

描述 / Descriptions

SOT-23 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a SOT-23 Plastic Package.

特征 / Features

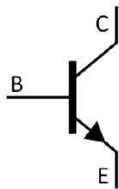
耐压高,饱和压降低。

High voltage, Low saturation voltage.

用途 / Applications

高电压控制电路。

High voltage control circuit.

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

PIN 1 : Base

PIN 2 : Emitter

PIN 3 : Collector

放大 / h_{FE} Classifications

h_{FE} Range	50~200
----------------	--------

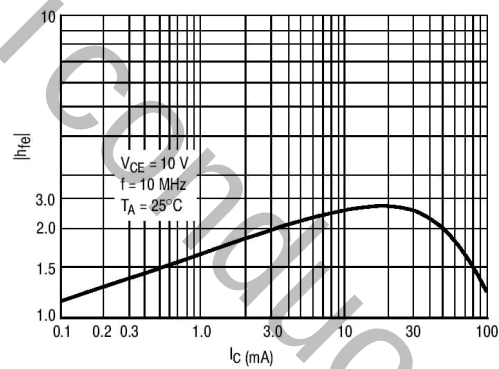
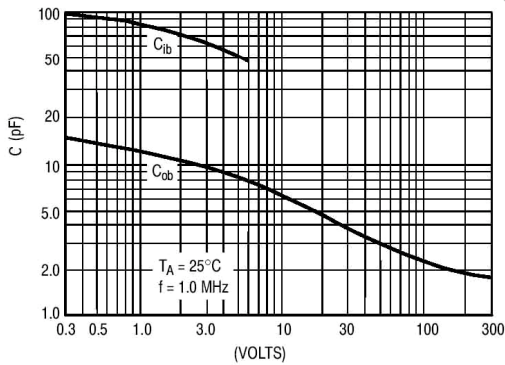
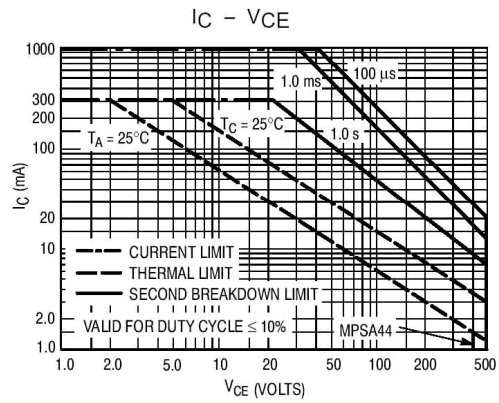
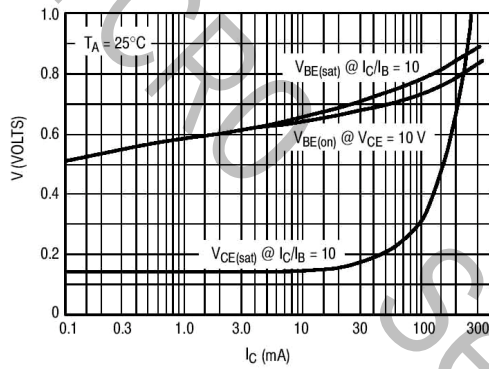
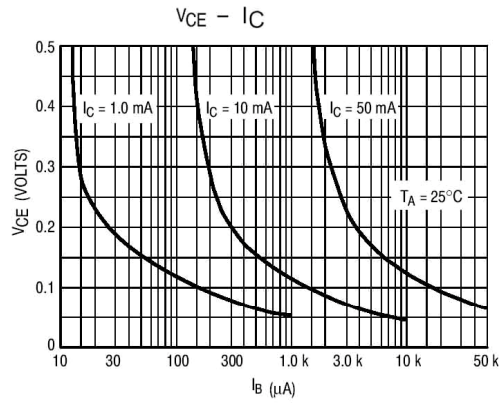
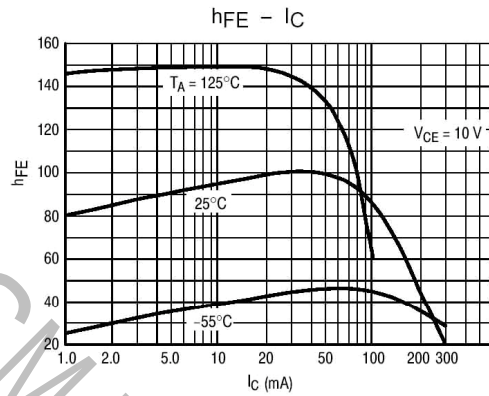
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	500	V
Collector to Emitter Voltage	V_{CEO}	400	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	300	mA
Collector Power Dissipation	P_C	350	mW
Collector Power Dissipation	$P_{C(TC=25^{\circ}C)}$	1.5	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=100\mu A$ $I_E=0$	500			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $I_B=0$	400			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=10\mu A$ $I_C=0$	6.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=400V$ $I_E=0$			0.1	μA
Collector Cut-Off Current	I_{CEO}	$V_{CE}=400V$ $V_{BE}=0$			0.5	μA
Emitter Cut-Off Current	I_{EBO}	$V_{CE}=4.0V$ $I_C=0$			0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=10V$ $I_C=10mA$	50		200	
	$h_{FE(2)}$	$V_{CE}=10V$ $I_C=100mA$	40			
	$h_{FE(3)}$	$V_{CE}=10V$ $I_C=50mA$	45			
	$h_{FE(4)}$	$V_{CE}=10V$ $I_C=1.0mA$	40			
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=1.0mA$ $I_B=0.1mA$			0.4	V
	$V_{CE(sat)(2)}$	$I_C=10mA$ $I_B=1.0mA$			0.5	V
	$V_{CE(sat)(3)}$	$I_C=50mA$ $I_B=5.0mA$			0.75	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10mA$ $I_B=1.0mA$			0.75	V
Output Capacitance	C_{ob}	$V_{CB}=20V$ $f=1.0MHz$ $I_E=0$			7.0	pF

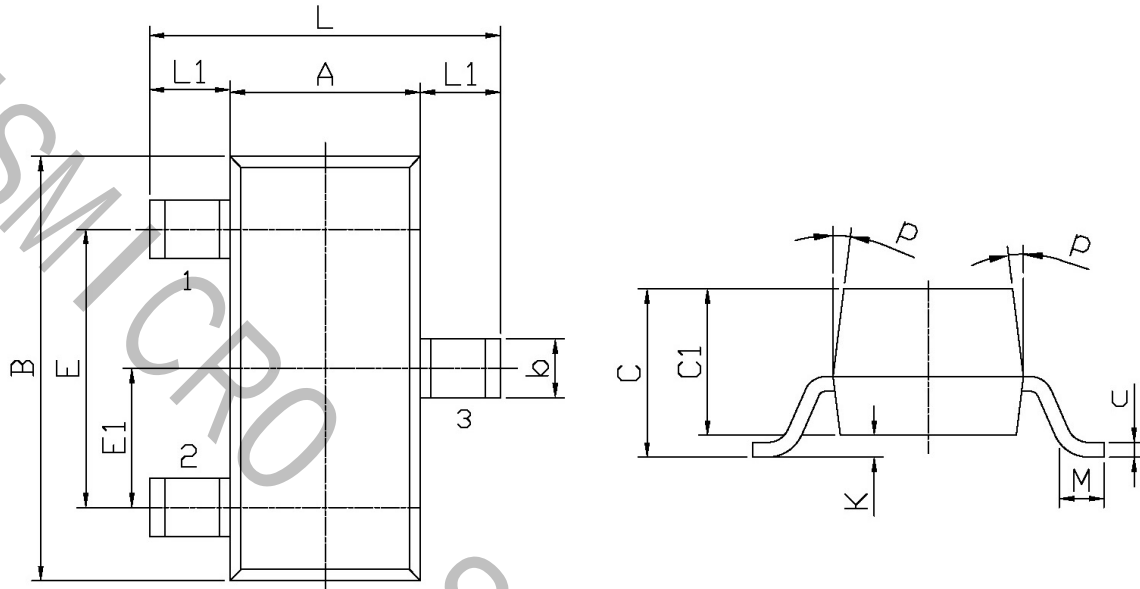
电参数曲线图 / Electrical Characteristic Curve



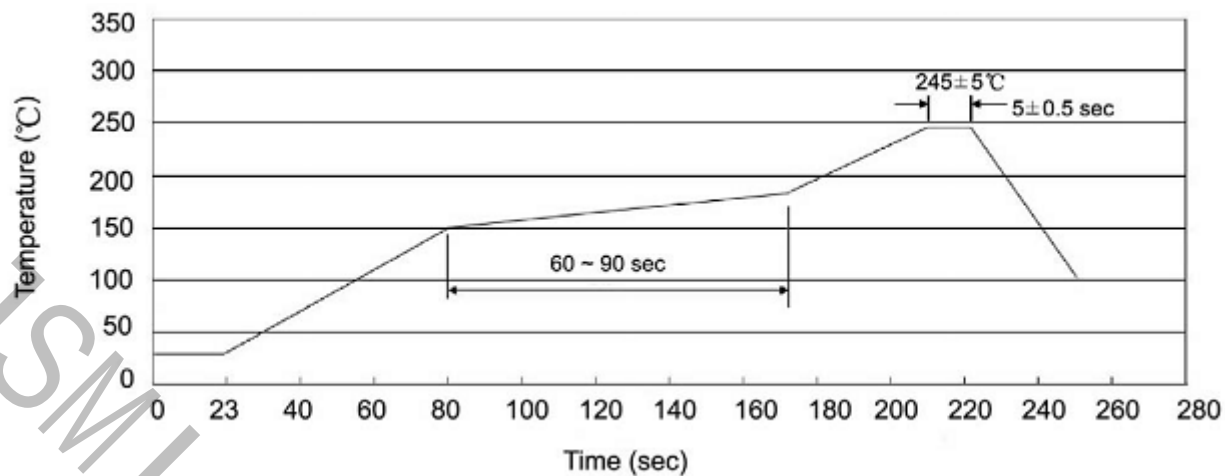
外形尺寸图 / Package Dimensions

SOT-23

单位; mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)


说明：

- 1、预热温度 25 ~ 150°C，时间 60 ~ 90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec