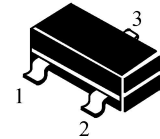


## SOT-523 Bipolar Transistor 双极型三极管

### ■ Features 特点

PNP Switching 开关

- 1. BASE
- 2. EMITTER
- 3. COLLECTOR



### ■ Absolute Maximum Ratings 最大额定值

Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
Collector-Base Voltage 集电极基极电压	$V_{CBO}$	-40	V
Collector-Emitter Voltage 集电极发射极电压	$V_{CEO}$	-40	V
Emitter-Base Voltage 发射极基极电压	$V_{EBO}$	-5	V
Collector Current 集电极电流	$I_C$	-200	mA
Power dissipation 耗散功率	$P_C(T_a=25^\circ\text{C})$	150	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	833	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature 结温和储藏温度	$T_J, T_{stg}$	-55to+150 $^\circ\text{C}$	

### ■ Device Marking 产品打标

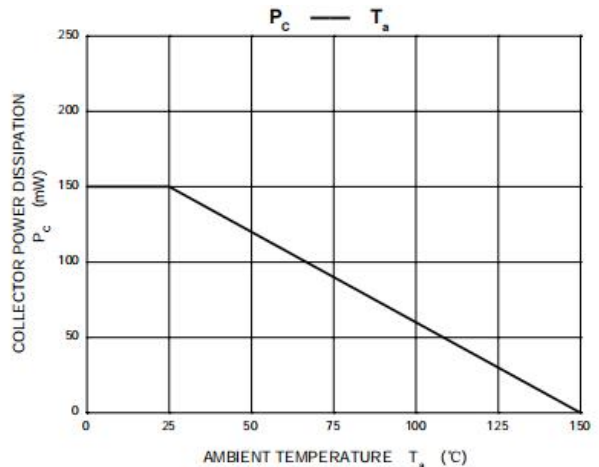
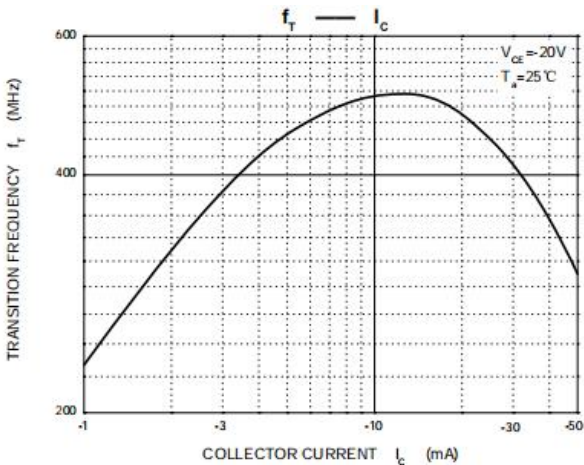
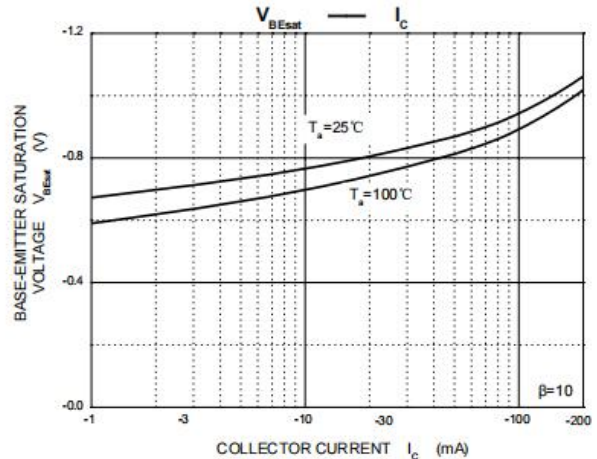
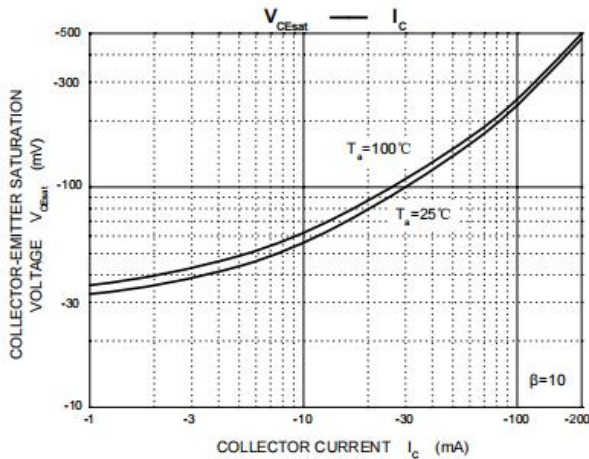
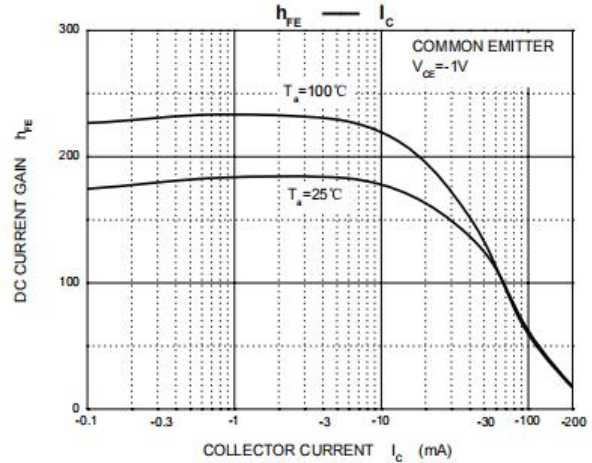
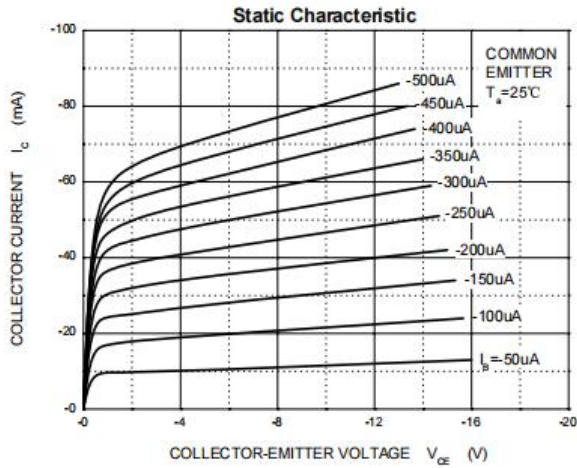
MMBT3906T=3N

■ Electrical Characteristics 电特性

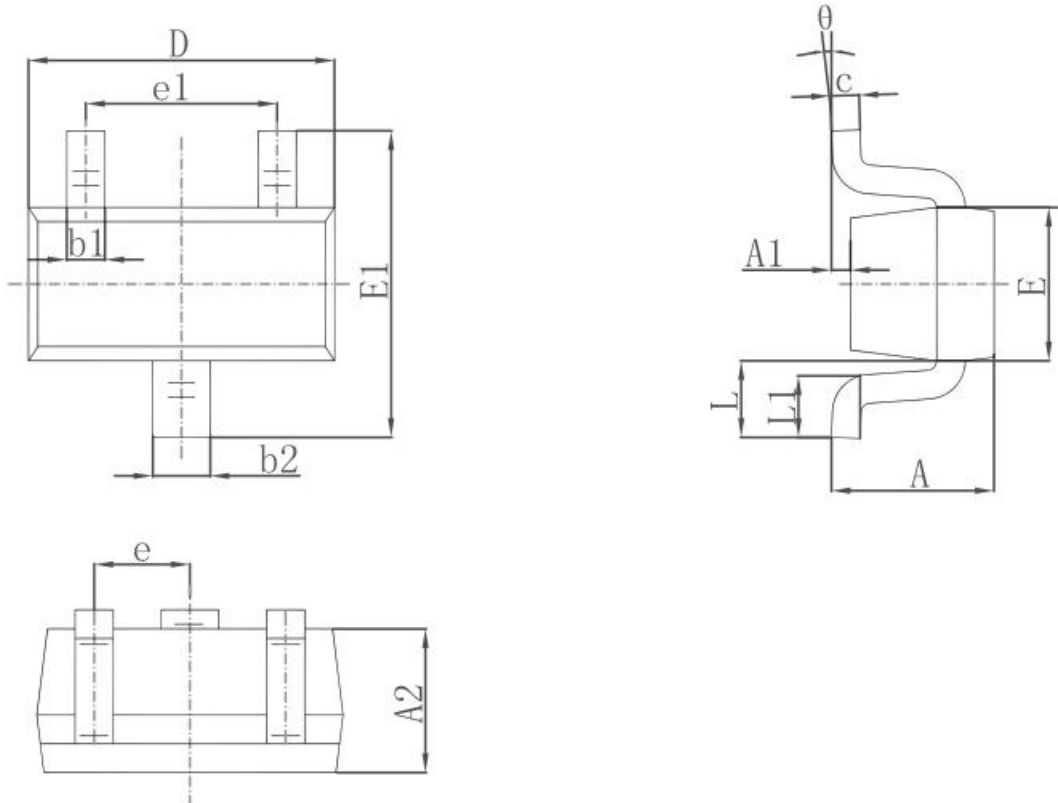
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

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( $I_C=-10\mu\text{A}$ , $I_E=0$ )	$BV_{CBO}$	-40	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压( $I_C=-1\text{mA}$ , $I_B=0$ )	$BV_{CEO}$	-40	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压( $I_E=-10\mu\text{A}$ , $I_C=0$ )	$BV_{EBO}$	-5	—	—	V
Collector-Base Leakage Current 集电极基极漏电流( $V_{CB}=-40\text{V}$ , $I_E=0$ )	$I_{CBO}$	—	—	-100	nA
Collector-Emitter Leakage Current 集电极发射极漏电流( $V_{CE}=-30\text{V}$ , $V_{BE}=3\text{V}$ )	$I_{CEX}$	—	—	-50	nA
Emitter-Base Leakage Current 发射极基极漏电流( $V_{EB}=-5\text{V}$ , $I_C=0$ )	$I_{EBO}$	—	—	-100	nA
DC Current Gain( $V_{CE}=-1\text{V}$ , $I_C=-1\text{mA}$ ) 直流电流增益( $V_{CE}=-1\text{V}$ , $I_C=-10\text{mA}$ ) ( $V_{CE}=-1\text{V}$ , $I_C=-50\text{mA}$ )	$H_{FE}$	80 100 60	—	300	
Collector-Emitter Saturation Voltage 集电极发射极饱和压降( $I_C=-50\text{mA}$ , $I_B=-5\text{mA}$ )	$V_{CE(sat)}$	—	—	-0.4	V
Base-Emitter Saturation Voltage 基极发射极饱和压降( $I_C=-50\text{mA}$ , $I_B=-5\text{mA}$ )	$V_{BE(sat)}$	—	—	-0.95	V
Transition Frequency 特征频率( $V_{CE}=-20\text{V}$ , $I_C=-10\text{mA}$ )	$f_T$	250	—	—	MHz
Delay Time 延迟时间 ( $V_{CC}=-3\text{V}$ , $V_{BE}=0.5\text{V}$ , $I_C=-10\text{mA}$ , $I_{B1}=-1\text{mA}$ )	$t_d$	—	—	35	ns
Rise Time 上升时间 ( $V_{CC}=-3\text{V}$ , $V_{BE}=0.5\text{V}$ , $I_C=-10\text{mA}$ , $I_{B1}=-1\text{mA}$ )	$t_r$	—	—	35	ns
Storage Time 贮存时间 ( $V_{CC}=-3\text{V}$ , $I_C=-10\text{mA}$ , $I_{B1}=I_{B2}=-1\text{mA}$ )	$t_s$	—	—	225	ns
Fall Time 下降时间 ( $V_{CC}=-3\text{V}$ , $I_C=-10\text{mA}$ , $I_{B1}=I_{B2}=-1\text{mA}$ )	$t_f$	—	—	75	ns

■ 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	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°