



## 产品描述

XC6206P282MR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（3.0μA 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：2.8V
- ◇ 高精度：2%
- ◇ 极低的静态工作电流：3μA (典型值)
- ◇ 内置过流和短路保护电路
- ◇ 工作温度范围：-40℃~ 85℃

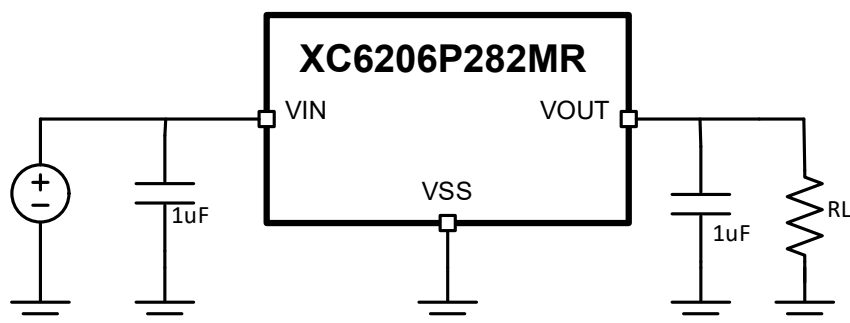
## 应用领域

- ◇ 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

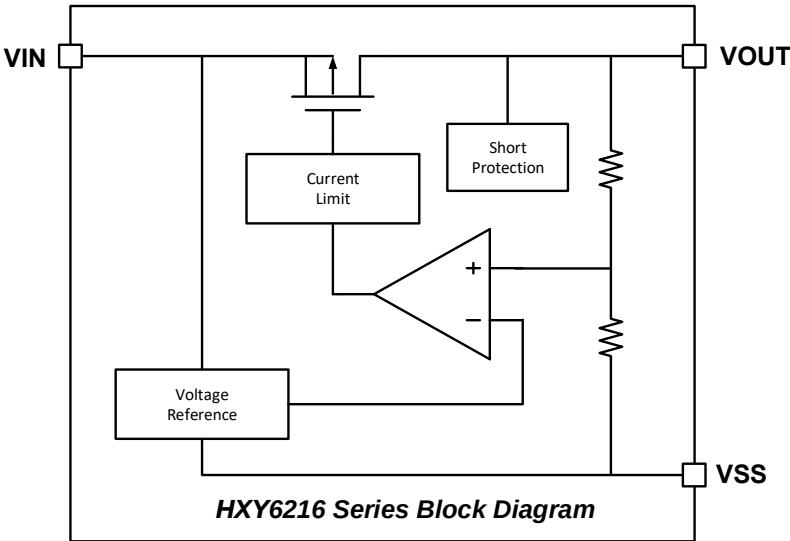
| 产品型号         | 封装规格   | 丝印   | 数量信息(PCS) |
|--------------|--------|------|-----------|
| XC6206P282MR | SOT-23 | 54FK | 3000      |

## 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 | $T_{opr}$ | $-40\sim +85$               | $^{\circ}C$ |
| 存储温度 | $T_{stg}$ | $-55\sim +125$              | $^{\circ}C$ |



## 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     | $V_{OUT(E)}$                                          | $V_{IN}=V_{OUT(S)}+1.0V$ ,<br>$I_{OUT}=1mA, \pm 2\%$          | $V_{OUT(S)} \times 0.98$ | $V_{OUT(S)}$ | $V_{OUT(S)} \times 1.02$ | V                  |
| 最大输出电流   | $I_{OUT}$                                             | $V_{IN} \geq V_{OUT(S)}+1.0V$                                 | 300                      | —            | —                        | mA                 |
| 负载稳定度    | $\Delta V_{OUT}$                                      | $V_{IN}=V_{OUT}+1V$<br>$1mA \leq I_{OUT} \leq 100mA$          | —                        | 25           | —                        | mV                 |
| 跌落电压     | $V_{drop}$                                            | $1.5V \leq V_{OUT(S)} \leq 2.5V$<br>$I_{OUT}=50mA$            | —                        | 0.20         | 0.28                     | V                  |
|          |                                                       | $2.6V \leq V_{OUT(S)} \leq 3.3V$<br>$I_{OUT}=50mA$            | —                        | 0.16         | 0.24                     |                    |
|          |                                                       | $3.4V \leq V_{OUT(S)} \leq 6.0V$<br>$I_{OUT}=50mA$            | —                        | 0.12         | 0.20                     |                    |
| 输入稳定度    | $\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$ | $V_{OUT(S)}+0.5V \leq V_{IN} \leq 5.5V$<br>$I_{OUT}=1mA$      | —                        | 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 | $\frac{\Delta V_{OUT}}{\Delta T_{OPR} \cdot V_{OUT}}$ | $I_{OUT}=40mA$<br>$-40^\circ C \leq T_{opr} \leq 85^\circ C$  |                          | 100          |                          | ppm/<br>$^\circ C$ |
| 纹波抑制比    | PSRR                                                  | $V_{IN}=[V_{OUT}+1]V$<br>$+1Vp-pAC$<br>$I_{OUT}=10mA, f=1kHz$ |                          | 40           |                          | dB                 |
| 短路电流     | $I_{SHORT}$                                           | $V_{IN}=V_{OUT}+1.5V$ ,<br>$V_{OUT}=V_{SS}$                   |                          | 50           |                          | mA                 |
| 过流保护电流   | $I_{LIMIT}$                                           |                                                               |                          | 300          | 350                      | mA                 |

注:

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



## 特征曲线

(3.3V output)

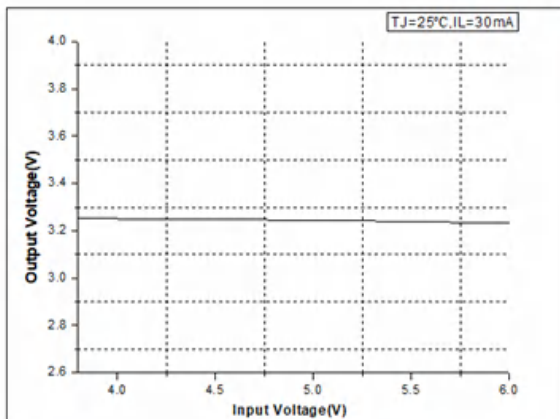


图1 输出电压和输入电压关系

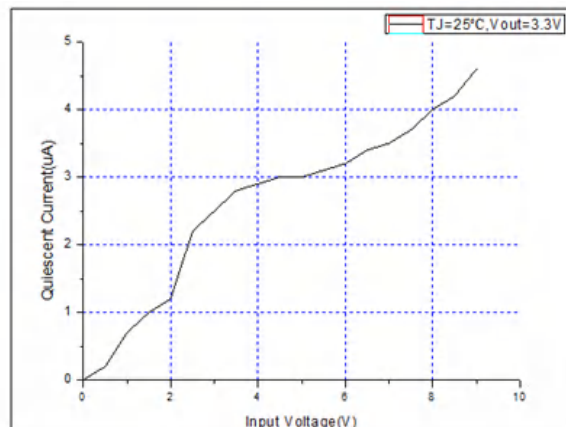


图2 静态功耗和输入电压关系

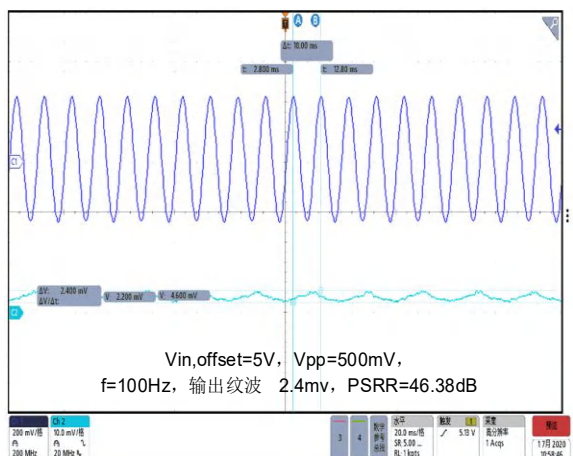


图3 纹波抑制比 ( $f=100\text{Hz}$ )

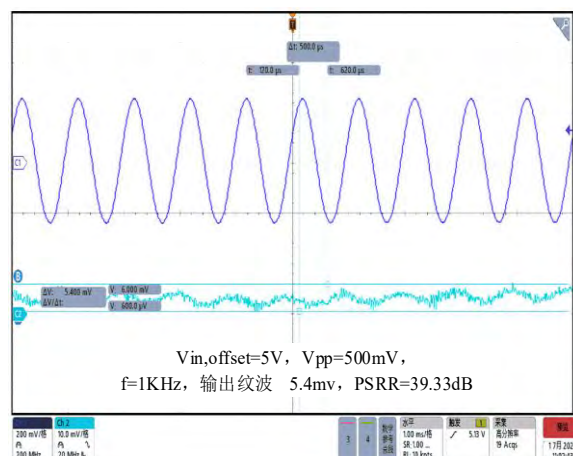


图4 纹波抑制比 ( $f=1\text{KHz}$ )

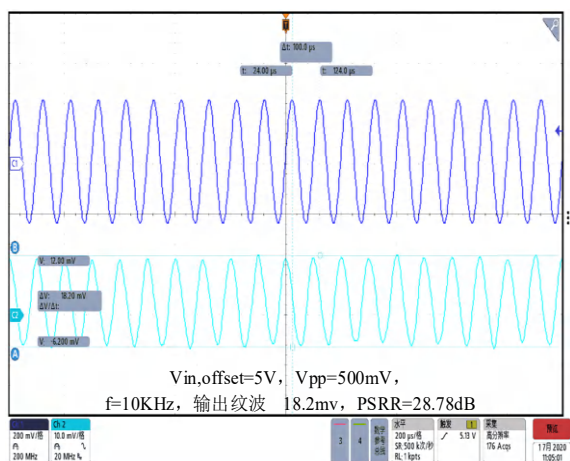


图5 纹波抑制比 ( $f=10\text{KHz}$ )

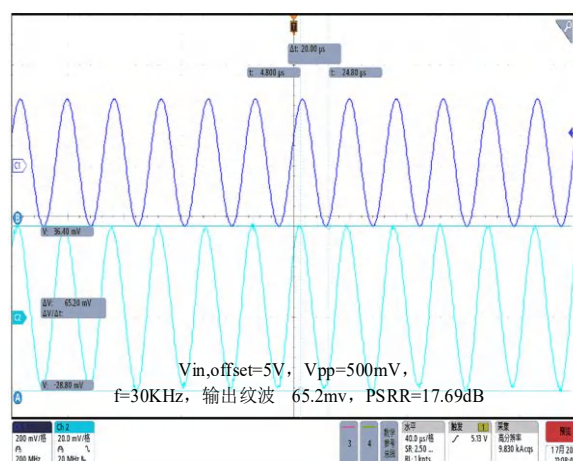
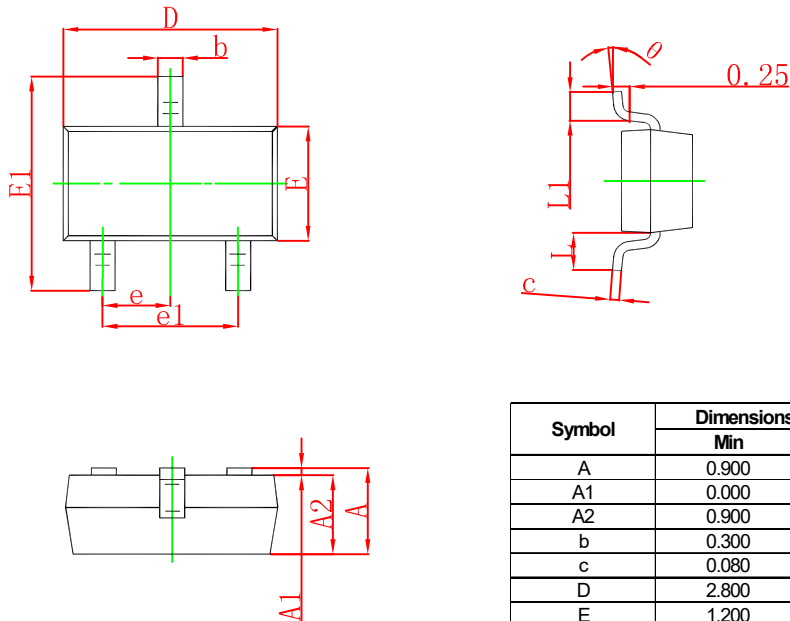


图6 纹波抑制比 ( $f=30\text{KHz}$ )

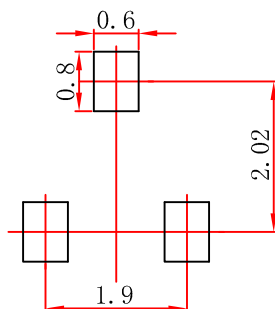


## SOT-23 Package Outline Dimensions



| 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 |
| theta  | 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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