



# 安徽富信半导体科技有限公司

ANHUI FOSAN SEMICONDUCTOR TECHNOLOGY CO., LTD.

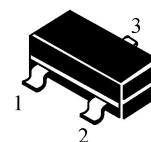
MMBT3906W

## SOT-323 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	$P_C(T_a=25^\circ\text{C})$	200	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
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

MMBT3906W=K5N

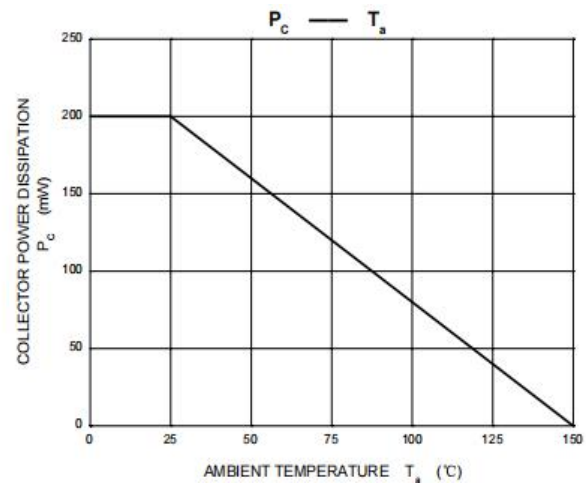
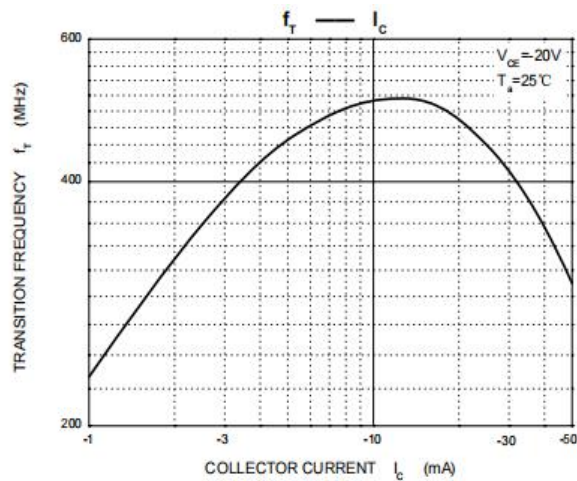
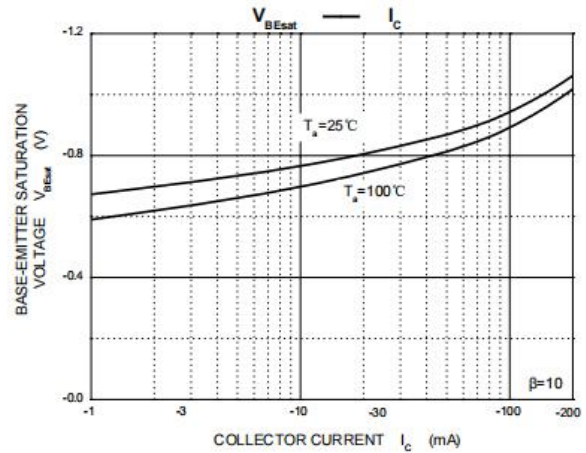
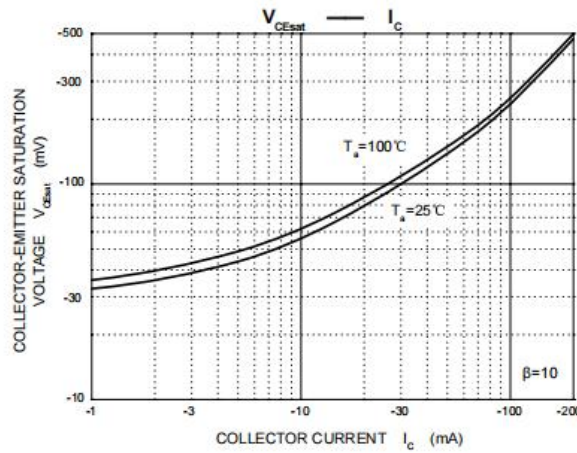
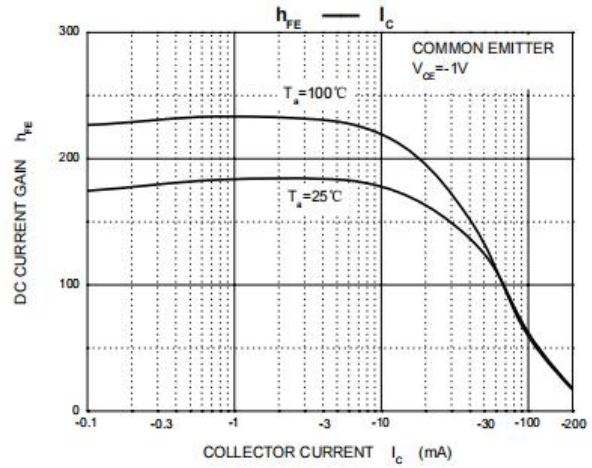
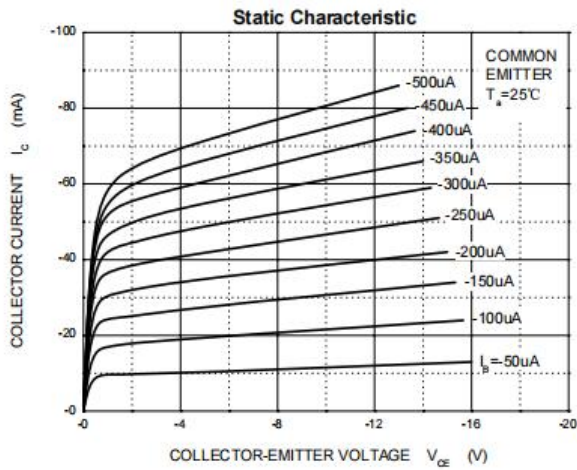


## ■ Electrical Characteristics 电特性

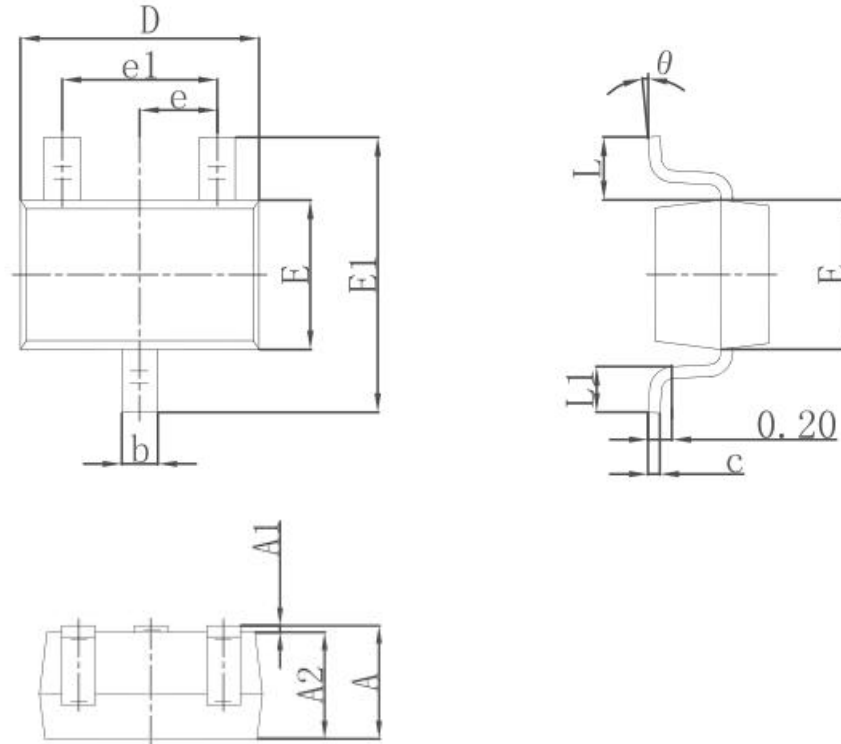
(TA=25°C unless otherwise noted 如无特殊说明, 温度为 25°C)

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 <sub>C</sub> =-10uA, I <sub>E</sub> =0)	BV <sub>CBO</sub>	-40	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压(I <sub>C</sub> =-1mA, I <sub>B</sub> =0)	BV <sub>CEO</sub>	-40	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压(I <sub>E</sub> =-10uA, I <sub>C</sub> =0)	BV <sub>EBO</sub>	-5	—	—	V
Collector-Base Leakage Current 集电极基极漏电流(V <sub>CB</sub> =-40V, I <sub>E</sub> =0)	I <sub>CBO</sub>	—	—	-100	nA
Collector-Emitter Leakage Current 集电极发射极漏电流(V <sub>CE</sub> =-30V, V <sub>BE</sub> =3V)	I <sub>CEX</sub>	—	—	-50	nA
Emitter-Base Leakage Current 发射极基极漏电流(V <sub>EB</sub> =-5V, I <sub>C</sub> =0)	I <sub>EBO</sub>	—	—	-100	nA
DC Current Gain(V <sub>CE</sub> =-1V, I <sub>C</sub> =-100μA) 直流电流增益(V <sub>CE</sub> =-1V, I <sub>C</sub> =-1mA) (V <sub>CE</sub> =-1V, I <sub>C</sub> =-10mA)	H <sub>FE</sub>	60 80 100	—	300	
Collector-Emitter Saturation Voltage 集电极发射极饱和压降(I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA)	V <sub>CE(sat)</sub>	—	—	-0.3	V
Base-Emitter Saturation Voltage 基极发射极饱和压降(I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA)	V <sub>BE(sat)</sub>	—	—	-0.95	V
Transition Frequency 特征频率(V <sub>CE</sub> =-20V, I <sub>C</sub> =-10mA)	f <sub>T</sub>	250	—	—	MHz
Delay Time 延迟时间 (V <sub>CC</sub> =-3V, V <sub>BE</sub> =0.5V, I <sub>C</sub> =-10mA, I <sub>B1</sub> =-1mA)	t <sub>d</sub>	—	—	35	ns
Rise Time 上升时间 (V <sub>CC</sub> =-3V, V <sub>BE</sub> =0.5V, I <sub>C</sub> =-10mA, I <sub>B1</sub> =-1mA)	t <sub>r</sub>	—	—	35	ns
Storage Time 贮存时间 (V <sub>CC</sub> =-3V, I <sub>C</sub> =-10mA, I <sub>B1</sub> =I <sub>B2</sub> =-1mA)	t <sub>s</sub>	—	—	225	ns
Fall Time 下降时间 (V <sub>CC</sub> =-3V, I <sub>C</sub> =-10mA, I <sub>B1</sub> =I <sub>B2</sub> =-1mA)	t <sub>f</sub>	—	—	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	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°