

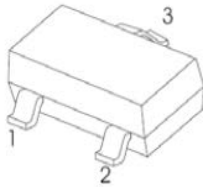
## TRANSISTOR (NPN)

### FEATURES

- Complementary Type The PNP Transistor MMBT3906 is Recommended Epitaxial Planar Die Construction

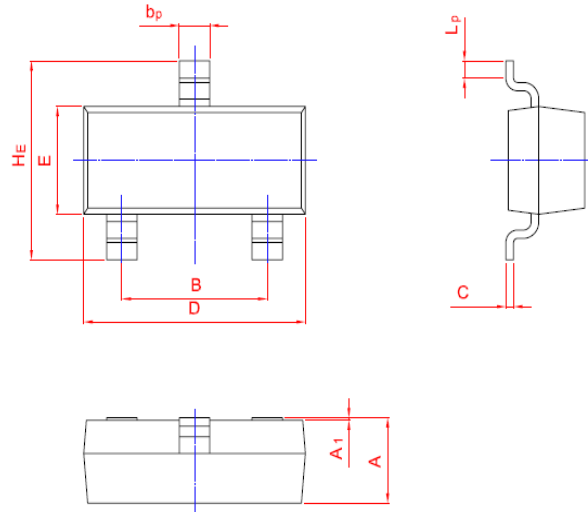
Marking: 1AM

### Pin figure



1. BASE
2. EMITTER
3. COLLECTOR

### SOT-23



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20

### MAXIMUM RATINGS (TA=25°C unless otherwise noted)

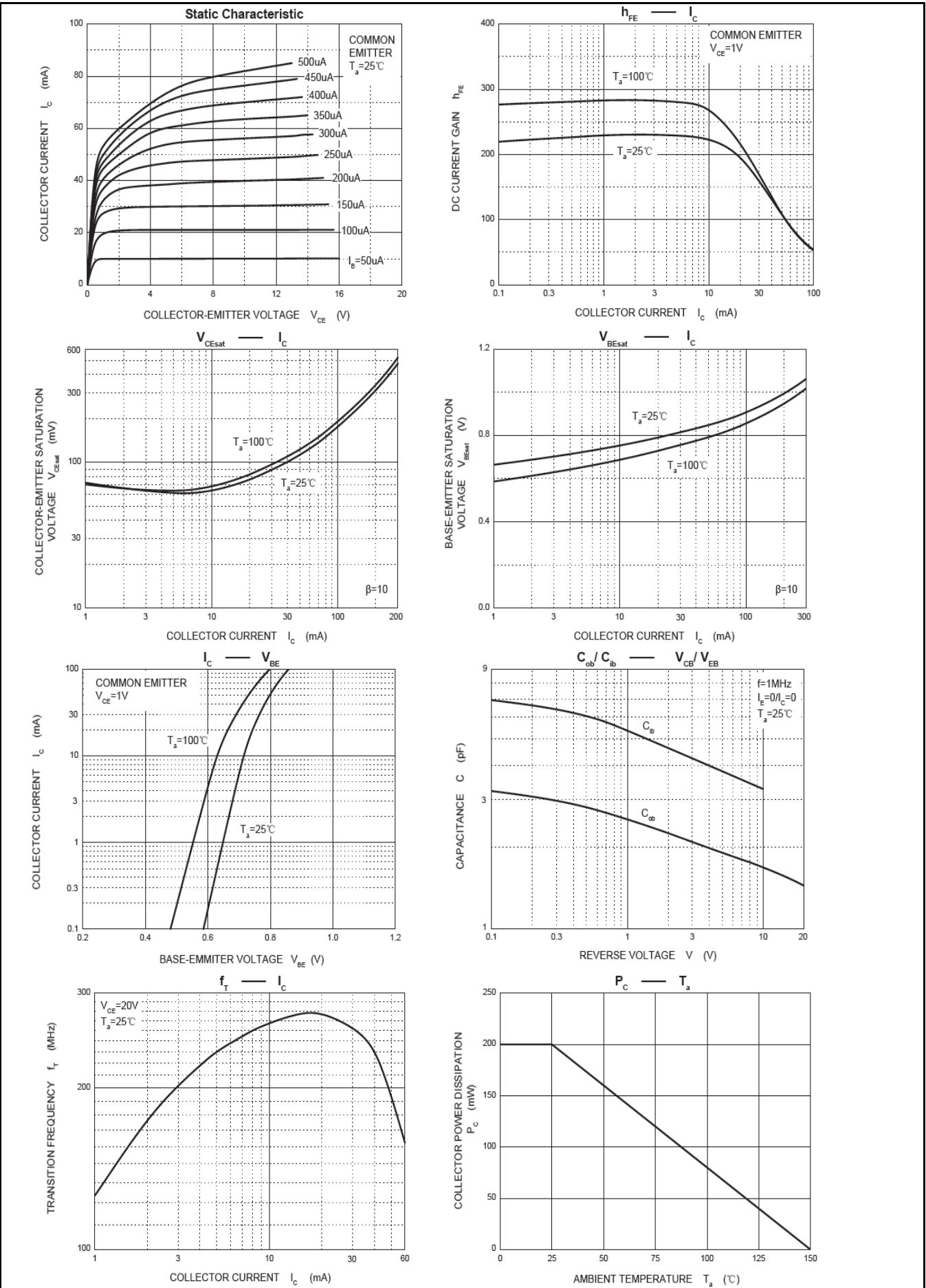
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CB0</sub>	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	40	V
Emitter-Base Voltage	V <sub>EBO</sub>	6.0	V
Collector Current-Continuous	I <sub>C</sub>	200	mA
Collector Power Dissipation	P <sub>C</sub>	200	mW
Thermal Resistance From Junction to Ambient	R <sub>θJA</sub>	625	°C/W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C

### ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0	60	-	V
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1.0mA, I <sub>B</sub> =0	40	-	V
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0	6	-	V
Collector Cut-off Current	I <sub>CB0</sub>	V <sub>CB</sub> =60V, I <sub>E</sub> =0	-	0.1	μA
Collector Cut-off Current	I <sub>CEX</sub>	V <sub>CE</sub> =30V, V <sub>EB(off)</sub> =3.0V	-	50	nA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0	-	0.1	μA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =10mA	100	300	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =50mA	60		
	h <sub>FE(3)</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =100mA	30		
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA		0.3	V
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA		0.95	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =10mA, f=100MHz	300		MHz
Delay Time	t <sub>d</sub>	V <sub>CC</sub> =3V, V <sub>BE</sub> =-0.5V, I <sub>C</sub> =10mA, I <sub>B1</sub> =1mA		35	nS
Rise Time	t <sub>r</sub>	V <sub>CC</sub> =3V, I <sub>C</sub> =10mA, I <sub>B1</sub> =-I <sub>B2</sub> =1.0mA		35	nS
Storage Time	t <sub>s</sub>	V <sub>CC</sub> =3V, I <sub>C</sub> =10mA,		200	nS
Fall Time	t <sub>f</sub>	I <sub>B1</sub> =-I <sub>B2</sub> =1mA		50	nS

# RATING AND CHARACTERISTIC CURVES

## MMBT3904 (Halogen Free)



MMBT3904-7H-99-00-BC1201

The curve graph is for reference only, can't be the basis for judgment(曲线图仅供参考)!

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