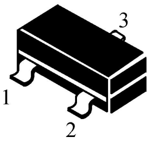
SOT-23 Bipolar Transistor 双极型三极管

SOT—23

1. BASE
2. EMITTER
3. COLLECTOR



■Features 特点

NPN General Purpose 通用

■Absolute Maximum Ratings 最大额定值

Characteristic 特性参数	Symbol 符号	Rat 额定值		Unit 单位
		MMBTA05	MMBTA06	
Collector-Base Voltage 集电极基极电压	V_{CBO}	60	80	V
Collector-Emitter Voltage 集电极发射极电压	V_{CEO}	60	80	V
Emitter-Base Voltage 发射极基极电压	V_{EBO}	4		V
Collector Current 集电极电流	I_C	500		mA
Power dissipation 耗散功率	$P_C(T_a=25℃)$	300		mW
Thermal Resistance Junction-Ambient 热阻	$R_{\Theta JA}$	417		℃/W
Junction and Storage Temperature 结温和储藏温度	T_J,T_{stg}	-55to+150℃		

■Device Marking 产品打标

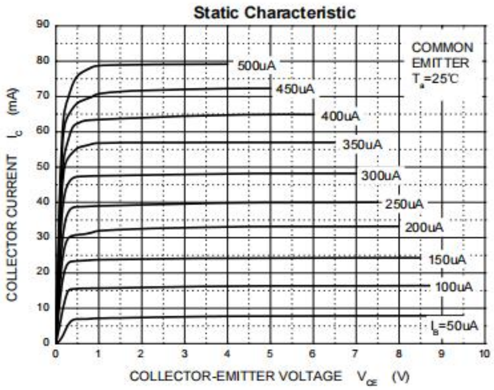
Type	MMBTA05	MMBTA06
Mark	1H	1GM

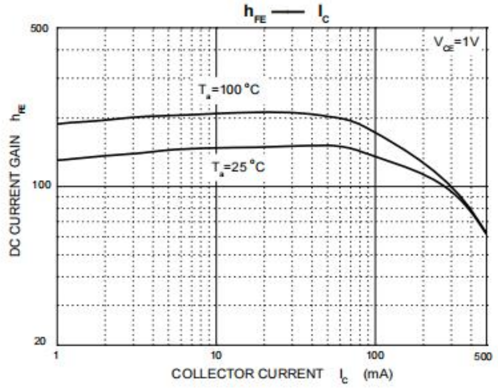
■Electrical Characteristics 电特性

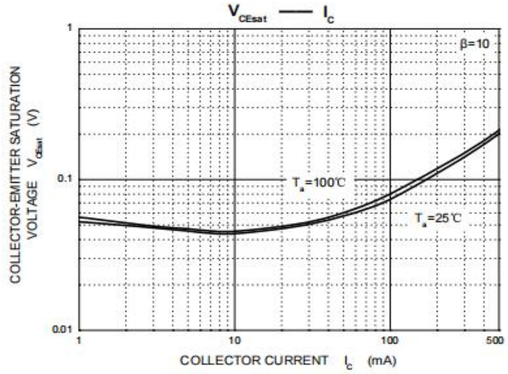
(T_A=25℃ unless otherwise noted 如无特殊说明，温度为25℃**)**

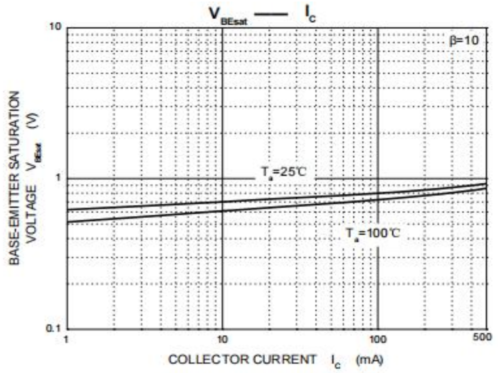
Characteristic 特性参数		Symbol 符号	Min 最小值	Type 典型值	Max 最大值	Unit 单位
Collector-Base Breakdown Voltage 集电极基极击穿电压 (I_C= 100μA，I_E=0)	MMBTA05 MMBTA06	BV_{CBO}	60 80	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压 (I_C= 10mA，I_B=0)	MMBTA05 MMBTA06	BV_{CEO}	60 80	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压 (I_E= 100μA，I_C=0)		BV_{EBO}	4	—	—	V
Collector-Base Leakage Current 集电极基极漏电流	MMBTA05(V_{CB}=60V,I_E=0) MMBTA06(V_{CB}=80V,I_E=0)	I_{CBO}	—	—	100	nA
Collector-Emitter Leakage Current 集电极发射极漏电流	MMBTA05(V_{CB}=60V,I_B=0) MMBTA06(V_{CB}=60V,I_B=0)	I_{CEO}	—	—	100	nA
Emitter-Base Leakage Current 发射极基极漏电流(V_{EB}=4V，I_C=0)		I_{EBO}	—	—	100	nA
DC Current Gain(V_{CE}= 1V,I_C= 10mA) 直流电流增益(V_{CE}= 1V,I_C= 100mA)		H_{FE}	100 100	—	400	
Collector-Emitter Saturation Voltage 集电极发射极饱和压降(I_C= 100mA，I_B= 10mA)		$V_{CE(sat)}$	—	—	0.25	V
Base-Emitter Saturation Voltage 基极发射极饱和压降(I_C= 100mA，I_B= 10mA)		$V_{BE(sat)}$	—	—	1.2	V
Base-Emitter On Voltage 基极发射极导通电压(V_{CE}= 1V，I_C= 100mA)		$V_{BE(on)}$	—	—	1.2	V
Transition Frequency 特征频率(V_{CE}= 2V，I_C= 10mA)		f_T	100	—	—	MH$_Z$
Output Capacitance 输出电容(V_{CB}= 10V，I_E=0, f=1MH$_Z$)		C_{ob}	—	10	—	pF

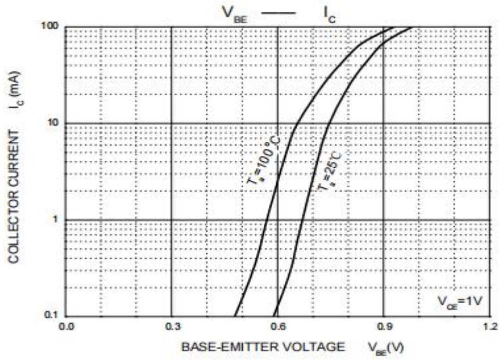
■Typical Characteristic Curve 典型特性曲线

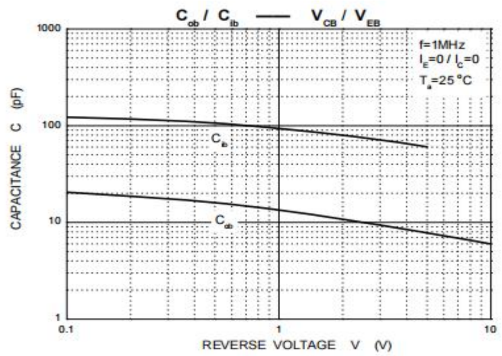


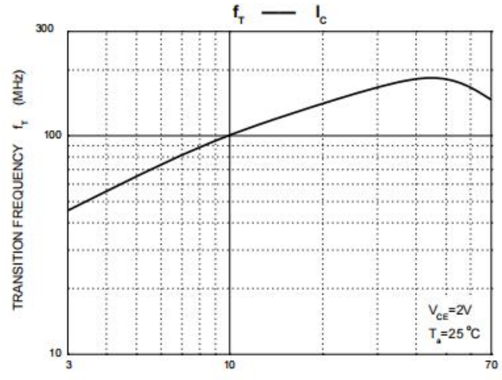


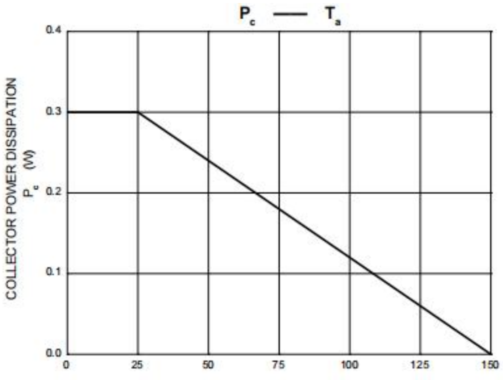




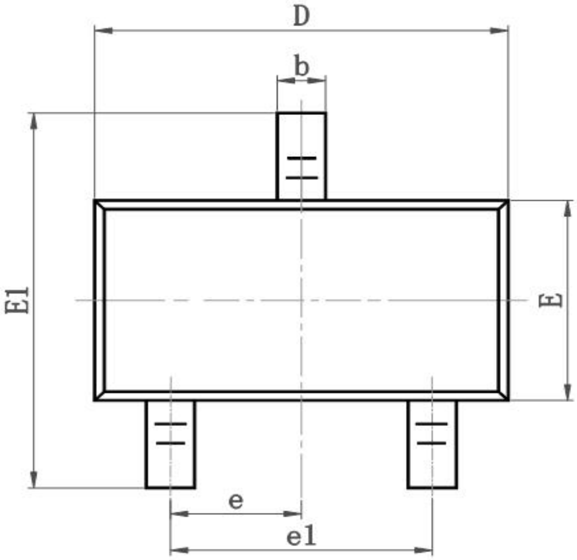


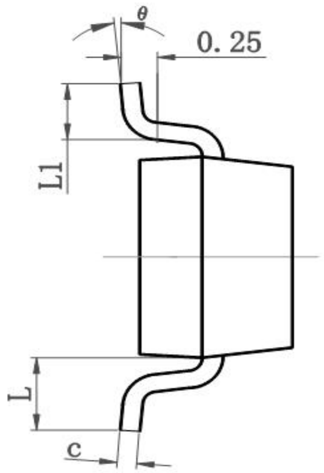


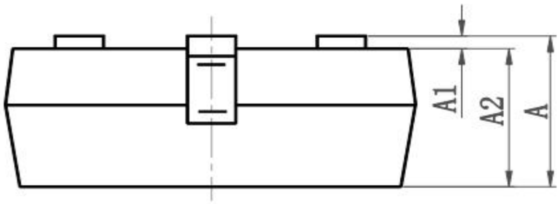




■Dimension 外形封装尺寸







Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.050	0.055
E1	2.250	2.550	0.089	0.100
e	0.900	1.00	0.035	0.039
e1	1.800	2.000	0.071	0.079
L	0.500	0.600	0.020	0.024
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°