



产品概述

PW4200 系列芯片是使用 CMOS 技术开发的高精度、低功耗、小封装电压检测芯片。检测电压在小温度漂移的情况下保持极高的精度。

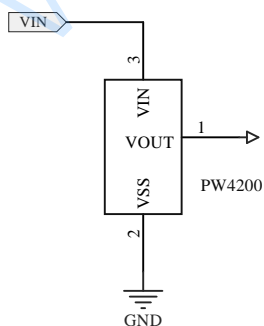
产品特点

- 高精度：±2%
- 低功耗：2.0μA (Vin=1.5V)
- 检测电压范围：1.0V~6.0V, 100mV 步进
- 工作电压范围：0.7V~8.0V
- 检测电压温度特性：±100ppm(typ.)
- CMOS 输出 或 Open Drain 输出
- 采用 SOT23-3L 封装

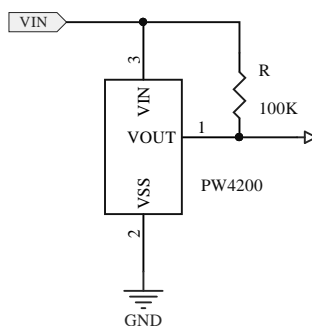
用途

- 微处理器复位电路
- 存储器电池备份电路
- 上电复位电路
- 供电失效检测
- 系统电池寿命和充电电压监视。
- 窗比较器
- 波形锐化电路

典型应用

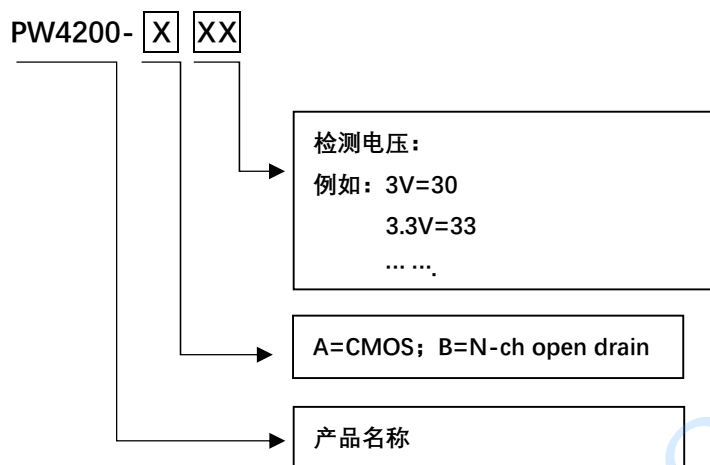


CMOS输出



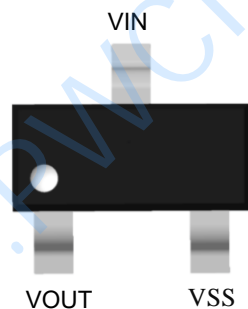
N-ch Open Drain 输出

订购信息



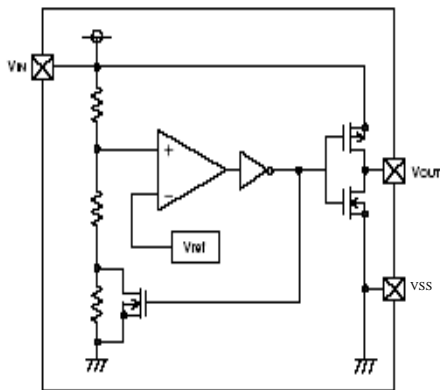
引脚配置/说明

SOT-23-3L
(TOP VIEW)

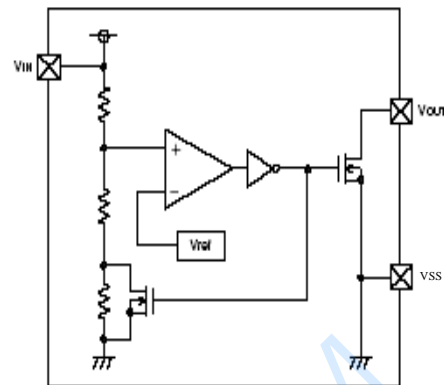


引脚号	符号	引脚说明
1	VOUT	检测输出端
2	VSS	接地端
3	VIN	电源输入端

功能框图



CMOS 输出



N-ch Open Drain 输出

绝对最大额定值 (Ta=25°C)

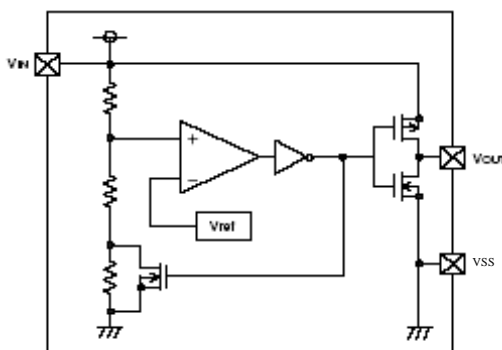
参数	符号	值	单位
输入电压	Vin	8	V
输出电流	Iout	50	mA
输出电压	N-ch	VOUT	Vss-0.3 ~ 8
	CMOS		Vss-0.3 ~ Vin+0.3
功耗	Pd	150	mW
工作温度	Topr	-40 ~ +85	°C
贮存温度	Tstg	-40 ~ +125	°C

电气特性

(VDF (T) = 1.0 to 6.0V ± 2% Ta=25°C)

参数	符号	条件	最小	典型	最大	单位	测试电路
检测电压	VDF		VDF x0.98	VDF	VDF x1.02	V	1
迟滞电压	VHYS			VDF x0.05		V	1
供给电流	Iss	Vin=1.0V		2.0	2.2	uA	2
		=1.5V		2.0	2.4		
		=2.0V		2.0	2.8		
		=3.0V		2.0	3.1		
		=4.0V		2.0	3.3		
		=5.0V		2.0	3.7		
工作电压	Vin	VDF=1.0 ~ 6.0V	0.7		8	V	1
输出电流	Iout	Nch Vds=0.5V	Vin=1.0V	1.0	2.2	mA	3
			Vin=2.0V	3.0	7.7		
			Vin=3.0V	5.0	10.1		
			Vin=4.0V	6.0	11.5		
			Vin=5.0V	7.0	13.0		
		Pch vds=2.1 vin=8.0		-10	-2		4
温度特性		-40 ~ +85		± 100		ppm/	

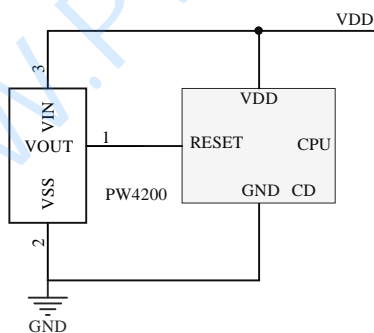
工作原理



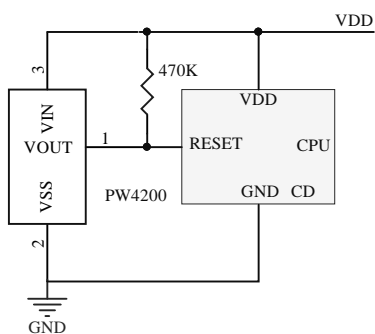
- V_{IN} 高于 V_{DF} , 输出为高。
- V_{IN} 电压低于 V_{DF} , V_{OUT} 输出为 V_{SS} 。
- 随着 V_{IN} 的降低, 若 V_{IN} 处在 IC 最小工作电压以下就会导致输出不稳定, 在输出被上拉的情况下, 输出电平将跟随 V_{IN} 。
- V_{IN} 降到 V_{SS} , 输出为 V_{SS} 。
- V_{IN} 上升, 但低于最小工作电压, 输出电平跟随 V_{IN} 。
- V_{IN} 大于 V_{DR} , 输出为高电平。

应用电路实例

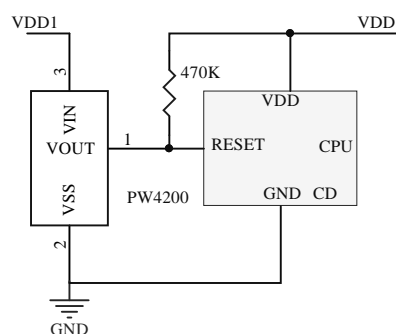
微处理器复位电路



输入电压等于 CPU 输入电压 (CMOS 输出)



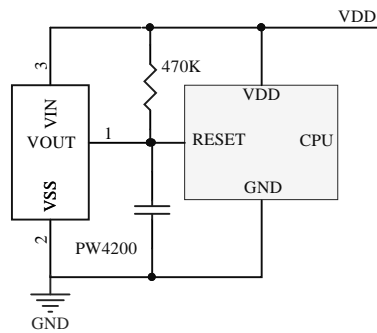
输入电压等于 CPU 输入电压 (N-ch 漏极开路输出)



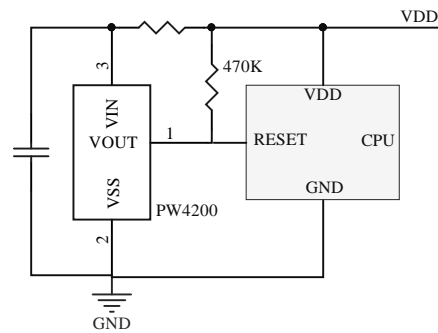
输入电压不等于 CPU 输入电压 (N-ch 漏极开路输出)



上电复位电路

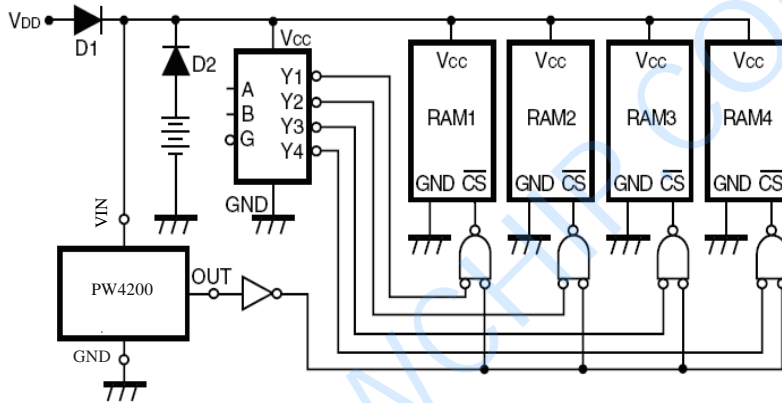


N-ch 漏极开路输出

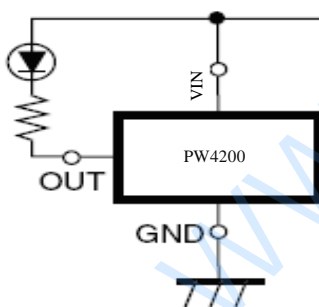


N-ch 漏极开路输出

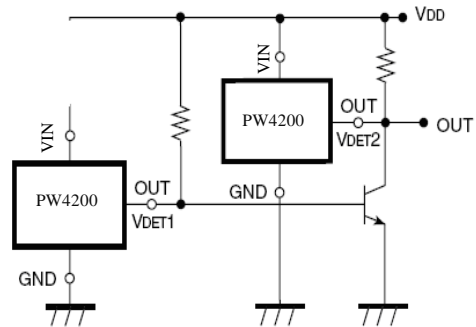
存储器电池备份电路



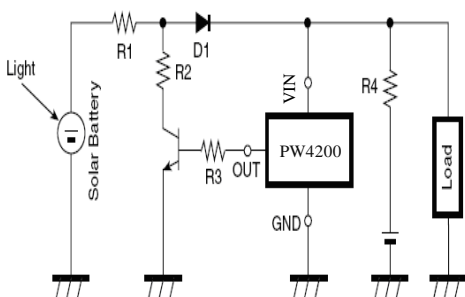
供电失效检测电路



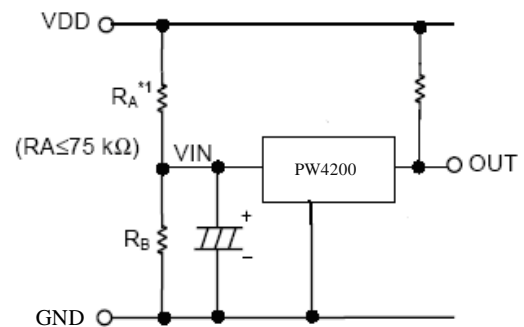
窗比较电路



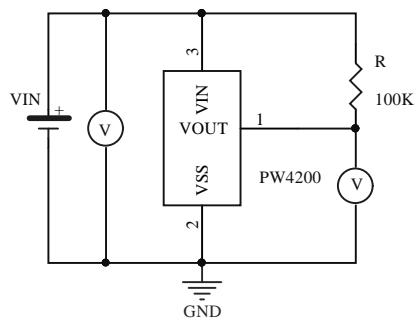
过充电保护电路



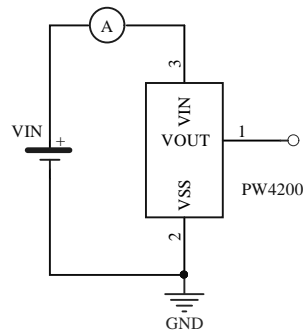
检测电压调整电路



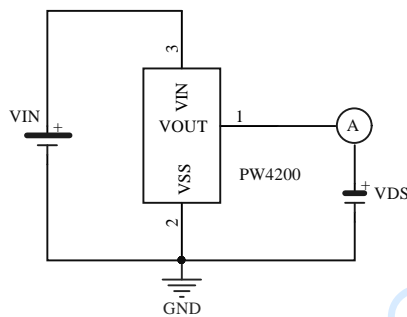
测试电路



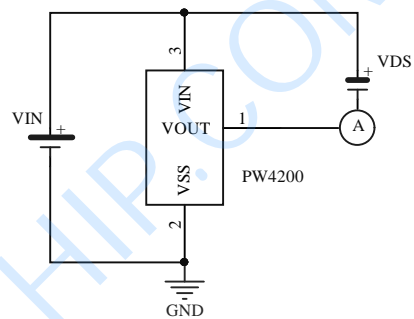
电路1



电路2

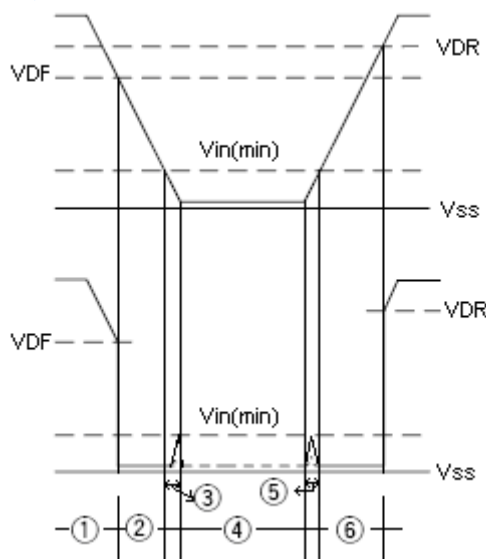


电路3



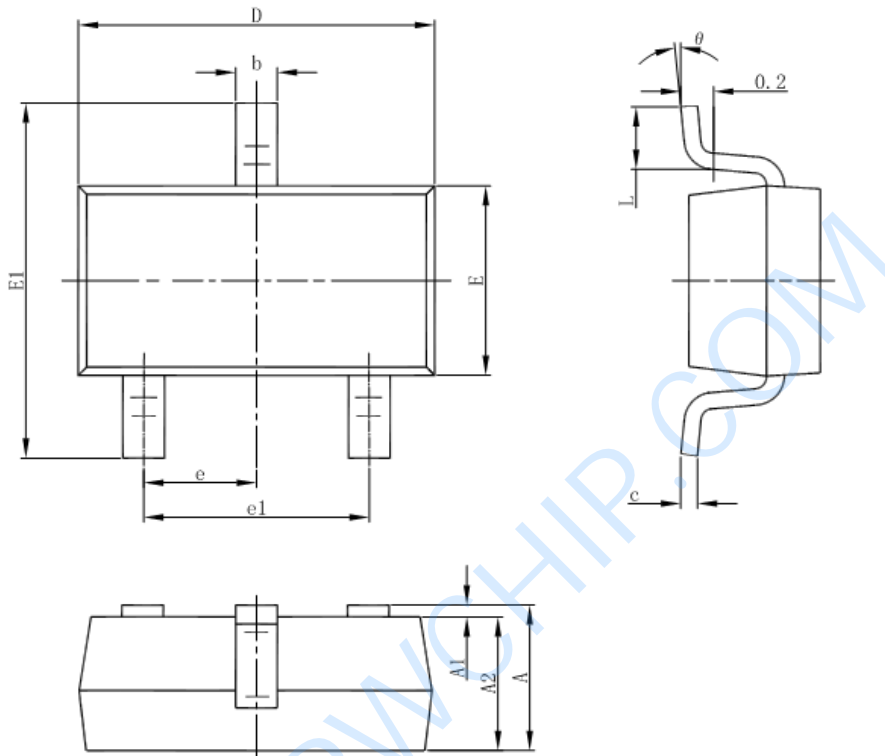
电路4

工作时序图



封装信息

SOT23-3L



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°



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