

MSKSEMI 美森科

SEMICONDUCTOR



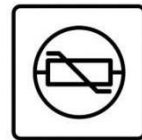
ESD



TVS



TSS



MOV



GDT



PLED

L78LXXACD13TR-MS

产品手册

产品简介

L78LXXACD13TR-MS 是一款采用双极性工艺制造的高压输入稳压器，最高输入电压可达 30V，输出电压范围为 5V~15V。具有内部过热、过载、短路保护功能等特点，广泛应用于各类消费电子电器行业。

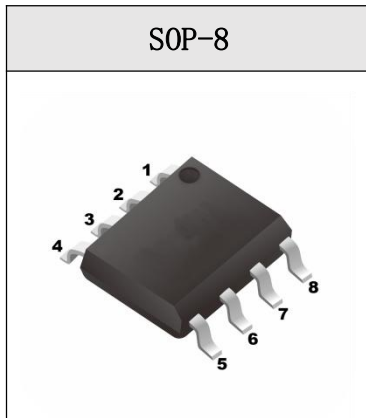
产品特点

- 高的输入电压:最高可达 30V
- 内部短路电流限制
- 输出电流可达: 100mA
- 内部热过载保护
- 无外部组件
- 封装形式: SOP-8

产品用途

- 电池充电器设备
- 各种通信设备
- 电子控制领域
- 音频视频设备
- 安防监控设备
- LED 照明

封装形式和管脚功能定义



管脚定义		功能说明
1	VOUT	输出端
2	GND	接地端
3	GND	接地端
4	NC	空脚
5	NC	空脚
6	GND	接地端
7	GND	接地端
8	VIN	输入端

型号选择

名称	型号	最高输入电压 (V)	输出电压 (V)	容差	封装形式
L78LXXACD13TR-MS	L78L05ACD13TR-MS	30	5.0	±4%	SOP-8
	L78L06ACD13TR-MS	30	6.0	±4%	
	L78L08ACD13TR-MS	30	8.0	±4%	
	L78L09ACD13TR-MS	30	9.0	±4%	

极限参数

项目	符号	参数	极限值	单位
电压	V _{IN}	最大输入电压	32	V
功耗	PD	最大功耗	internally limited	mW
温度	T _w	工作温度	-25~85	°C
	T _J	工作结温	125	°C
	T _c	存储温度	-65~150	°C

注：极限参数是指无论在任何条件下都不能超过的极限值。如果超过此极限值，将有可能造成产品劣化等物理性损伤；同时 在接近极限参数下，不能保证芯片可以正常工作。

电学特性

L78L05ACD13TR-MS (C_{IN}=0.33 μF, C_{OUT}=0.1 μF, V_{IN}=10V, I_{OUT}=40mA, T=25°C, 特殊规定除外)

符号	参数	测试条件	最小值	典型值	最大值	单位
V _{OUT}	输出电压	V _{IN} =10V, I _{OUT} =40mA	4.8	5	5.2	V
I _{PK}	输出电流	V _{IN} =10V	-	100	-	mA
ΔV _{OUT}	负载稳定度	V _{IN} =10V, 1mA ≤ I _{OUT} ≤ 40mA	-	10	50	mV
		V _{IN} =10V, 1mA ≤ I _{OUT} ≤ 100mA	-	15	75	mV
ΔV _{OUT}	输入稳定度	8.5V ≤ V _{IN} ≤ 20V, I _{OUT} =40mA	-	20	80	mV
I _Q	静态电流	V _{IN} =10V, I _{OUT} =40mA	-	3	5	mA
ΔI _Q	静态电流变化	8.5V ≤ V _{IN} ≤ 36V, I _{OUT} =0mA	-	0.2	1	mA
		V _{IN} =10V, 1mA ≤ I _{OUT} ≤ 40mA	-	0.02	0.1	mA
PSRR	纹波抑制率	f=120Hz, V _{IN} =8.5V to 16V	-	49	-	dB
V _{IN(MIN)}	最小输入电压		-	8	8.5	V
ΔV _{OUT} / ΔTa	温度系数	V _{IN} =10V, I _{OUT} =5mA, 0°C ≤ Ta ≤ 70°C	-	±0.5	-	mV/°C

电学特性

 L78L06ACD13TR-MS ($C_{IN}=0.33\mu F$, $C_{OUT}=0.1\mu F$, $V_{IN}=10V$, $I_{OUT}=40mA$, $T=25^{\circ}C$, 特殊规定除外)

符号	参数	测试条件	最小值	典型值	最大值	单位
V_{OUT}	输出电压	$V_{IN}=10V$, $I_{OUT}=40mA$	5.76	6	6.24	V
I_{PK}	输出电流	$V_{IN}=10V$	-	100	-	mA
ΔV_{OUT}	负载稳定度	$V_{IN}=10V$, $1mA \leq I_{OUT} \leq 40mA$	-	15	60	mV
		$V_{IN}=10V$, $1mA \leq I_{OUT} \leq 100mA$	-	16	80	mV
ΔV_{OUT}	输入稳定度	$8.5V \leq V_{IN} \leq 20V$, $I_{OUT}=40mA$	-	20	80	mV
I_Q	静态电流	$V_{IN}=10V$, $I_{OUT}=40mA$	-	3	5	mA
ΔI_Q	静态电流变化	$8.5V \leq V_{IN} \leq 36V$, $I_{OUT}=0mA$	-	0.2	1	mA
		$V_{IN}=10V$, $1mA \leq I_{OUT} \leq 40mA$	-	0.02	0.1	mA
PSRR	纹波抑制率	$f=120Hz$, $V_{in}=8.5V$ to $16V$	-	49	-	dB
$V_{IN(MIN)}$	最小输入电压		-	8	8.5	V
$\Delta V_{OUT} / \Delta T_a$	温度系数	$V_{IN}=10V$, $I_{OUT}=5mA$, $0^{\circ}C \leq T_a \leq 70^{\circ}C$	-	± 0.5	-	mV/ $^{\circ}C$

电学特性

 L78L08ACD13TR-MS ($C_{IN}=0.33\mu F$, $C_{OUT}=0.1\mu F$, $V_{IN}=10V$, $I_{OUT}=40mA$, $T=25^{\circ}C$, 特殊规定除外)

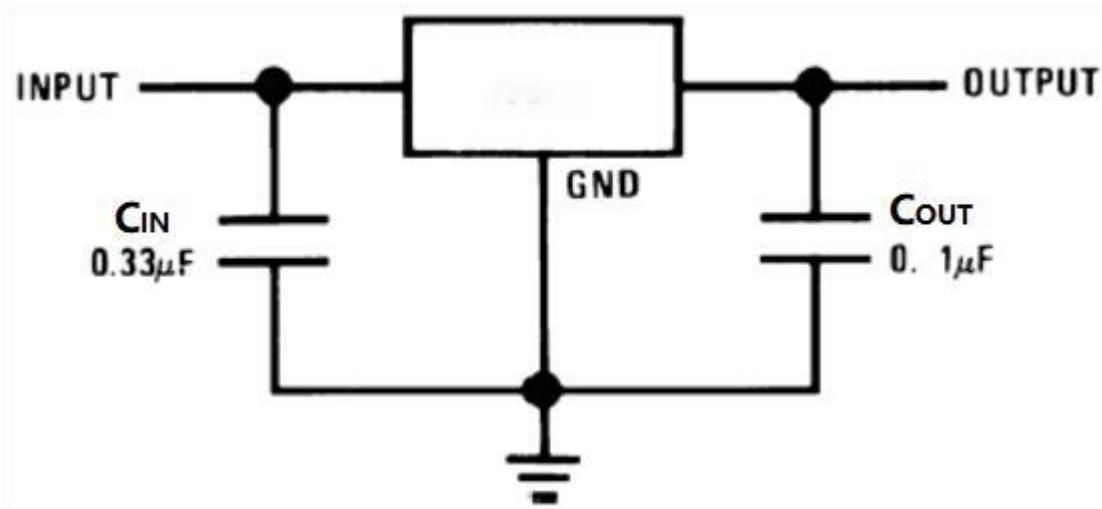
符号	参数	测试条件	最小值	典型值	最大值	单位
V_{OUT}	输出电压	$V_{IN}=10V$, $I_{OUT}=40mA$	7.68	8	8.32	V
I_{PK}	输出电流	$V_{IN}=10V$	-	100	-	mA
ΔV_{OUT}	负载稳定度	$V_{IN}=10V$, $1mA \leq I_{OUT} \leq 40mA$	-	20	65	mV
		$V_{IN}=10V$, $1mA \leq I_{OUT} \leq 100mA$	-	18	85	mV
ΔV_{OUT}	输入稳定度	$8.5V \leq V_{IN} \leq 20V$, $I_{OUT}=40mA$	-	20	90	mV
I_Q	静态电流	$V_{IN}=10V$, $I_{OUT}=40mA$	-	3	5	mA
ΔI_Q	静态电流变化	$8.5V \leq V_{IN} \leq 36V$, $I_{OUT}=0mA$	-	0.2	1	mA
		$V_{IN}=10V$, $1mA \leq I_{OUT} \leq 40mA$	-	0.02	0.1	mA
PSRR	纹波抑制率	$f=120Hz$, $V_{in}=8.5V$ to $16V$	-	49	-	dB
$V_{IN(MIN)}$	最小输入电压		-	8	8.5	V
$\Delta V_{OUT} / \Delta T_a$	温度系数	$V_{IN}=10V$, $I_{OUT}=5mA$, $0^{\circ}C \leq T_a \leq 70^{\circ}C$	-	± 0.5	-	mV/ $^{\circ}C$

电学特性

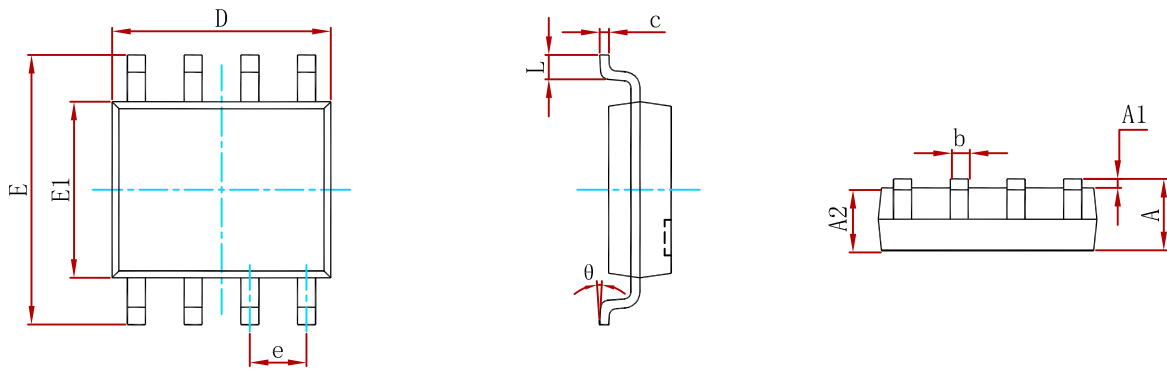
L78L09ACD13TR-MS ($C_{IN}=0.33\mu F$, $C_{OUT}=0.1\mu F$, $V_{IN}=10V$, $I_{OUT}=40mA$, $T=25^{\circ}C$, 特殊规定除外)

符号	参数	测试条件	最小值	典型值	最大值	单位
V_{OUT}	输出电压	$V_{IN}=10V, I_{OUT}=40mA$	8.64	9	9.36	V
I_{PK}	输出电流	$V_{IN}=10V$	-	100	-	mA
ΔV_{OUT}	负载稳定度	$V_{IN}=10V, 1mA \leq I_{OUT} \leq 40mA$	-	20	70	mV
		$V_{IN}=10V, 1mA \leq I_{OUT} \leq 100mA$	-	25	75	mV
ΔV_{OUT}	输入稳定度	$8.5V \leq V_{IN} \leq 20V, I_{OUT}=40mA$	-	20	80	mV
I_Q	静态电流	$V_{IN}=10V, I_{OUT}=40mA$	-	3	5	mA
ΔI_Q	静态电流变化	$8.5V \leq V_{IN} \leq 36V, I_{OUT}=0mA$	-	0.2	1	mA
		$V_{IN}=10V, 1mA \leq I_{OUT} \leq 40mA$	-	0.02	0.1	mA
PSRR	纹波抑制率	$f=120Hz, V_{in}=8.5V \text{ to } 16V$	-	49	-	dB
$V_{IN(MIN)}$	最小输入电压		-	8	8.5	V
$\Delta V_{OUT} / \Delta T_a$	温度系数	$V_{IN}=10V, I_{OUT}=5mA, 0^{\circ}C \leq T_a \leq 70^{\circ}C$	-	± 0.5	-	mV/ $^{\circ}C$

应用电路

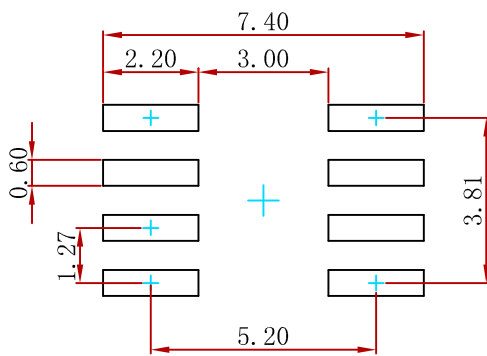


封装信息



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

焊盘布局



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

订购信息

订单型号	封装形式	包装/数量
L78LXXACD13TR-MS	SOP-8	盘装/2500pcs

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