

## 同步 PFM 升压 DC-DC 变换器 XA2361A

### 概述

XA2361A 系列产品是一种低功耗、高效率、低纹波、工作频率高的 PFM 同步升压 DC-DC 变换器。

XA2361A 系列产品仅需要三个元器件,就可完成将低输入的电池电压变换升压到所需的工作电压。

### 订货信息

AX2361A XXX

**Package Type:**

T: SOT-23-3  
F: SOT-23-5  
E: SOT-89

**Output Voltage:**

20: 2.0V  
21: 2.1V  
...  
54: 5.4V  
55: 5.5V

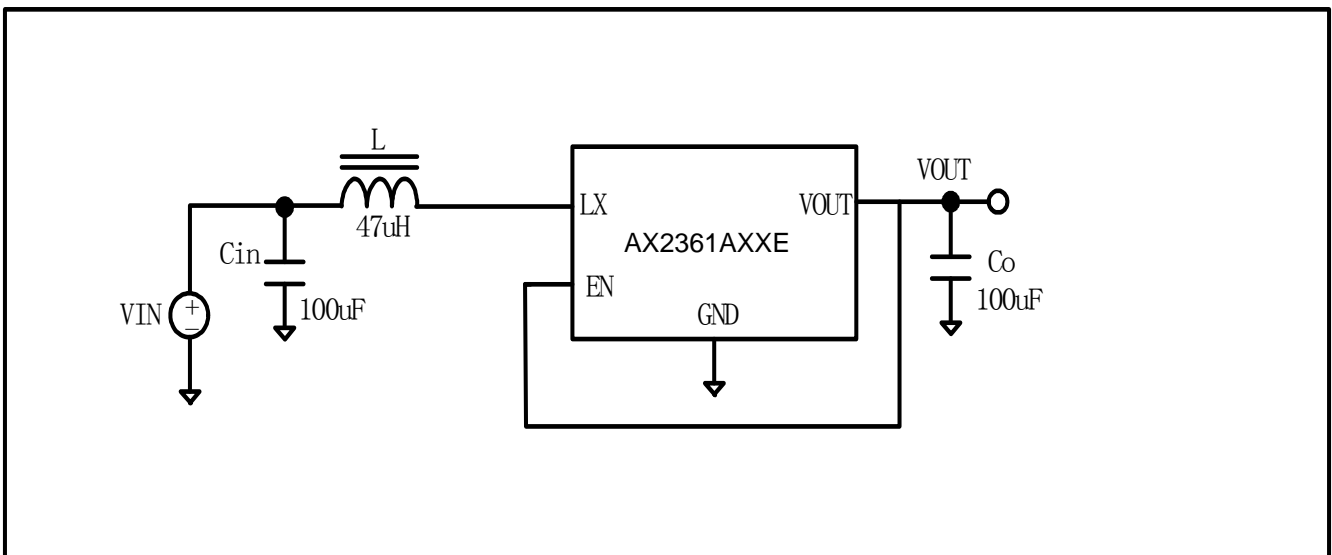
### 特性

- 最高效率:95%
- 最高工作频率:300KHz
- 低静态电流: 15uA
- 输出电压:2.5V~5.0V (步进 0.1V)
- 输出精度:±2.5%
- 输入电压: 0.9V~5.0V
- 低纹波, 低噪声
- 小体积 SOT-89

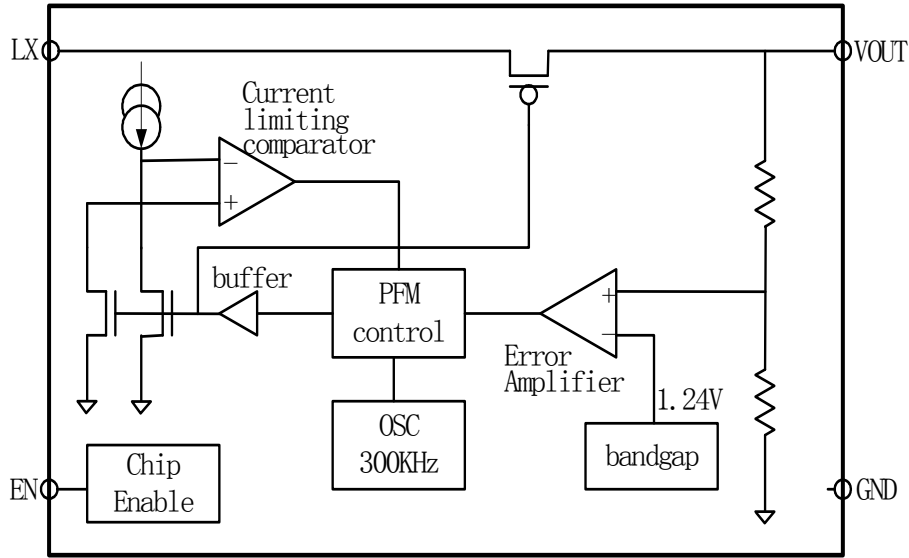
### 应用范围

- 1~3 个干电池的电子设备
- 电子词典、数码相机、LED 手电筒、LED 灯、血压计、MP3、遥控玩具、无线耳机、无线鼠标键盘、医疗器械、防丢器、汽车防盗器、充电器、VCR、PDA 等手持电子设备

### 典型应用电路图

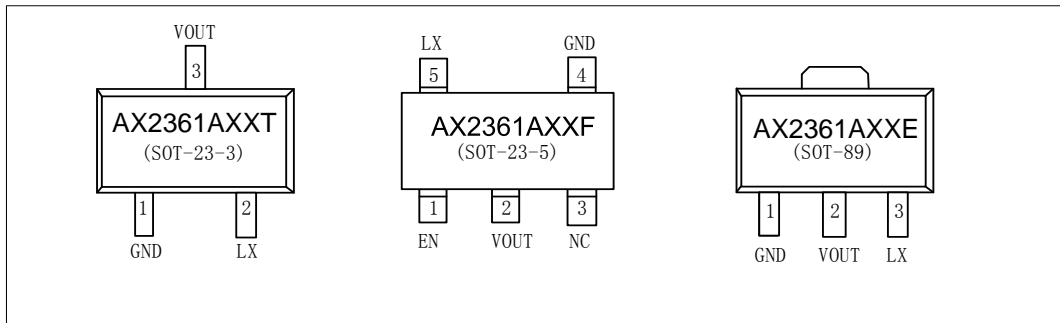


**方框图**



**管脚定义**

Pin Name	XA2361A XXT SOT-23-3	XA2361A XXF SOT-23-5	XA2361A XXE SOT-89	描述
<b>LX</b>	2	5	3	开关
<b>VOUT</b>	3	2	2	输出电压
<b>EN</b>	-	1	-	使能
<b>GND</b>	1	4	1	地
<b>NC</b>	-	3	-	



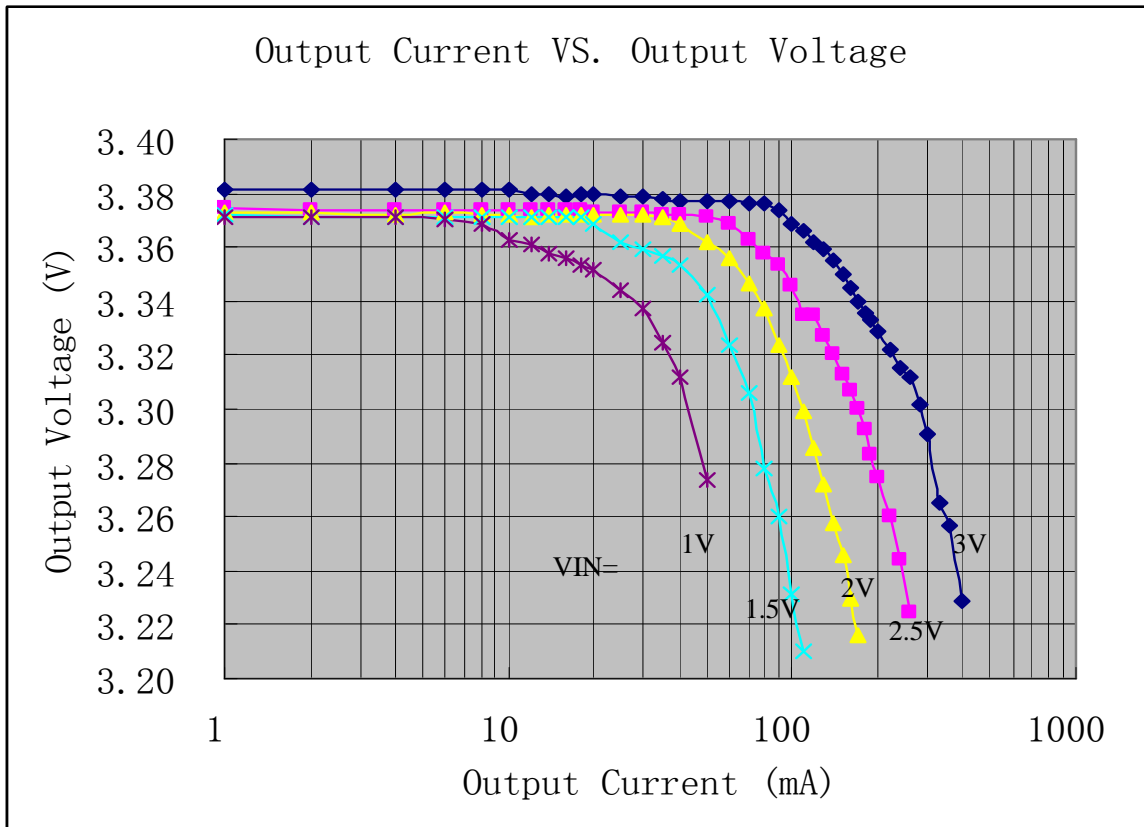
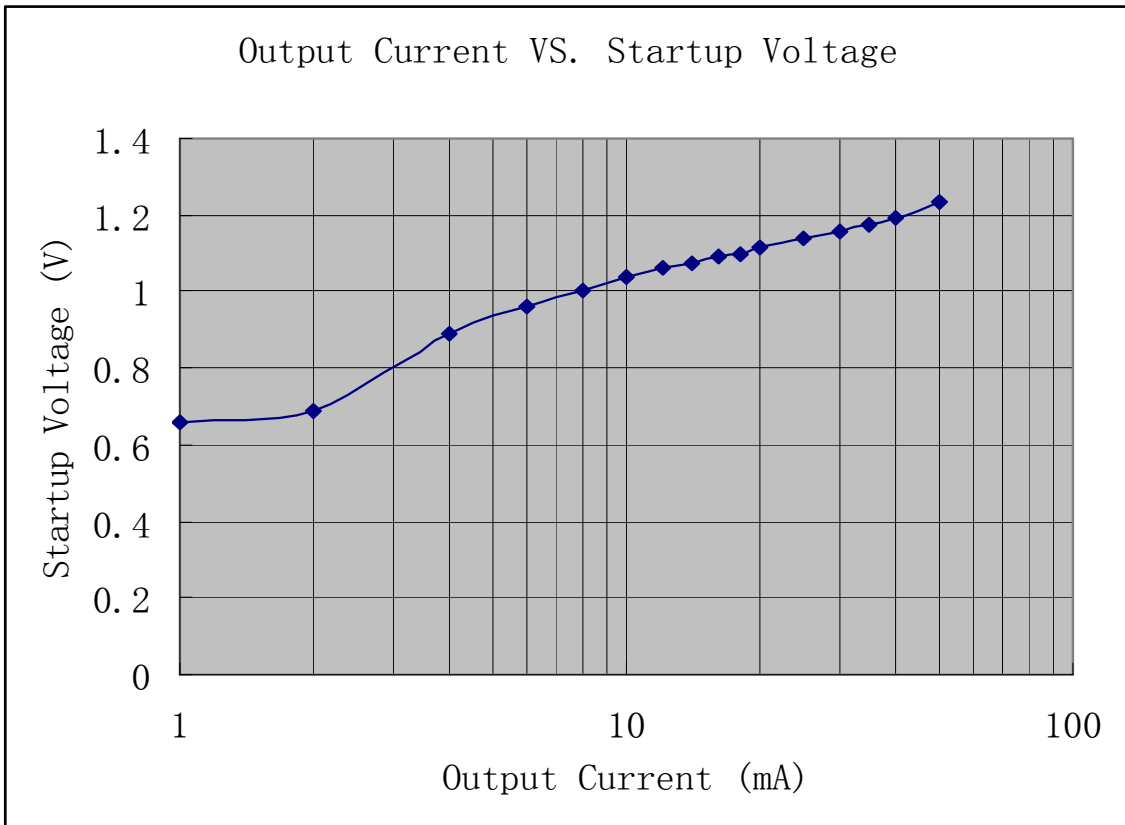
**最大额定参数值**

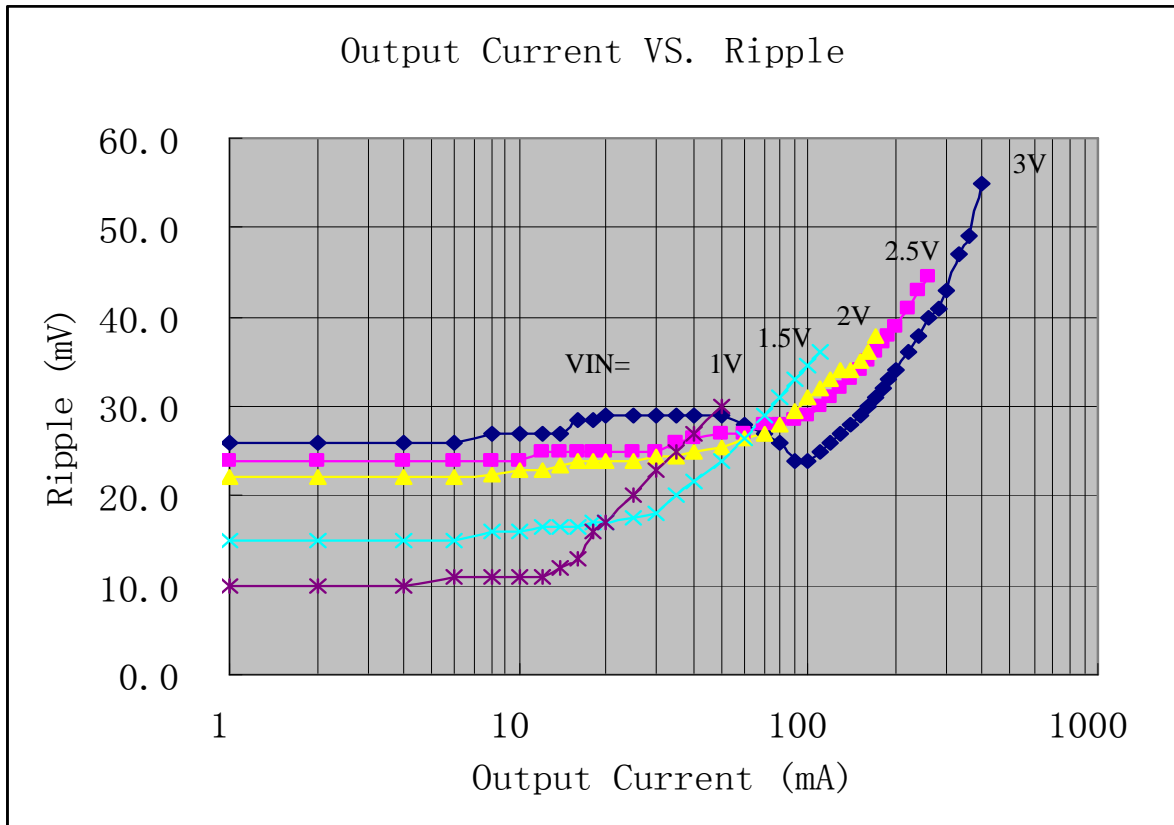
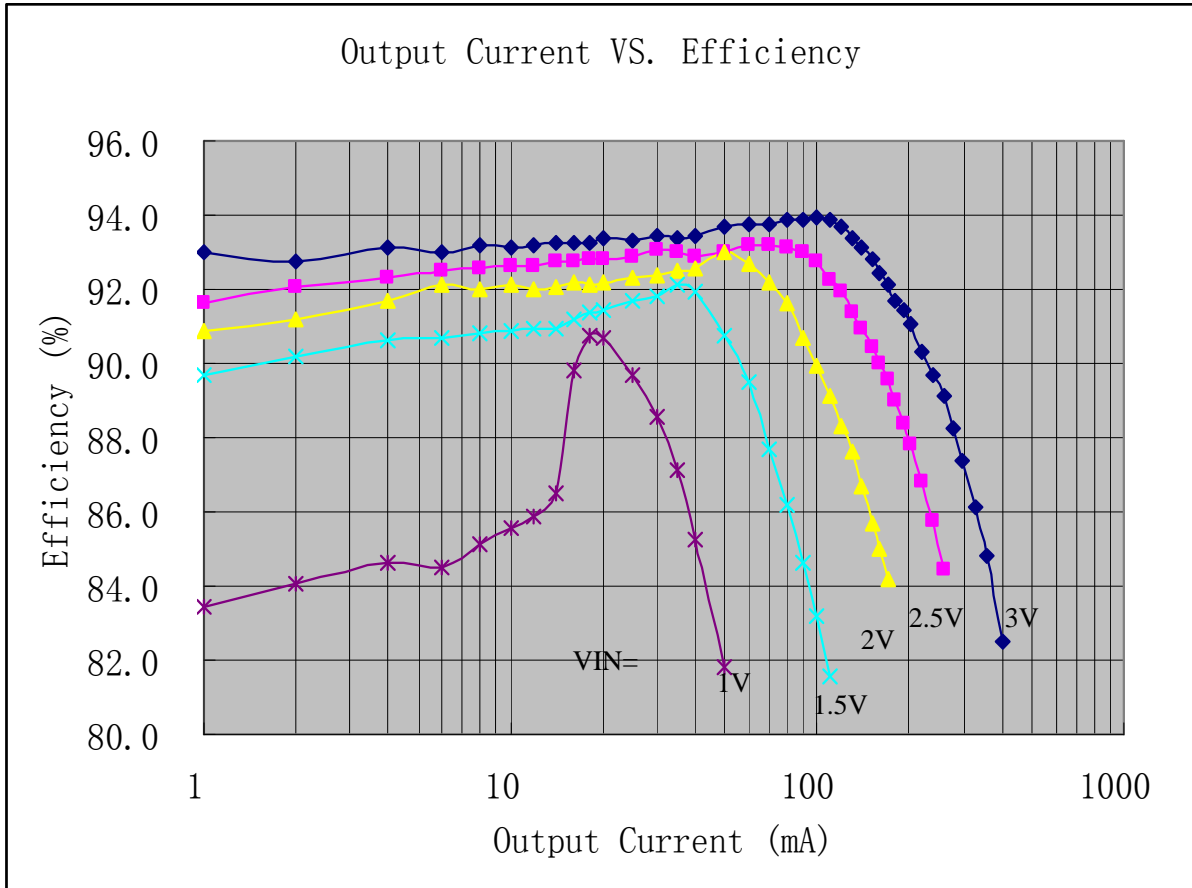
参数	符号	说明	典型值	单位
电压	Vmax	V <sub>OUT</sub> 和 V <sub>LX</sub> 端的最大电压值	8	V
电流	ILXmax	LX 端最大电流	1000	mA
最大功耗	Psot-89	SOT-89 封装最大功耗	0.5	W
温度	Tmin-max	工作温度范围	-20-85	°C
	Tstorage	存储温度范围	-40-165	°C
ESD	VESD	人体静电耐压值	2000	V

## 电气特性

参数	符号	测试条件	最小值	典型值	最大值	单位
输出电压精度	$\Delta V_{OUT}$		-2.5		2.5	%
最大输入电压	$V_{IN_{MAX}}$		0.9		5.0	V
起动电压	$V_{START}$	I <sub>LOAD</sub> =1mA, V <sub>IN</sub> :0 → 2V			0.8	V
保持电压	$V_{HOLD}$	I <sub>LOAD</sub> =1mA, V <sub>IN</sub> :2 → 0V	0.6			V
振荡信号占空比	DC <sub>OSC</sub>		85			%
效率	$\eta$			90	94	%
限流	I <sub>LIMIT</sub>		600	800	1000	mA
无负载状态下输入电流	I <sub>I<sub>NO</sub></sub>	V <sub>IN</sub> =1.8V V <sub>OUT</sub> =3.0V		15		uA

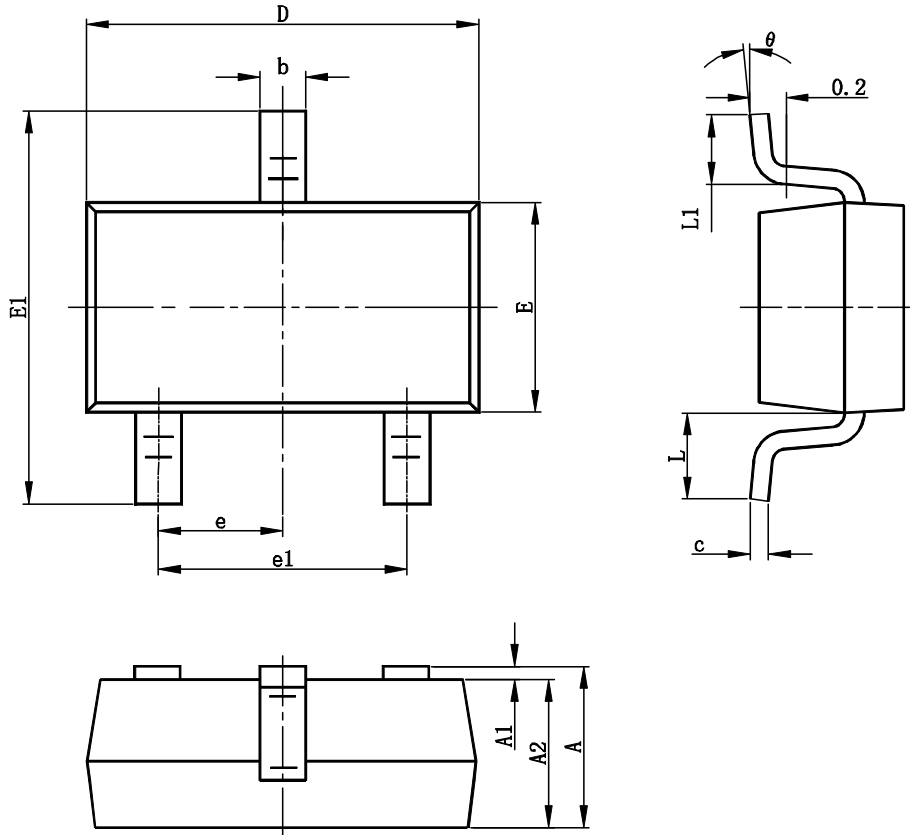
典型特性曲线(Cin=Co=100uF, L=47uH)





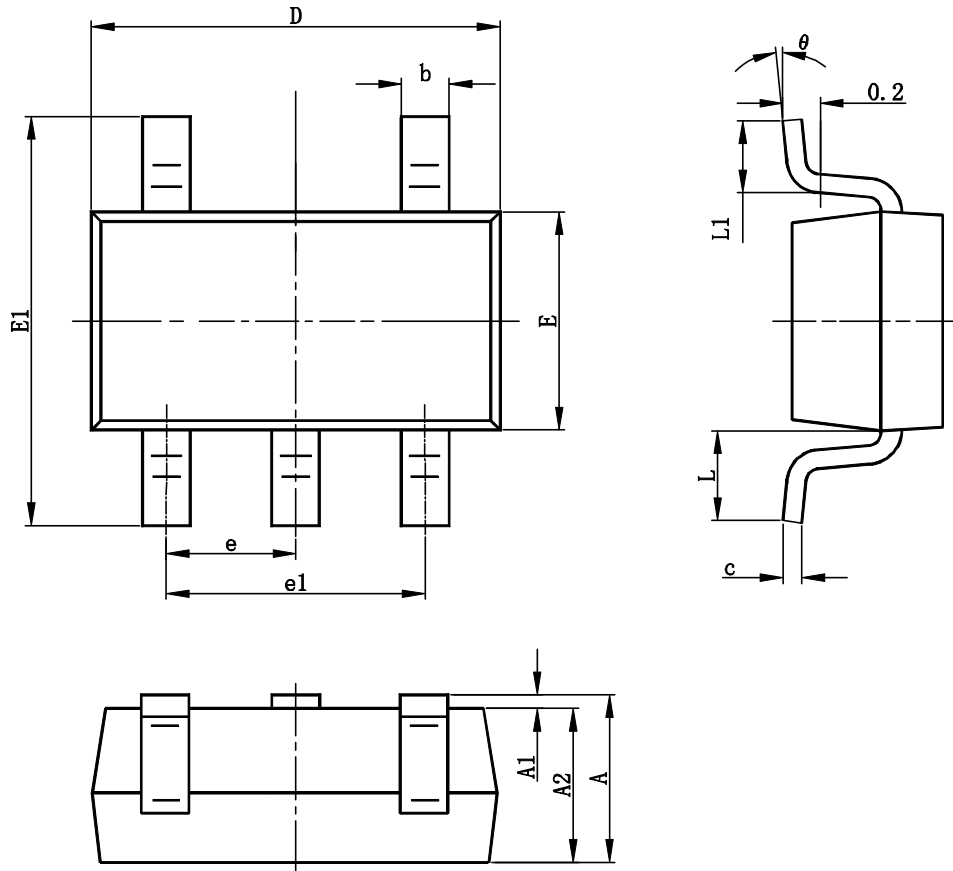
**外型尺寸和封装信息**

**SOT-23-3L PACKAGE OUTLINE DIMENSIONS**



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	0.400	0.012	0.016
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	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.700REF		0.028REF	
L1	0.300	0.600	0.012	0.024
?	0	8	0	8

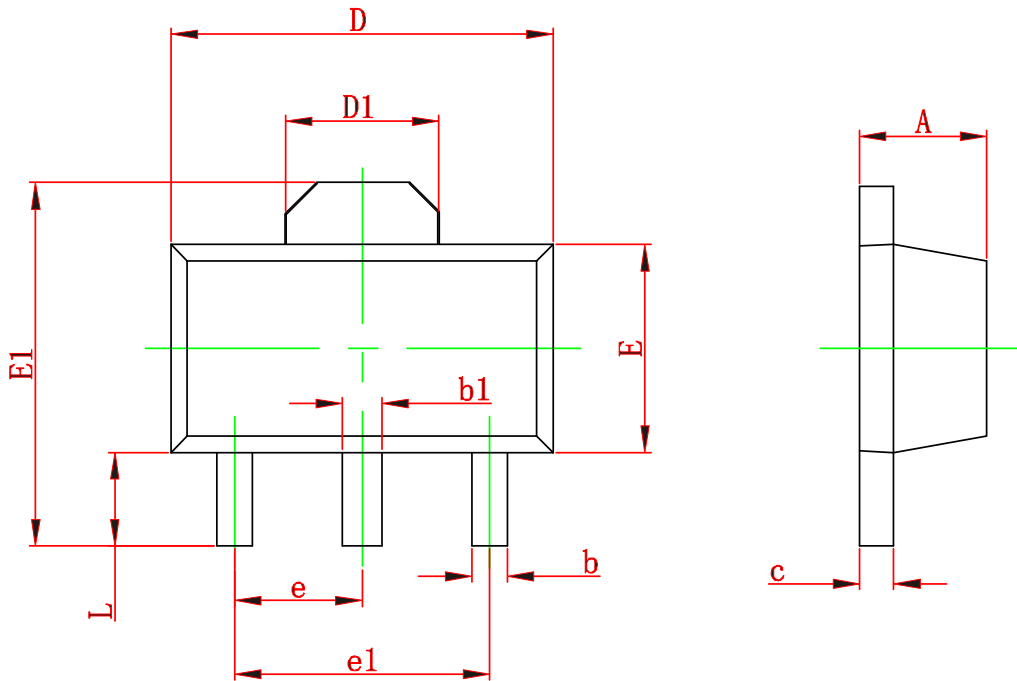
**SOT-23-5L PACKAGE OUTLINE DIMENSIONS**



Symbol	Dimensions In Millimeter		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	0.400	0.012	0.016
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	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.700REF		0.028REF	
L1	0.300	0.600	0.012	0.024
?	0	8	0	8



**SOT-89-3L PACKAGE OUTLINE DIMENSIONS**



Symbol	In Millimeter Dimensions		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.197
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060 TYP	
e1	3.000 TYP		0.118 TYP	
L	0.900	1.200	0.035	0.047

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