

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

## 78LXX-MS

产品手册

## 产品简介

78LXX-MS 系列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。

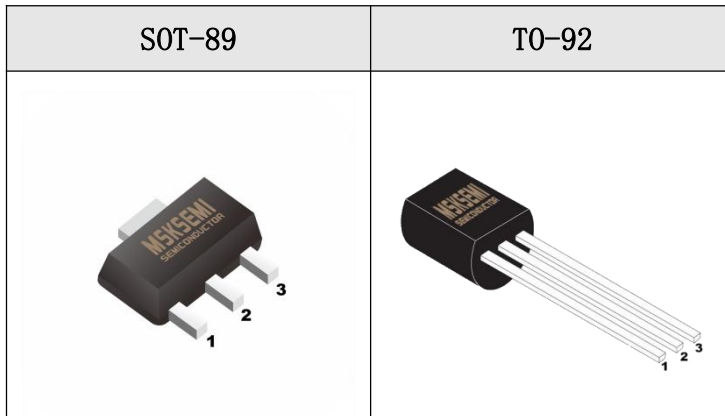
## 产品特点

- 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: T0-92、SOT-89

## 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



管脚序号		管脚定义	功能说明
T0-92	SOT-89		
1	1	VOUT	输出端
2	2	GND	接地端
3	3	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
78LXX-MS	78L05-MS	30	5.0	±4%	TO-92 SOT-89
	78L06-MS	30	6.0	±4%	
	78L08-MS	30	8.0	±4%	
	78L09-MS	30	9.0	±4%	

## 极限参数

项目	符号	参数	极限值	单位	
电压	V <sub>IN</sub>	最大输入电压	32	V	
功耗	PD	功耗	SOT-89	700	mW
			TO-92	300	
温度	T <sub>w</sub>	工作温度	0~80	°C	
	T <sub>J</sub>	工作结温	0~125	°C	
	T <sub>c</sub>	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

78L05-MS (C<sub>IN</sub>=0.33 μF, C<sub>OUT</sub>=0.1 μF, V<sub>IN</sub>=10V, I<sub>OUT</sub>=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 <sub>OUT</sub>	输出电压	V <sub>IN</sub> =10V, I <sub>OUT</sub> =40mA	4.8	5	5.2	V
I <sub>PK</sub>	输出电流	V <sub>IN</sub> =10V	-	150	-	mA
ΔV <sub>OUT</sub>	负载稳定度	V <sub>IN</sub> =10V, 1mA ≤ I <sub>OUT</sub> ≤ 40mA	-	10	50	mV
		V <sub>IN</sub> =10V, 1mA ≤ I <sub>OUT</sub> ≤ 100mA	-	15	75	mV
ΔV <sub>OUT</sub>	输入稳定度	8.5V ≤ V <sub>IN</sub> ≤ 20V, I <sub>OUT</sub> =40mA	-	20	80	mV
I <sub>Q</sub>	静态电流	V <sub>IN</sub> =10V, I <sub>OUT</sub> =40mA	-	3	5	mA
ΔI <sub>Q</sub>	静态电流变化	8.5V ≤ V <sub>IN</sub> ≤ 36V, I <sub>OUT</sub> =0mA	-	0.2	1	mA
		V <sub>IN</sub> =10V, 1mA ≤ I <sub>OUT</sub> ≤ 40mA	-	0.02	0.1	mA
PSRR	纹波抑制率	f=120Hz, V <sub>IN</sub> =8.5V to 16V	-	49	-	dB
V <sub>IN(MIN)</sub>	最小输入电压		-	8	8.5	V
ΔV <sub>OUT</sub> / ΔTa	温度系数	V <sub>IN</sub> =10V, I <sub>OUT</sub> =5mA, 0°C ≤ Ta ≤ 70°C	-	±0.5	-	mV/°C

## 电学特性

78L06-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	$V_{IN}=10V$	-	150	-	mA
$\Delta V_{OUT}$	负载稳定度	$V_{IN}=10V$ , $1mA \leq I_{OUT} \leq 40mA$	-	10	50	mV
		$V_{IN}=10V$ , $1mA \leq I_{OUT} \leq 100mA$	-	15	75	mV
$\Delta V_{OUT}$	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
$\Delta I_Q$	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	$V_{IN}=10V$ , $I_{OUT}=5mA$ , $0^{\circ}C \leq T_a \leq 70^{\circ}C$	-	$\pm 0.5$	-	mV/ $^{\circ}C$

## 电学特性

78L08-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)

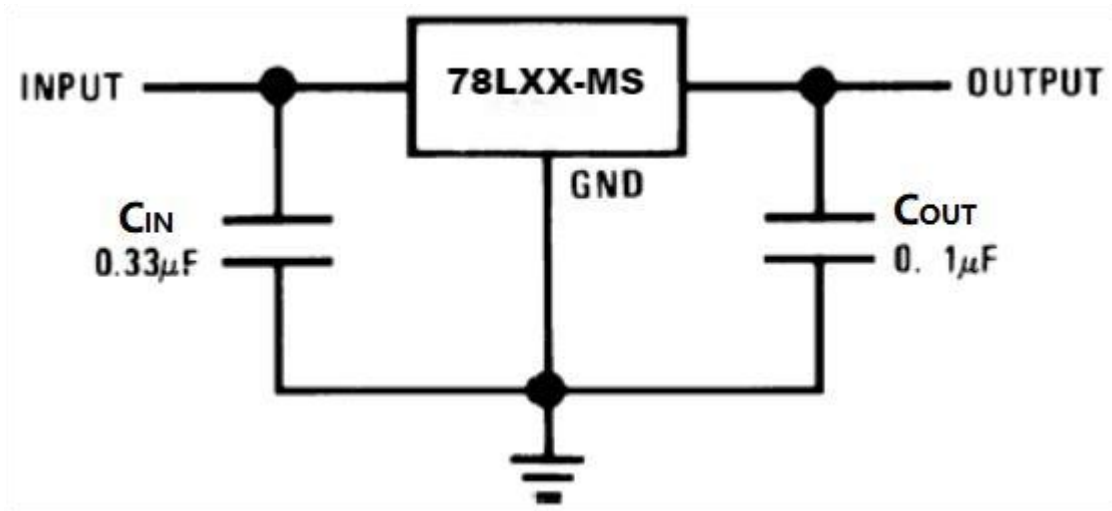
符号	参数	测试条件	最小值	典型值	最大值	单位
$V_{OUT}$	输出电压	$V_{IN}=10V$ , $I_{OUT}=40mA$	7.68	8	8.32	V
$I_{PK}$	输出电流	$V_{IN}=10V$	-	150	-	mA
$\Delta V_{OUT}$	负载稳定度	$V_{IN}=10V$ , $1mA \leq I_{OUT} \leq 40mA$	-	10	50	mV
		$V_{IN}=10V$ , $1mA \leq I_{OUT} \leq 100mA$	-	15	75	mV
$\Delta V_{OUT}$	输入稳定度	$8.5V \leq V_{IN} \leq 20V$ , $I_{OUT}=40mA$	-	20	80	mV
$I_Q$	静态电流	$V_{IN}=10V$ , $I_{OUT}=40mA$	-	3	5	mA
$\Delta I_Q$	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	$V_{IN}=10V$ , $I_{OUT}=5mA$ , $0^{\circ}C \leq T_a \leq 70^{\circ}C$	-	$\pm 0.5$	-	mV/ $^{\circ}C$

电学特性

78L09-MS ( $C_{IN}=0.33\ \mu\text{F}$ ,  $C_{OUT}=0.1\ \mu\text{F}$ ,  $V_{IN}=10\text{V}$ ,  $I_{OUT}=40\text{mA}$ ,  $T=25^\circ\text{C}$ , 特殊规定除外)

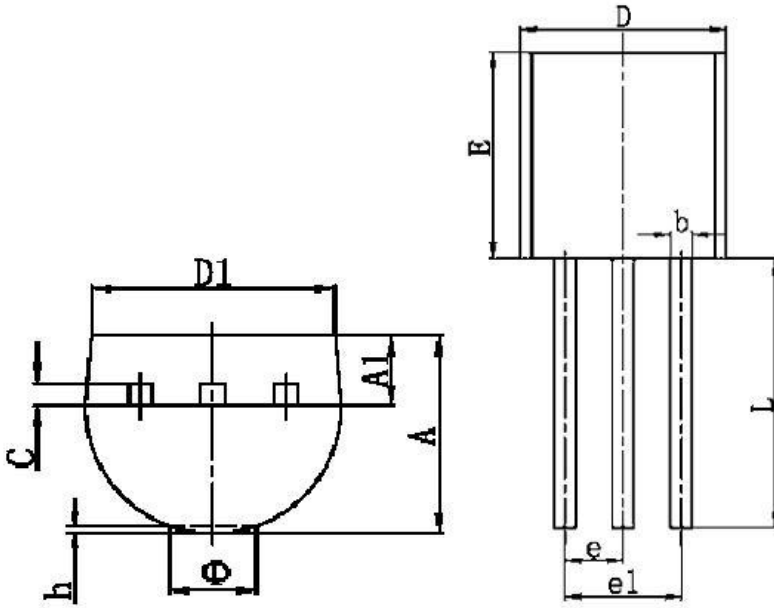
符号	参数	测试条件	最小值	典型值	最大值	单位
$V_{OUT}$	输出电压	$V_{IN}=10\text{V}$ , $I_{OUT}=40\text{mA}$	8.64	9	9.36	V
$I_{PK}$	输出电流	$V_{IN}=10\text{V}$	-	150	-	mA
$\Delta V_{OUT}$	负载稳定度	$V_{IN}=10\text{V}$ , $1\text{mA} \leq I_{OUT} \leq 40\text{mA}$	-	10	50	mV
		$V_{IN}=10\text{V}$ , $1\text{mA} \leq I_{OUT} \leq 100\text{mA}$	-	15	75	mV
$\Delta V_{OUT}$	输入稳定度	$8.5\text{V} \leq V_{IN} \leq 20\text{V}$ , $I_{OUT}=40\text{mA}$	-	20	80	mV
$I_Q$	静态电流	$V_{IN}=10\text{V}$ , $I_{OUT}=40\text{mA}$	-	3	5	mA
$\Delta I_Q$	静态电流变化	$8.5\text{V} \leq V_{IN} \leq 36\text{V}$ , $I_{OUT}=0\text{mA}$	-	0.2	1	mA
		$V_{IN}=10\text{V}$ , $1\text{mA} \leq I_{OUT} \leq 40\text{mA}$	-	0.02	0.1	mA
PSRR	纹波抑制率	$f=120\text{Hz}$ , $V_{in}=8.5\text{V to }16\text{V}$	-	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	$V_{IN}=10\text{V}$ , $I_{OUT}=5\text{mA}$ , $0^\circ\text{C} \leq T_a \leq 70^\circ\text{C}$	-	$\pm 0.5$	-	mV/ $^\circ\text{C}$

应用电路



封装信息

T0-92

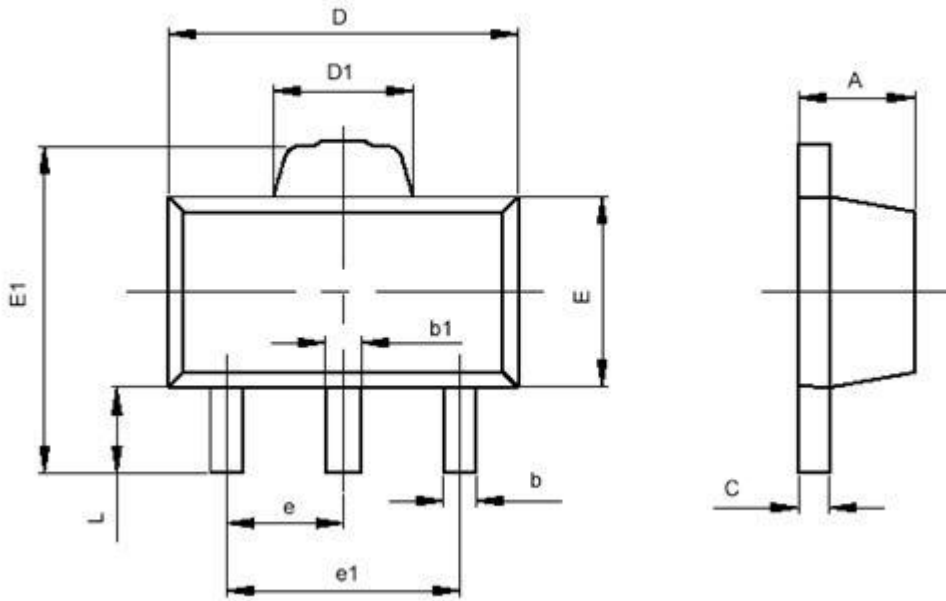


符号	最小值 (mm)	最大值 (mm)
A	3.300	3.700
A1	1.100	1.400
b	0.380	0.550
c	0.360	0.510
D	4.400	4.700
D1	3.430	
E	4.300	4.700
e	1.270 TYP	
e1	2.440	2.640
L	14.100	14.500
Φ		1.600
h	0.000	0.380

订购信息

订单型号	封装形式	包装/数量
78LXX-MS	T0-92	袋装/1000pcs

SOT-89-3



符号	最小值 ( mm )	最大值 ( mm )
A	1.400	1.600
b	0.320	0.520
b1	0.360	0.560
c	0.350	0.440
D	4.400	4.600
D1	1.400	1.800
E	2.300	2.600
E1	3.940	4.250
e	1.500TYP	
e1	2.900	3.100
L	0.900	1.100

### 订购信息

订单型号	封装形式	包装/数量
78LXX-MS	SOT-89	盘装/1000pcs

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