

MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

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{RESET} 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{RESET} 输出为低电平;当使能控制端 \overline{MR} 电压为低电平时, \overline{RESET} 输出也为低电平。应用简单,无需外部器件。

产品特点

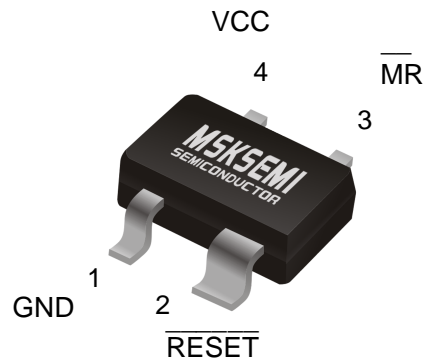
- 低功耗: 2uA (典型值) @ $V_{MR}=V_{CC}$
- 宽工作电压范围: 1V~6.0V
- 具有 V_{CC} 瞬态抗干扰
- 应用简单,无需外部元件
- 内置复位延时时间 500ms (典型值)
- 高精度复位电压值: $\pm 2.5\%$
- 具有使能控制端 \overline{MR} , 低电平有效
- 小体积封装: SOT143

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

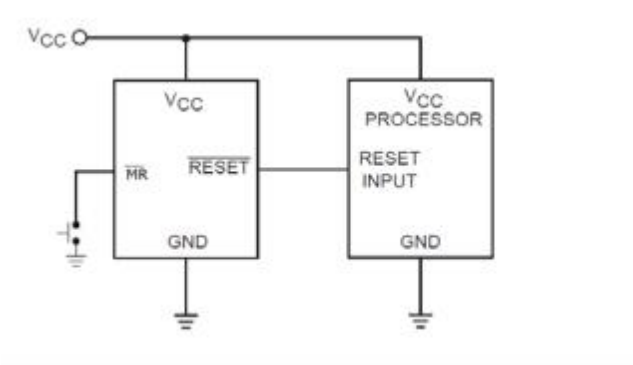
管脚序号	管脚定义	功能说明
SOT143		
1	GND	电源负极端
2	\overline{RESET}	复位输出端
3	\overline{MR}	使能控制端
4		电源正极端



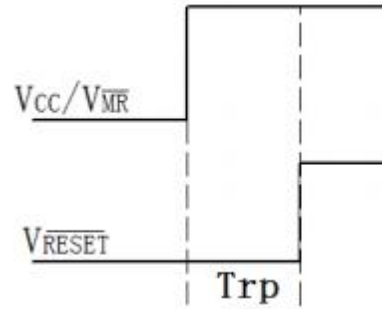
型号选择

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* (*= V_{TH})	MAX 811L	6.0	4.63	$\pm 2.5\%$	SOT143
	MAX 811M	6.0	4.38	$\pm 2.5\%$	
	MAX 811J	6.0	4.00	$\pm 2.5\%$	
	MAX 811T	6.0	3.08	$\pm 2.5\%$	
	MAX 811S	6.0	2.93	$\pm 2.5\%$	
	MAX 811R	6.0	2.63	$\pm 2.5\%$	

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	°C
	T _S	存储温度范围	-50—125	
	T _W	焊接温度	260	°C,10s

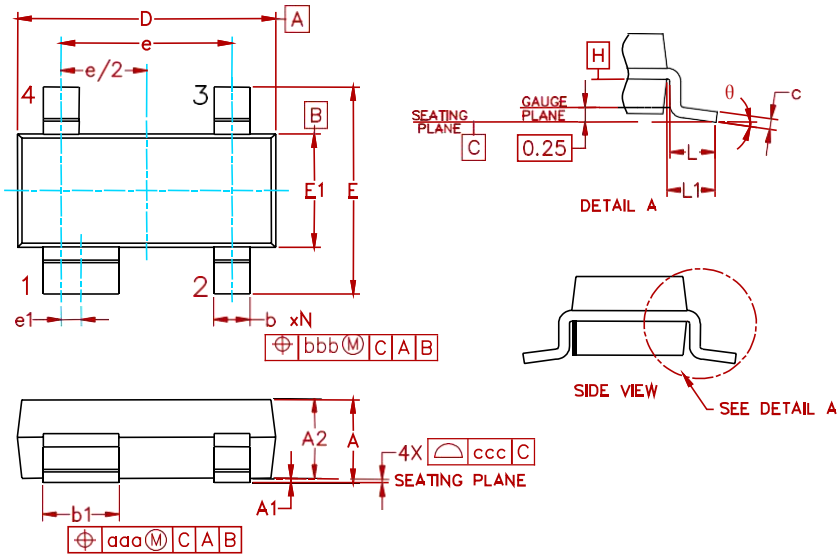
电学特性

MAX811*

(T_a=25°C, 除非特别指定)

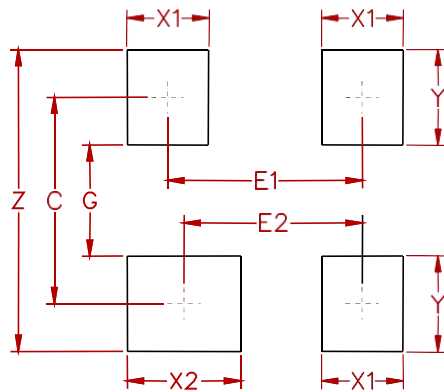
符号	参数	测试条件	最小	典型	最大	单位
V _{CC}	工作电压		1.0	-	6.0	V
V _{th}	输入检测电压	V _{CC} =V _{th} for V _{RESET} =H→L, No Load	0.975*V _{th}	V _{th}	1.025*V _{th}	V
I _{CCH}	静态电流	V _{CC} =6V, V _{MR} =V _{CC} , No Load	1	-	5	uA
I _{CCL}	待机电流	V _{CC} =6V, V _{MR} =GND, No Load	1	-	32	uA
I _{MR}	使能拉电流	V _{CC} =6V, V _{MR} =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} =0 to 3.5V, V _{CC} =3.5V MAX811M/L: V _{CC} =V _{MR} =0 to 5V or V _{MR} =0 to 5V, V _{CC} =5V No Load	85	500	900	ms
V _{OL}	输出低电压	V _{CC} =V _{thmin} , I _{SINK} =3.2mA	-	-	0.5	V
V _{OH}	输出高电压	V _{CC} >V _{thmax} , 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
t _{MR}	使能电平最小脉宽		10	-	-	us
Δ V _{th} V _{th} * Δ T _a	温度系数	-20°C ≤ T _a ≤ 60°C	-	±200	-	ppm/ °C

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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