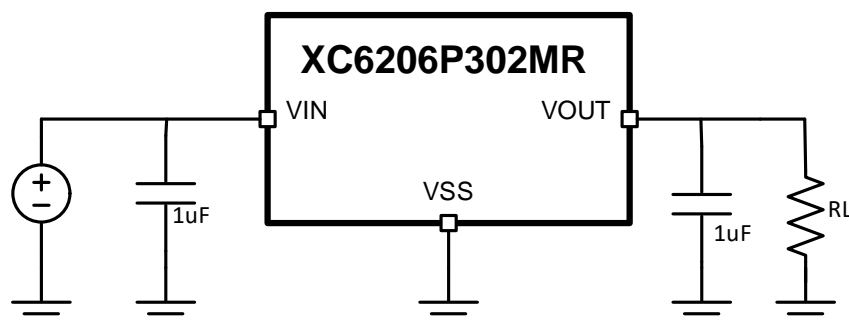
## 应用领域

- ◇ 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
- ◇ 电压基准源

## 应包装标识与订购信息

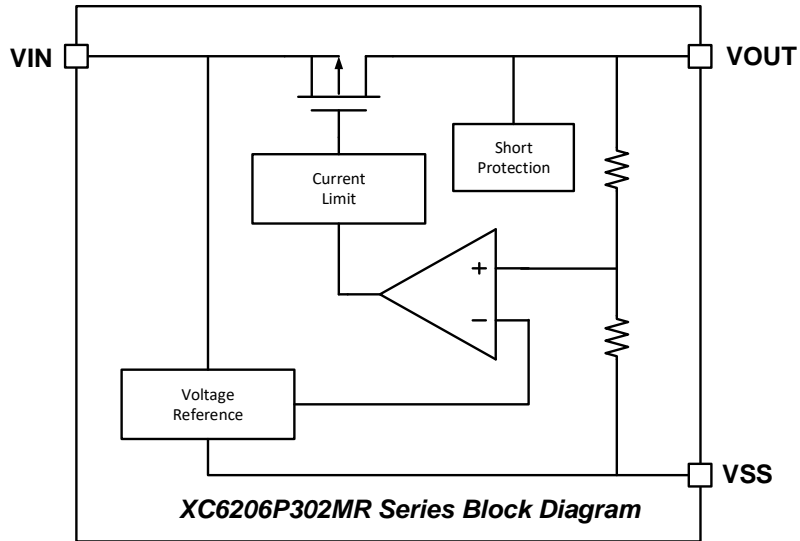
产品型号	封装规格	丝印	数量信息(PCS)
XC6206P302MR	SOT-23	65Z5	3000

## 典型应用





### 功能框图



### 极限参数

(注意：超过这些限制可能会损坏器件。长期暴露在绝对最大额定条件下会影响器件的可靠性。)

项目	符号	极限值	单位
输入电压	$V_{IN}$	8	V
输出电流	$I_{OUT}$	300	mA
输出电压	$V_{OUT}$	$V_{SS}-0.3 \sim V_{IN}+0.3$	V
功耗	$P_d$	0.20	W
工作温度	$T_{opr}$	-40~+85	°C
存储温度	$T_{stg}$	-55~+125	°C



## 电学参数

( $V_{IN}=5V, T_A=25^\circ C$ , 除特别指定)

项目	符号	条件	最小值	典型值	最大值	单位
输出电压	$V_{OUT(E)}$	$V_{IN}=V_{OUT(S)}+1.0V,$ $I_{OUT}=1mA, \pm 2\%$	$V_{OUT(S)}$ $\times 0.98$	$V_{OUT(S)}$	$V_{OUT(S)}$ $\times 1.02$	V
最大输出电流	$I_{OUT}$	$V_{IN} \geq V_{OUT(S)} + 1.0V$	300	—	—	mA
负载稳定度	$\Delta V_{OUT}$	$V_{IN}=V_{OUT}+1V$ $1mA \leq I_{OUT} \leq 100mA$	—	25	—	mV
跌落电压	$V_{drop}$	$1.5V \leq V_{OUT(S)} \leq 2.5V$ $I_{OUT}=50mA$	—	0.20	0.28	V
		$2.6V \leq V_{OUT(S)} \leq 3.3V$ $I_{OUT}=50mA$	—	0.16	0.24	
		$3.4V \leq V_{OUT(S)} \leq 6.0V$ $I_{OUT}=50mA$	—	0.12	0.20	
输入稳定度	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT(S)}+0.5V \leq V_{IN} \leq 5.5V$ $I_{OUT}=1mA$	—	0.05	0.2	%/V
静态电流	$I_{SS}$	$V_{IN}=V_{OUT(S)}+1.0V$		3		$\mu A$
输入电压	$V_{IN}$		1.8		6	V
输出电压温度系数	$\frac{\Delta V_{OUT}}{\Delta V_{OPR} \cdot V_{OUT}}$	$I_{OUT}=40mA$ $-40^\circ C \leq T_{opr} \leq 85^\circ C$		100		ppm/ $^\circ C$
纹波抑制比	PSRR	$V_{IN}=[V_{OUT}+1]V$ $+1Vp-pAC$ $I_{OUT}=10mA, f=1kHz$		40		dB
短路电流	$I_{SHORT}$	$V_{IN}=V_{OUT}+1.5V,$ $V_{OUT}=V_{SS}$		50		mA
过流保护电流	$I_{LIMIT}$			300	350	mA

### 注：

- $V_{OUT(S)}$ = 规定输出电压
- $V_{OUT(E)}$ =有效输出电压(即当 $I_{OUT}$ 保持一定数值, $V_{IN}=V_{OUT}+1V$ ,时的输出电压)
- $V_{drop} = \{V_{IN1}(\text{注5}) - V_{OUT1}(\text{注4})\}$
- $V_{OUT1} = V_{OUT(E)} \cdot 98\%$
- $V_{IN1}$ = 逐渐减小输入电压,当输出电压降为 $V_{OUT(E)}$ 的98%时的输入电压。
- Unless otherwise stated,  $V_{IN} = V_{OUT(S)} + 1.0V$



## 特征曲线

(3.3V output)

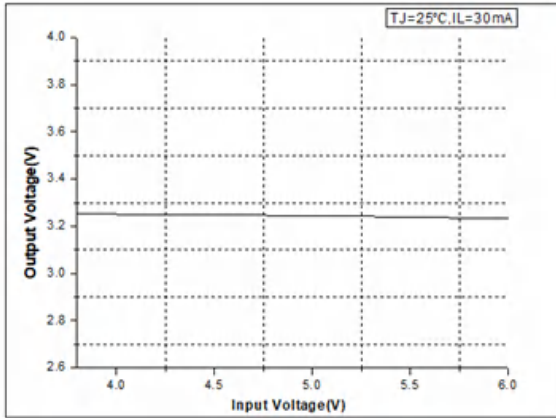


图1 输出电压和输入电压关系

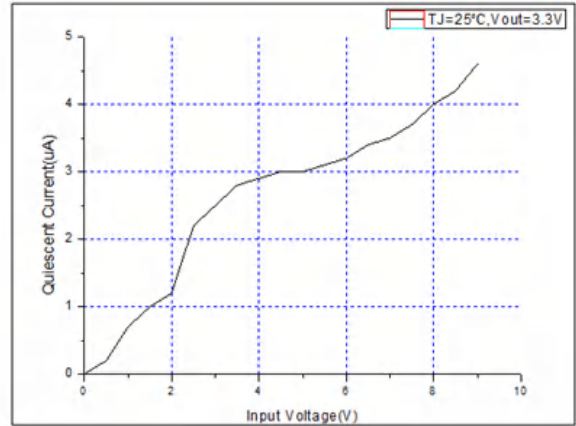


图2 静态功耗和输入电压关系

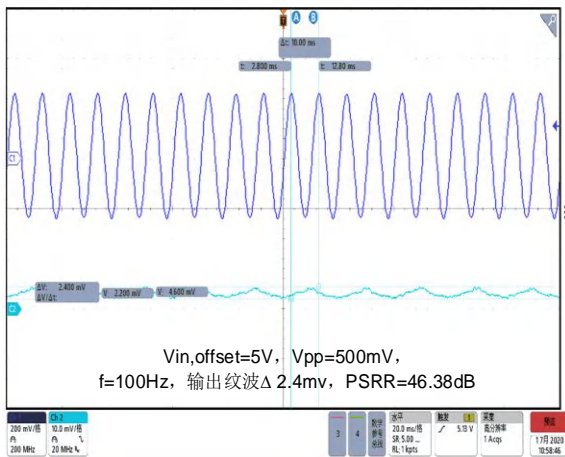


图3 纹波抑制比 (f=100Hz)

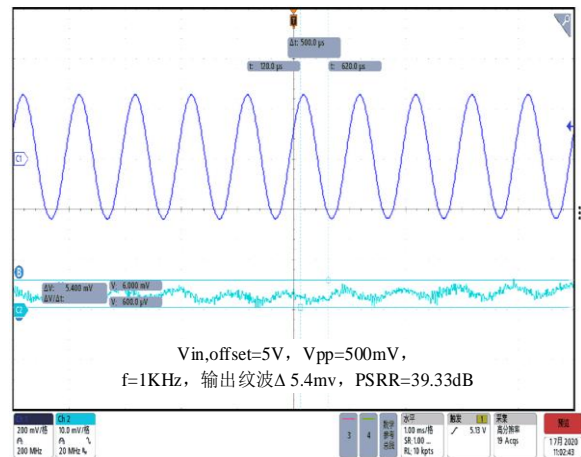


图4 纹波抑制比 (f=1KHz)

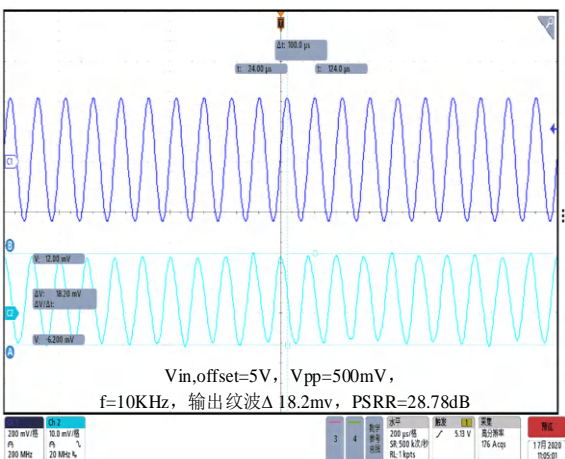


图5 纹波抑制比 (f=10Hz)

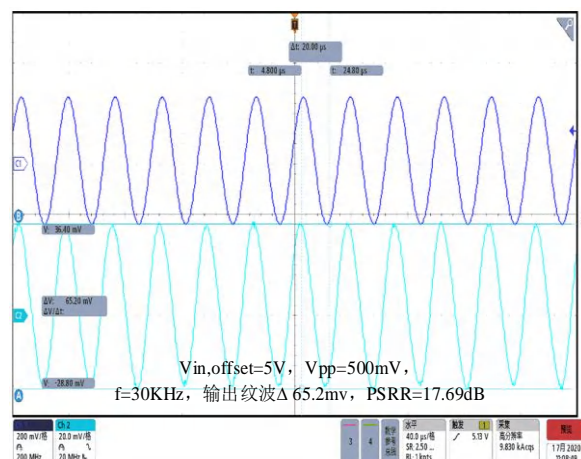
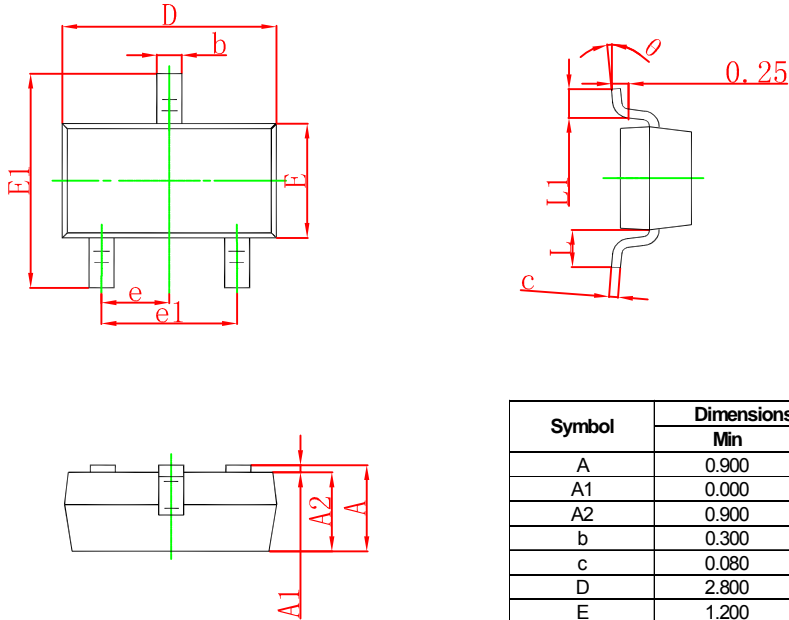


图6 纹波抑制比 (f=30Hz)

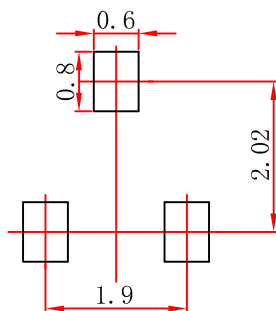


### SOT-23 Package Outline Dimensions



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:  $\pm 0.05\text{mm}$ .
  3. The pad layout is for reference purposes only.



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