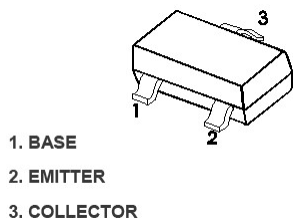


**MMBTA42 TRANSISTOR(NPN)**

Rev.1.0

**SOT-23**
**SOT-23 贴片塑封三极管**  
**SOT-23 Plastic-Encapsulate Transistors**

**Marking: 1D**
**特征 Features**

- 与 MMBTA92 配对; Complementary to MMBTA92
- 最大功率耗散 350mW; Power Dissipation of 350mW
- 高稳定性和可靠性。High Stability and High Reliability

**机械数据 Mechanical Data**

- 封装: SOT-23 封装 SOT-23 Small Outline Plastic Package
- 环氧树脂 UL 易燃等级 Epoxy UL: 94V-0
- 安装位置: 任意 Mounting Position: Any

极限值和温度特性(TA = 25°C 除非另有规定)

**Maximum Ratings & Thermal Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified.)

参数 Parameters	符号 Symbol	数值 Value	单位 Unit
Collector-Base Voltage	V <sub>CB0</sub>	300	V
Collector-Emitter Voltage	V <sub>CEO</sub>	300	V
Emitter -Base Voltage	V <sub>EBO</sub>	5	V
Collector Current-Continuous	I <sub>C</sub>	300	mA
Collector Power Dissipation	P <sub>C</sub>	350	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55-+150	°C
Thermal resistance From junction to ambient	R <sub>θJA</sub>	357	°C/W

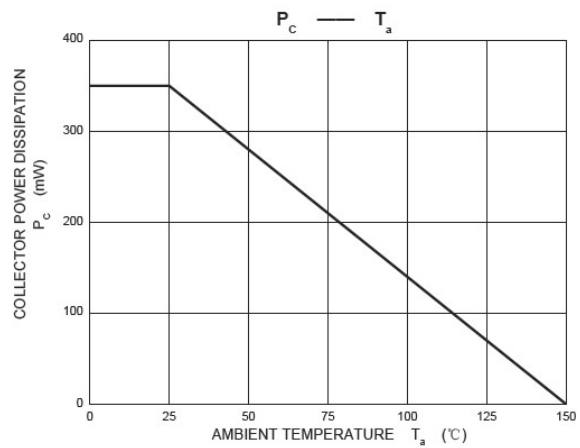
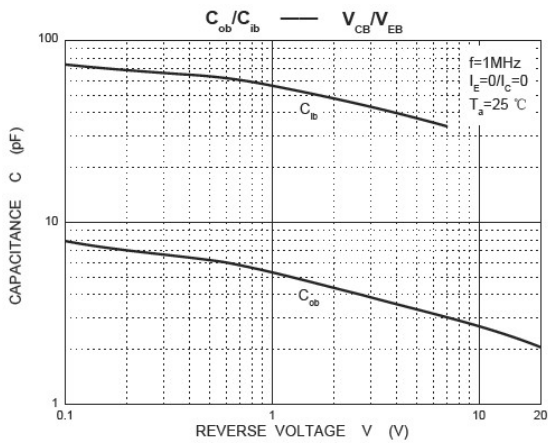
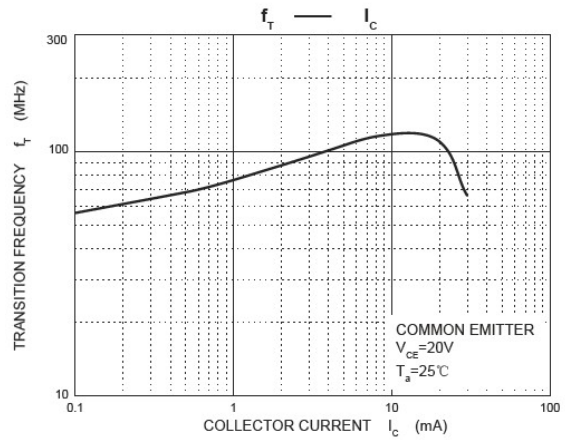
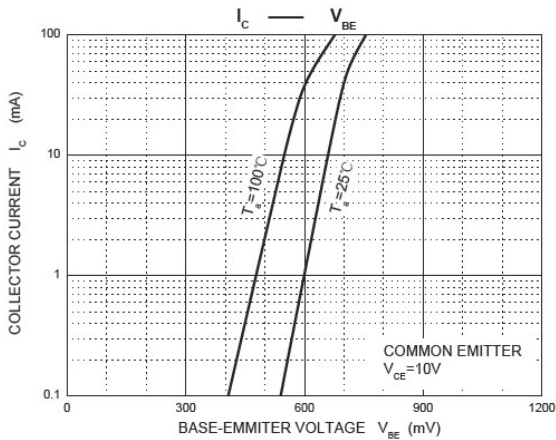
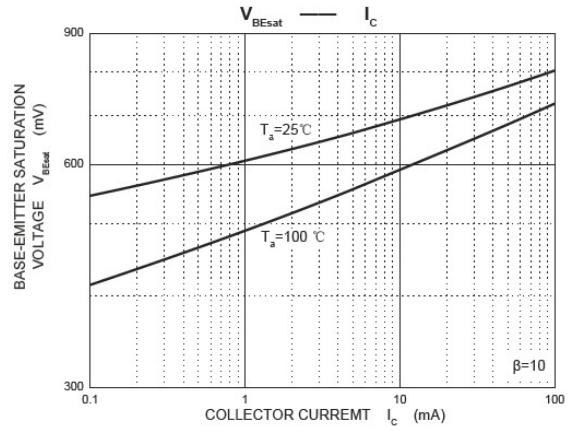
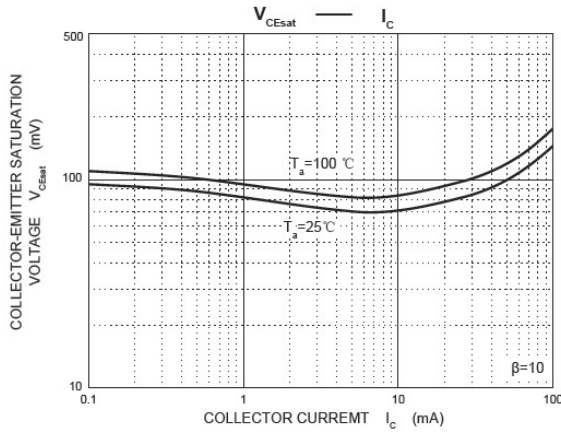
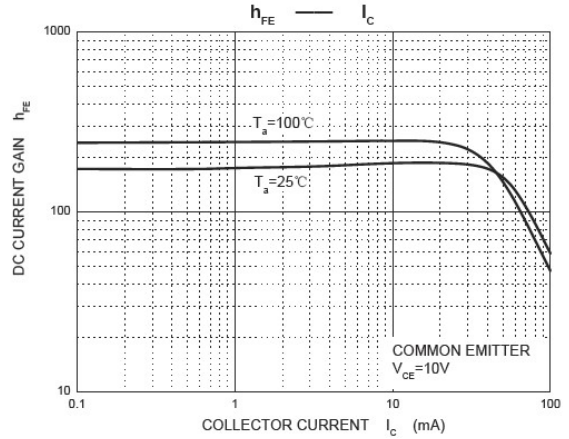
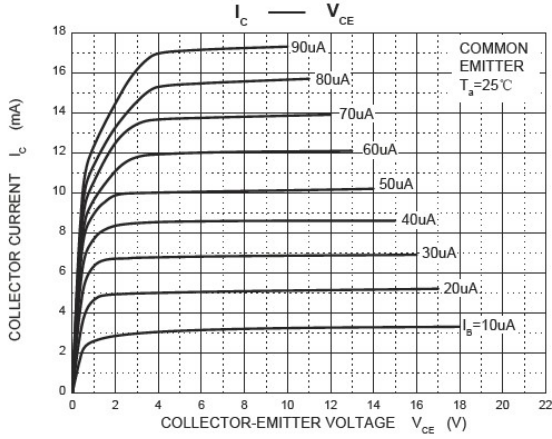
电特性 (TA = 25°C 除非另有规定)

**Electrical Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified).

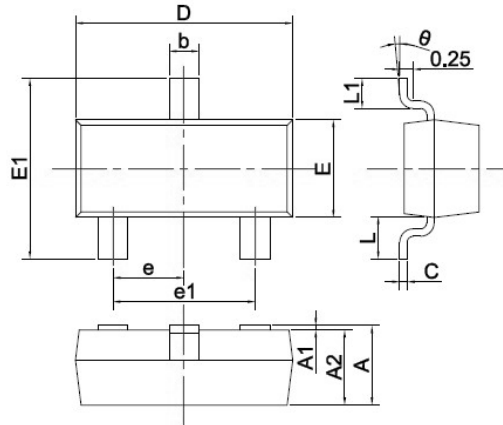
参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits		单位 Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	I <sub>C</sub> =100μA, I <sub>E</sub> =0	300		V
Collector-emitter breakdown voltage	V(BR)CEO	I <sub>C</sub> =1mA, I <sub>B</sub> =0	300		V
Emitter-base breakdown voltage	V(BR)EBO	I <sub>E</sub> =10μA, I <sub>C</sub> =0	5		V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =200V, I <sub>E</sub> =0		250	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0		100	nA
DC current gain	h <sub>FE</sub> (1)*	V <sub>CE</sub> =10V, I <sub>C</sub> =1mA	60		
	h <sub>FE</sub> (2)*	V <sub>CE</sub> =10V, I <sub>C</sub> =10mA	100	200	
	h <sub>FE</sub> (3)*	V <sub>CE</sub> =10V, I <sub>C</sub> =30mA	65		
Collector-emitter saturation voltage	V <sub>CE(sat)</sub> *	I <sub>C</sub> =20mA, I <sub>B</sub> =2mA		0.20	V
Base -emitter saturation voltage	V <sub>BE(sat)</sub> *	I <sub>C</sub> =20mA, I <sub>B</sub> =2mA		0.90	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =100mA; f=30MHz	50		MHz

\*Pulse test: pulse width ≤ 300μs, duty cycle ≤ 2.0%.

Typical characteristics



## SOT-23 PACKAGE OUTLINE Plastic surface mounted package

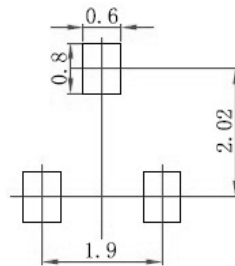


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

### 焊盘设计参考 Precautions: PCB Design

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



**Note:**

1. Controlling dimension; in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purposes only.

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