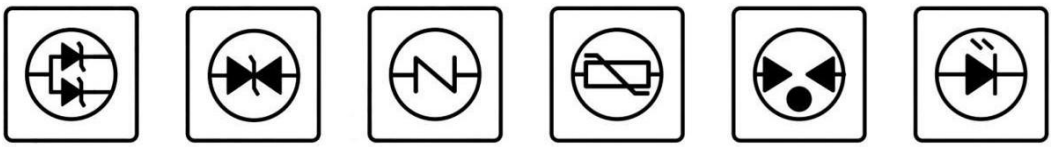
MSKSEMI 美森科
SEMICONDUCTOR



MSXC61Cxx

Product specification

概述

MSXC61Cxx 系列芯片是采用 CMOS 工艺 制造的高精度、低功耗的电压检测器。芯片由基准电压产生器、电压取样电路、比 较器及输出单元构成；可提供 NMOS 开漏和 CMOS 两种输出，用于 1.0V~4.5V 的电源电压的检测（步进 25mV），可为大多数微处理器及数字系统电源提供电压检测。

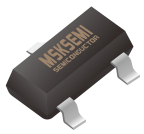
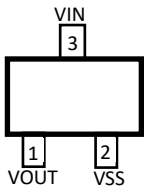
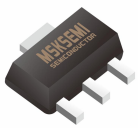
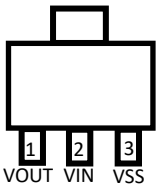
用途

- 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
- 系统电池寿命及充电电压监测

特点

- 高精度：±2%
- 低功耗：1uA
- 工作电压：0.95V~7V
- 检测范围：1.0V~4.5V 25mV 步进
- 输出形式：NMOS 开漏或 CMOS 输出
- 封装：SOT23-3 SOT89-3

引脚描述和标记

SOT-23-3	引脚说明
	
SOT-89-3	**引脚说明**
	

引脚号 SOT-23-3	引脚号 SOT-89-3	符号	引脚说明
1	1	VOUT	输出端
2	3	VSS	地
3	2	VIN	输入端

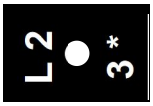
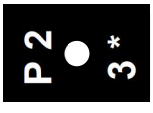
订单信息

MS X C 6 1 C ① ② ③

编号	表示	符号	描述
①	输出方式	C	CMOS 输出
		N	NMOS 开漏
② ③	检测电压	10~45	e.g.,2.5V→② ： 2 ， ③ ： 5
			e.g.,3.8V→② ： 3 ， ③ ： 8

型号	封装	检测电压	丝印
MSXC61CN1202MR	SOT-23-3	1.2V	L23*
MSXC61CN1302MR	SOT-23-3	1.3V	L33*
MSXC61CN1502MR	SOT-23-3	1.5V	L53*
MSXC61CN1802MR	SOT-23-3	1.8V	L83*
MSXC61CN2002MR	SOT-23-3	2.0V	M03*
MSXC61CN2202MR	SOT-23-3	2.2V	M23*
MSXC61CN2403MR	SOT-23-3	2.4V	M43*
MSXC61CN2502MR	SOT-23-3	2.5V	M53*
MSXC61CN2702MR	SOT-23-3	2.7V	M73*
MSXC61CN3002MR	SOT-23-3	3.0V	N03*
MSXC61CN3302MR	SOT-23-3	3.3V	N33*
MSXC61CN3602MR	SOT-23-3	3.6V	N63*
MSXC61CN4202MR	SOT-23-3	4.2V	P23*

型号	封装	检测电压	丝印
MSXC61CC1202MR	SOT-23-3	1.2V	B23*
MSXC61CC1302MR	SOT-23-3	1.3V	B33*
MSXC61CC1502MR	SOT-23-3	1.5V	B53*
MSXC61CC1802MR	SOT-23-3	1.8V	B83*
MSXC61CC2002MR	SOT-23-3	2.0V	C03*
MSXC61CC2202MR	SOT-23-3	2.2V	C23*
MSXC61CC2402MR	SOT-23-3	2.4V	C43*
MSXC61CC2502MR	SOT-23-3	2.5V	C53*
MSXC61CC2702MR	SOT-23-3	2.7V	C73*
MSXC61CC3002MR	SOT-23-3	3.0V	D03*
MSXC61CC3302MR	SOT-23-3	3.3V	D33*
MSXC61CC3602MR	SOT-23-3	3.6V	D63*
MSXC61CC4202MR	SOT-23-3	4.2V	E23*

型号	封装	检测电压	丝印
MSXC61CN1202PR	SOT-89-3	1.2V	
MSXC61CN1302PR	SOT-89-3	1.3V	
MSXC61CN1502PR	SOT-89-3	1.5V	
MSXC61CN1802PR	SOT-89-3	1.8V	
MSXC61CN2002PR	SOT-89-3	2.0V	
MSXC61CN2202PR	SOT-89-3	2.2V	
MSXC61CN2403PR	SOT-89-3	2.4V	
MSXC61CN2502PR	SOT-89-3	2.5V	
MSXC61CN2702PR	SOT-89-3	2.7V	
MSXC61CN3002PR	SOT-89-3	3.0V	
MSXC61CN3302PR	SOT-89-3	3.3V	
MSXC61CN3602PR	SOT-89-3	3.6V	
MSXC61CN4202PR	SOT-89-3	4.2V	

绝对最大值

参数		符号	最大值	单位
输入电压		V_{IN}	10	V
输出电流		I_{OUT}	50	mA
输出电压	CMOS	V_{OUT}	VSS-0.3~VIN+0.3	V
	NMOS		VSS-0.3~9	
功耗		Pd	250	mW
工作温度		Topr	-40~85	℃
存储温度		Tstg	-40~125	℃

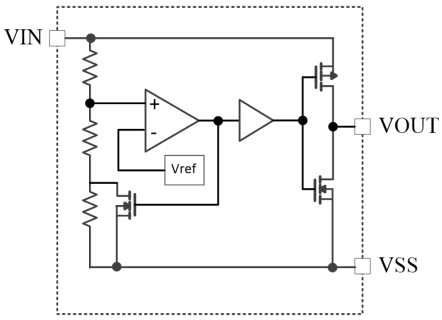
注意：绝对最大值是指产品在任何情况下超过此范围工作会造成物理损伤，建议不许超过此范围

电气特性

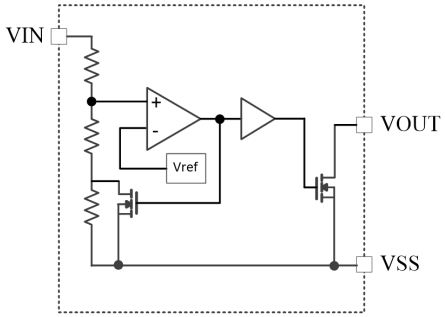
参数	符号	测试条件		最小值	典型值	最大值	单位
检测电压	VDF①			VDF*0.98	VDF	VDF*1.02	V
迟滞范围	VHYS				VDF*0.05		V
输入电流	Iss	VIN=1.5V		0.95		1.0	uA
		VIN=2V		0.9		1.5	
		VIN=3V		1.0		1.8	
		VIN=4V		1.2		2.0	
		VIN=5V		1.4		2.2	
工作电压	VIN	VDF=1~4.5V		0.7		7	V
输出电流	I_{OUT}	NCH VDS=0.5V	VIN=1.5V		4		mA
			VIN=2V		8		
			VIN=3V		13		
			VIN=4V		17		
			VIN=5V		21		
		CMOS PCH VDS=2.1VVIN=6V			-8		
响应时间	T_{PLH}					200	us

①VDF：检测电压点

功能框图



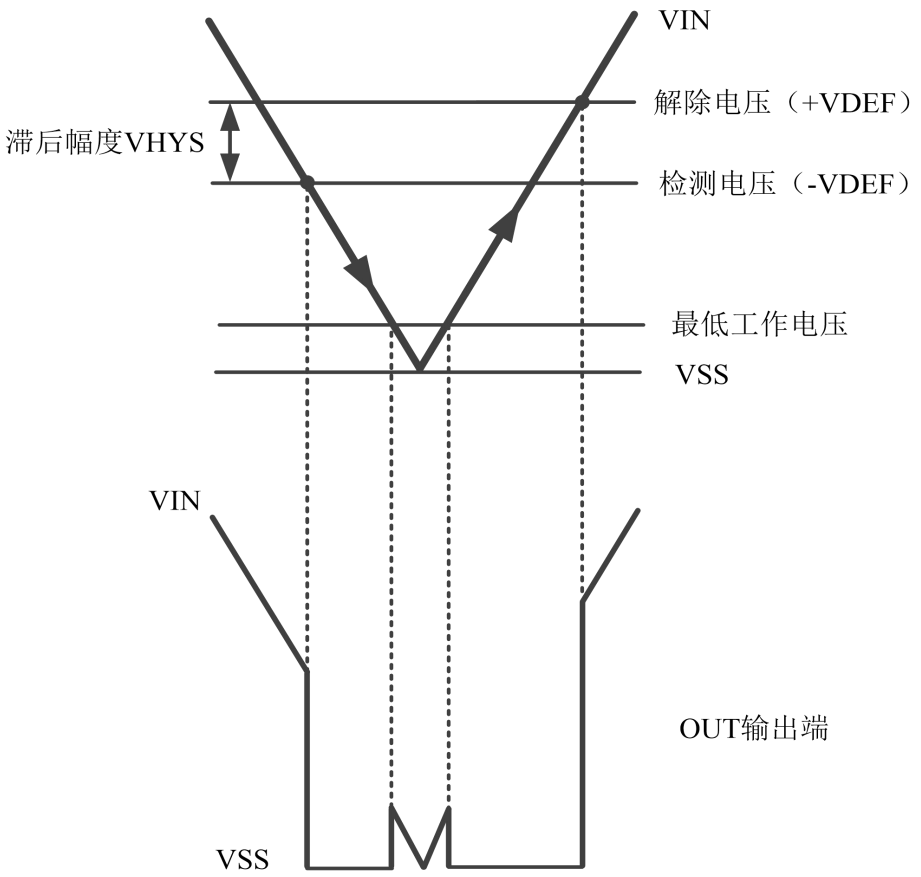
CMOS output



Nch open Drain output

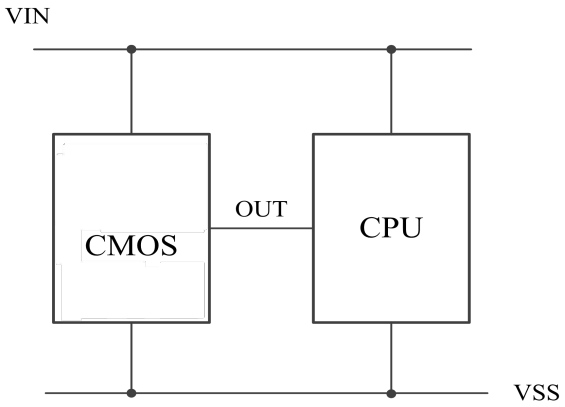
工作时序图

1. 输入电压 VIN>+VDEF 时，输出电压 VOUT=VIN
2. 输入电压下降到 VIN<-VDEF 时，输出电压 VOUT=0
3. 输入电压 VIN 继续下降、低于最小工作电压 V_{MIN} 时，输出不稳定
4. 输入电压 VIN 上升、但仍小于最小工作电压 V_{MIN} 时，输出不稳定
5. 输入电压 VIN 上升，VIN>+VDEF 时，输出电压 VOUT=VIN

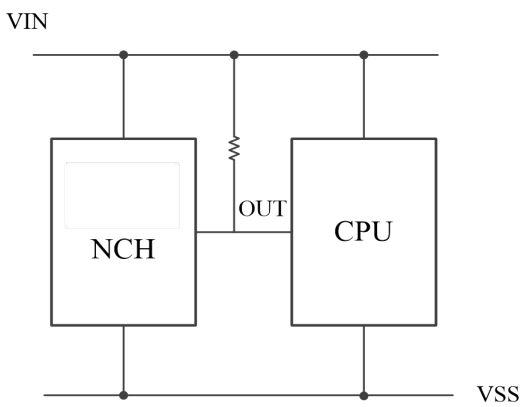


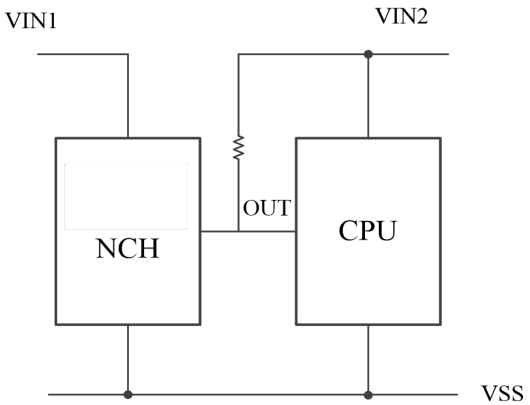
应用电路

1. CMOS 输出



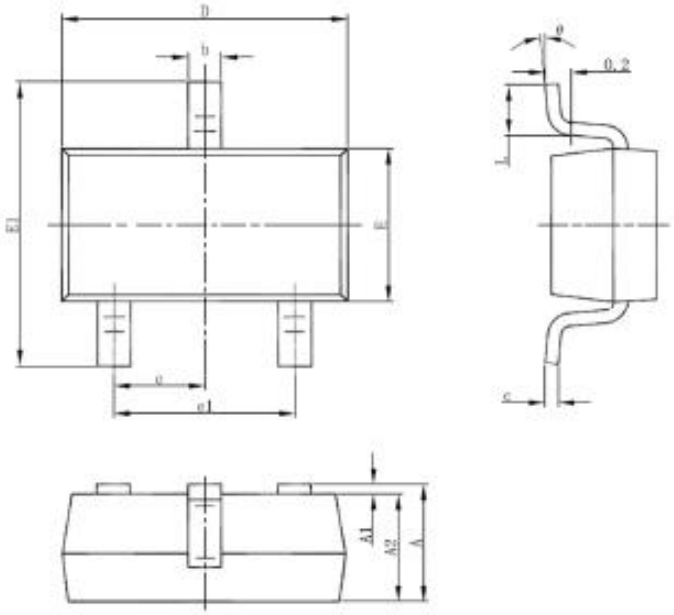
2. NMOS 开漏输出





封装信息

SOT23-3 封装

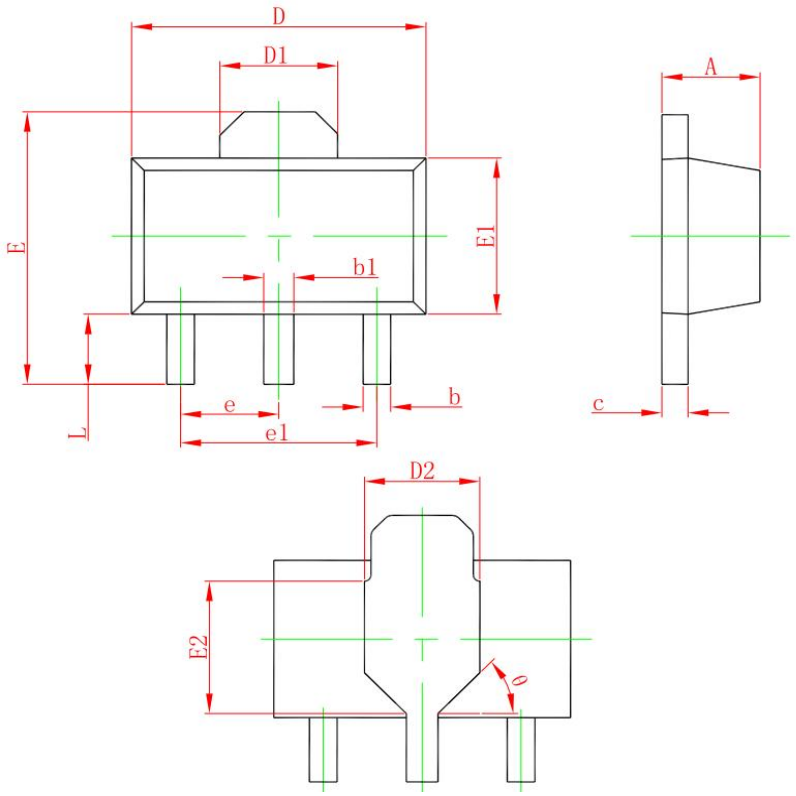


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950 BSC		0.037 BSC	
e1	1.900 BSC		0.075 BSC	
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

包装信息

型号	封装	包装
MSXC61Cxx	SOT-23-3	3000PCS

SOT89-3 封装



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.380	0.580	0.015	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550REF.		0.061REF.	
D2	1.750REF.		0.069REF.	
E	3.940	4.250	0.155	0.167
E1	2.300	2.600	0.091	0.102
E2	1.900REF.		0.075REF.	
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047
θ	45°		45°	

包装信息

型号	封装	包装
MSXC61Cxx	SOT-89-3	1000PCS

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