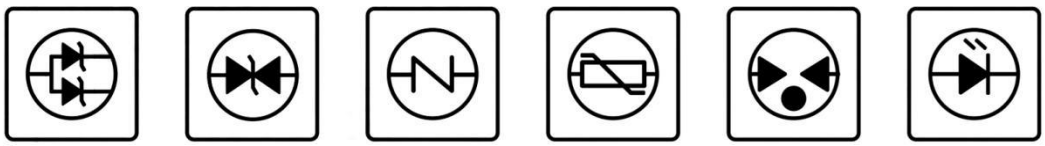
MSKSEMI
SEMICONDUCTOR



Product data sheet

产品简介

MAX811 系列是一款具有电压检测功能的微处理器复位芯片,它带有使能控制端，用于监控微控制器或其他逻辑系统的电源电压。

它可以在上电掉电和节电情况下， 或在电源电压低于预设的检测电压 V_{th} 时，向系统提供复位信号。同时， 在上电或电源电压恢复到高于预设的检测电压 V_{th} 时，或使能$\overline{MR}$电压由低电平变为高电平时，$\overline{VRESET}$输出将延时 T_{rp} 时间后输出变为高电平。

MAX811 系列芯片当输入电压低于检测电压 V_{th} 时，$\overline{VRESET}$输出为低电平；当使能控制端$\overline{MR}$电压为低电平时，$\overline{VRESET}$输出也为低电平。应用简单，无需外部器件。

产品特点

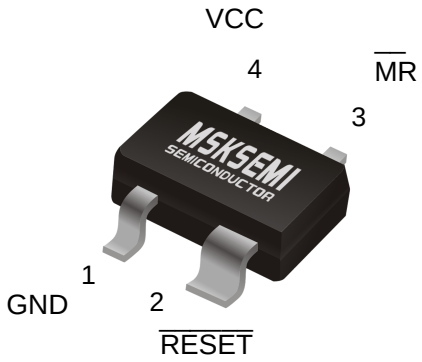
- 低功耗：2uA（典型值）@$V_{MR}=V_{CC}$
- 宽工作电压范围： 1V~6.0V
- 具有 V_{CC} 瞬态抗干扰
- 应用简单，无需外部元件
- 内置复位延时时间 500ms（典型值）
- 高精度复位电压值：±2.5%
- 具有使能控制端$\overline{MR}$，低电平有效
- 小体积封装： SOT143

产品用途

- 电池供电设备
- 掉电检测器
- 电脑、 微机处理器
- 非易失性 RAM 信号存储保护器
- 临界 MP 电源监控
- 嵌入式系统

封装形式和管脚定义功能

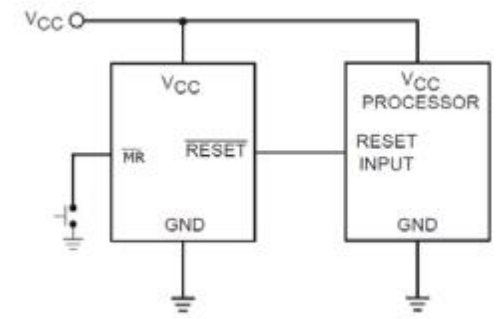
管脚序号 SOT143	管脚定义	功能说明
1	GND	电源负极端
2	$\overline{RESET}$	复位输出端
3	$\overline{MR}$	使能控制端
4		电源正极端



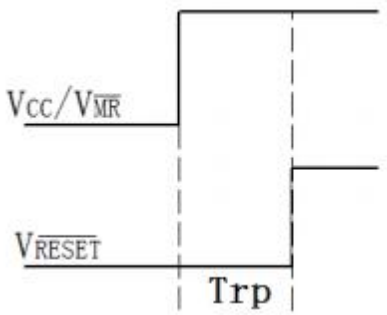
型号选择

名称	P/N	最高输入电压 V_{CC} (V)	复位电压 V_{th} (V)	V_{th} 容差	封装形式
MAX811* (*=VTH)	MAX 811L	6.0	4.63	±2.5%	SOT143
	MAX 811M	6.0	4.38	±2.5%	
	MAX 811J	6.0	4.00	±2.5%	
	MAX 811T	6.0	3.08	±2.5%	
	MAX 811S	6.0	2.93	±2.5%	
	MAX 811R	6.0	2.63	+2.5%	

应用电路



上电复位时间



极限参数

项目	符号	说明	极限值	单位
电压	V_{CC}	输入电压	6.5	V
	V_{RESET}	复位输出电压	-0.3~ V_{CC}+0.3	V
功耗	PD	SOT143	200	mW
温度	T_A	工作温度范围	-20—70	℃
	T_S	存储温度范围	-50— 125	
	T_W	焊接温度	260	℃,10s

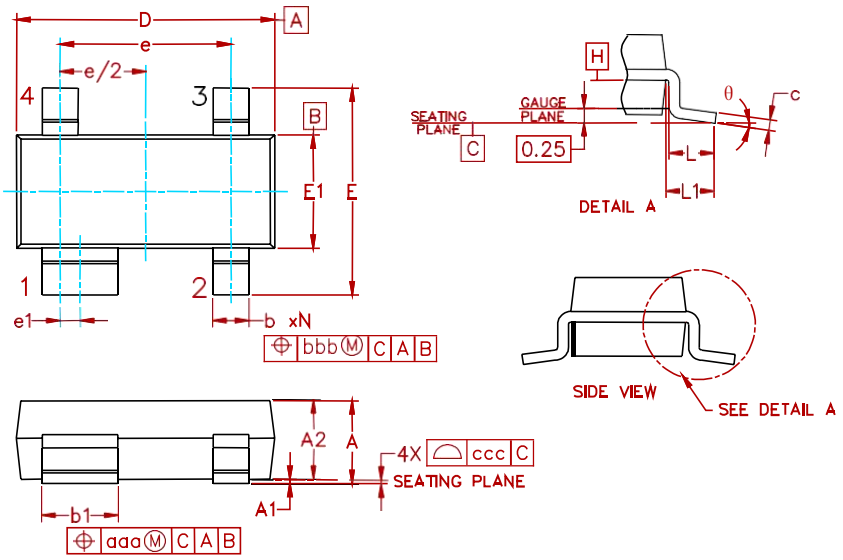
电学特性

MAX811*

(Ta=25℃，除非特别指定)

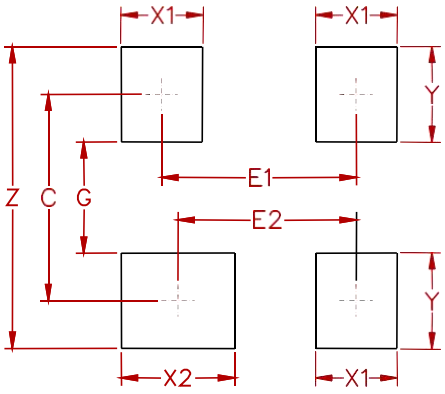
符号	参数	测试条件		最小	典型	最大	单位
V_{CC}	工作电压			1.0	-	6.0	V
V_{th}	输入检测电压	$V_{CC}=V_{th}$ for V_{RESET}=H→L, No Load		0.975*V_{th}	V_{th}	1.025*V_{th}	V
I_{CCH}	静态电流	V_{CC}=6V, V_{MR}=VCC, No Load		1	-	5	uA
I_{CCL}	待机电流	V_{CC}=6V, V_{MR}=GND, No Load		1	-	32	uA
I_{MR}	使能拉电流	V_{CC}=6V, V_{MR}=GND, No Load		1	-	25	uA
T_{rd}	复位下降沿时间	$V_{CC}=V_{th}$ to V_{th}-100mV		-	150	-	ns
T_{rp}	输出复位时间	MAX811Z/R/S/T: $V_{CC}=V_{MR}$=0 to 3.5V or V_{MR}=0to3.5V, V_{CC}=3.5V	No Load	85	500	900	ms
		MAX811M/L: $V_{CC}=V_{MR}$=0 to 5V or V_{MR}=0 to 5V, V_{CC}=5V					
V_{OL}	输出低电压	$V_{CC}=V_{th}$min, I_{SINK}=3.2mA		-	-	0.5	V
V_{OH}	输出高电压	$V_{CC}>V_{th}$max, I_{SOURCE}=500uA		0.8V_{CC}	-	-	V
V_{MRH}	输入高电平	V_{CC}=6V, $V_{RESET}=V_{CC}$, No Load		0.7* V_{CC}	-	V_{CC}	V
V_{MRL}	输入低电平	V_{CC}=6V, V_{RESET}=GND, No Load		0	-	0.2*V_{CC}	V
tMR	使能电平最小脉宽			10	-	-	us
Δ Vth / Vth* Δ Ta	温度系数	-20℃≤Ta≤60℃		-	±200	-	ppm/℃

PACKAGE MECHANICAL DATA



Symbol	Inches			Millimeters		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.031	-	0.048	0.80	-	1.22
A1	0.000	-	0.008	0.013	-	0.15
A2	0.020	0.035	0.042	0.75	0.90	1.07
b	0.011	-	0.020	0.30	-	0.51
b1	0.029	-	0.037	0.76	-	0.94
c	0.003	-	0.008	0.08	-	0.20
D	0.110	0.114	0.120	2.80	2.90	3.04
E	0.082	0.093	0.104	2.10	2.37	2.64
E1	0.047	0.051	0.055	1.20	1.30	1.40
e	0.075			1.92 BSC		
e1	0.008			0.20 BSC		
L	0.015	0.020	0.024	0.40	0.50	0.60
L1	(0.021)			(0.54)		
N	4			4		
θ	0°	-	8°	0°	-	8°
aaa	0.006			0.15		
bbb	0.008			0.20		
ccc	0.004			0.10		

Suggested Pad Layout



REEL SPECIFICATION

P/N	PKG	QTY
MAX811	SOT-143	3000

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