

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

MS5108E23E-XX

产品手册

概述

MS5108E23E-XX 系列是高纹波抑制率、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 (80 μ A Typ.), 它们能在输入、输出电压差极小的情况下提 500mA 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有用 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。

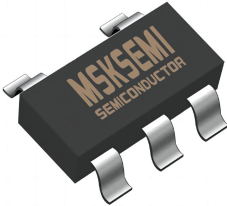
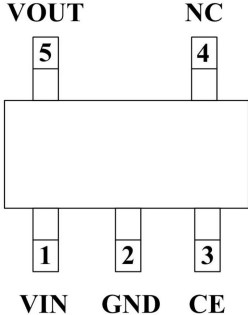
特点

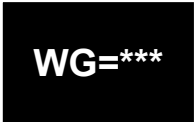
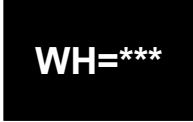
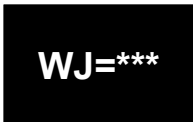
- 输出范围：1 . 2V-3. 3V
- 500mA 输出电流
- 高电源抑制比：75 分贝 1 千赫
- 极低的静态偏置电流：80uA （典型）
- 在关机模式下小于 1 μ A
- 交界处的温度运作为-40℃至+85℃

应用范围

- CDMA/GSM 移动电话
- PDAS/MP3
- WLAN 和蓝牙设备
- 无绳电话
- 电池供电系统

引脚描述和丝印

封装	引脚分布
	
SOT-23-5	

MS5108E23E-12	MS5108E23E-15	MS5108E23E-18	MS5108E23E-25
			
MS5108E23E-28	MS5108E23E-30	MS5108E23E-33	
			

引脚描述

管脚号	管脚名	描述
1	VIN	电源端
2	GND	接地端
3	CE	即EN, 使能端
4	NC	悬空
5	VOUT	输出端

订购信息

型号	封装	最小包装
MS5108E23E-12	SOT-23-5	3000
MS5108E23E-15	SOT-23-5	3000
MS5108E23E-18	SOT-23-5	3000
MS5108E23E-25	SOT-23-5	3000
MS5108E23E-28	SOT-23-5	3000
MS5108E23E-30	SOT-23-5	3000
MS5108E23E-33	SOT-23-5	3000

封装耗散等级

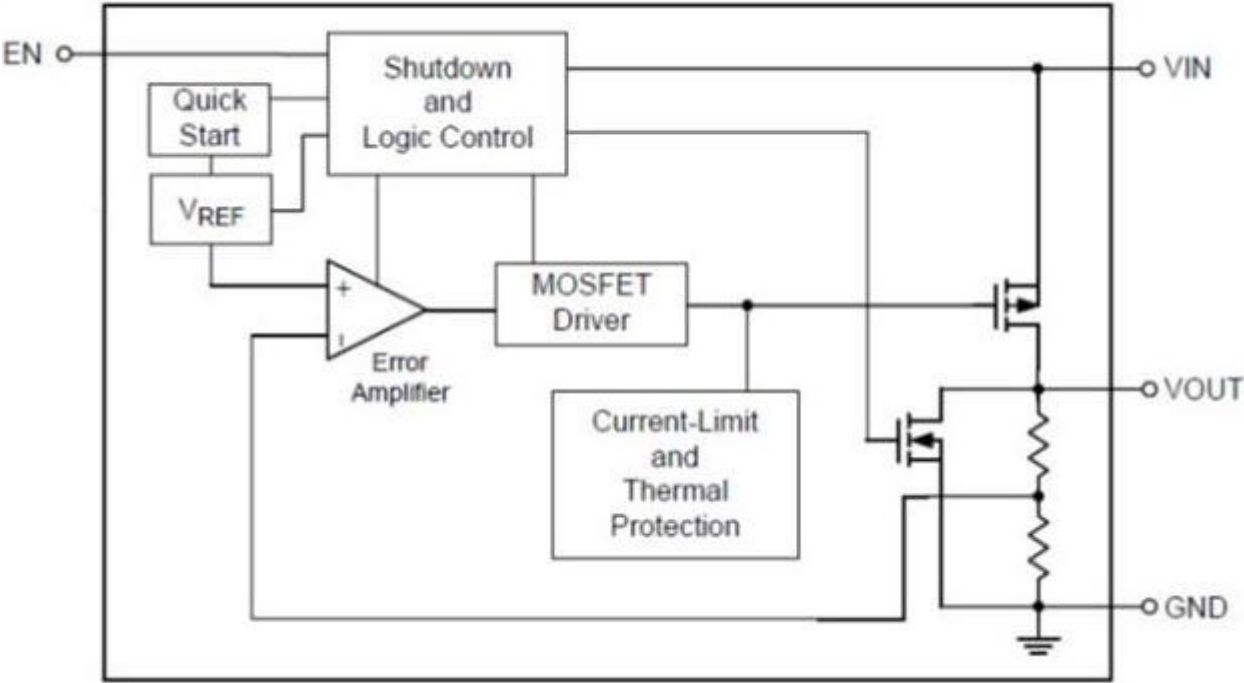
封装	Pd (mW)
SOT-23-5	300

极限参数

参数	符号	极限值	单位
Vin脚电压	ViN	7	V
Vout脚电流	Iout	600	mA
Vout脚电压	Vout	Vss-0.3~Vout+0.3	V
工作温度	Topr	-40~+85	℃
存贮温度	Tstg	-55~+125	℃
焊接温度和时间	Tsolder	260℃, 10s	℃

注释：超出“绝对极限参数”可能损毁器件。推荐工作范围内器件可以工作，但不保证其特性。长时间运行在绝对极限参 数条件下可能会影响器件的可靠性。

结构框图



主要参数及工作特性

(Vin=Vout+1V, Cin=Cout=1u, Ta=25℃ 。 除特别指定

特性	符号	条件	最小值	典型值	最大值	单位
输出电压	VouT (E) (Note 2)	IouT=40mA, Vin=Vout+1V	X0.98	Vour (T) (Note 1)	X1.02	V
输入电压	ViN				7.0	V
最大输出电流	IouTmax	Vin=Vout+1V		500		mA
CE使能电压	VcE (Note3)	Vin=Vout+1V		1.1		V
负载特性	ΔVouT	Vin=Vout+1V, 1mA≤IouT≤100mA		50		mV
压差 (Note 3)	Vdif1	IouT=100mA		100		mV
	Vdif2	IouT =200mA		300		mV
静态电流	Iss	ViN=Vout+1V		80		μ A
关断电流	ICEL	Vce=0V		1		μ A
电源电压调整率	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$	IouT =40mA Vout+1V≤ViN≤8V		0.03		%/V
输出噪声	en	IouT =40mA, 300Hz~50kHz		50		uVrms
纹波抑制比	PSRR	Vin=[Vout+1]V +1Vp-pAC IouT =40mA, f=1kHz		75		dB

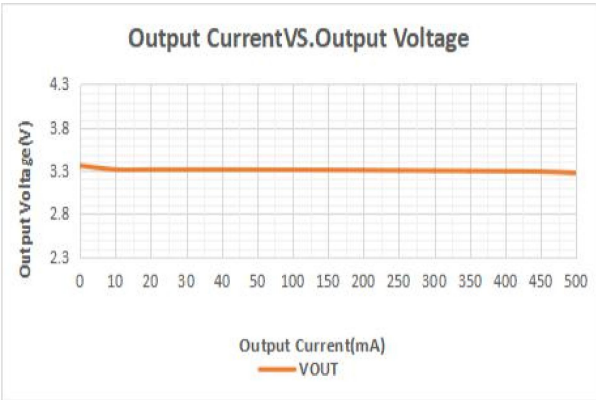
注释： 1、 VOUT (T) ：规定的输出电压

2、 VOUT (E) ：有效输出电压 (即当 IOUT 保持一定数值，VIN = (VOUT (T)+1.0V)时的输出电压。

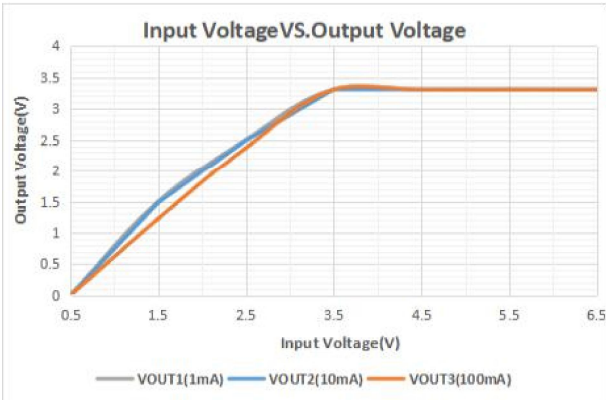
3、 VCE ：考虑到高低温和工艺偏差，建议客户将 CE PIN 的使能电压设置为 1.1V，保留有余量。
芯片内部 CE PIN 对 GND PIN 之间有内置 1MΩ电阻。

3、 Vdif ： VIN1 -VOUT (E)'
VIN1: 逐渐减小输入电压，当输出电压降为 VOUT (E)98%时的输入电压。
VOUT (E)'= VOUT (E)X98%。

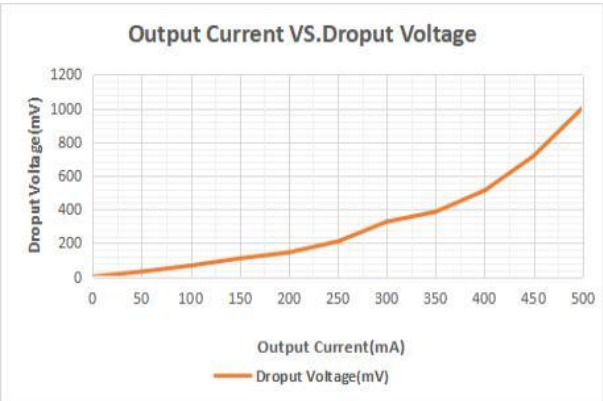
特性曲线



输出电流与输出电压关系

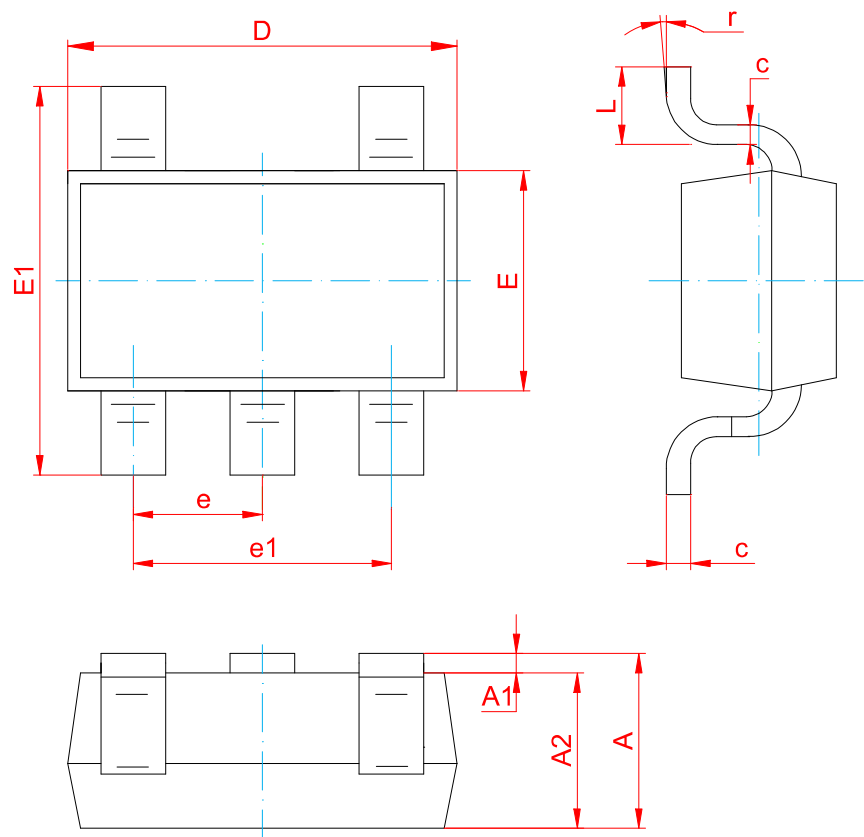


输入电压与输出电压关系



输出电流与压差的关系

封装说明



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
r	0°	8°	0°	8°

Attention

■ Any and all MSKSEMI Semiconductor products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your MSKSEMI Semiconductor representative nearest you before using any MSKSEMI Semiconductor products described or contained herein in such applications.

■ MSKSEMI Semiconductor assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specification of any and all MSKSEMI Semiconductor products described or contained herein.

■ Specifications of any and all MSKSEMI Semiconductor products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.

■ MSKSEMI Semiconductor strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.

■ In the event that any or all MSKSEMI Semiconductor products (including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.

■ No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of MSKSEMI Semiconductor.

■ Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. MSKSEMI Semiconductor believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringement of intellectual property rights or other rights of third parties.

■ Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the MSKSEMI Semiconductor product that you intend to use.