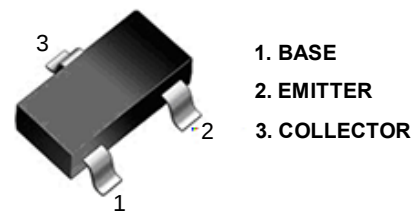


SOT-323 Plastic-Encapsulate Transistors

MMBT3906W TRANSISTOR (PNP)

• Features

- Complementary to MMBT3904W



SOT - 323

• MAXIMUM RATINGS (T_C=25°C)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V _{CBO}	-40	V
Collector-Emitter Voltage	V _{CEO}	-40	V
Emitter-Base Voltage	V _{EBO}	-5	V
Collector Current	I _C	-0.2	A
Collector Power Dissipation	P _C	200	mW
Thermal Resistance From Junction To Ambient	R _{θJA}	625	°C/W
Operation Junction and Storage Temperature Range	T _J , T _{stg}	-55~+150	°C

• ELECTRICAL CHARACTERISTICS (T_a=25°C)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-10μA, I _E =0	-40		V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = -1mA, I _B =0	-40		V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = -10μA, I _C =0	-5		V
Base cut-off current	I _{BL}	V _{CE} =-30V, V _{BE(off)} =-3V		-50	nA
Collector cut-off current	I _{CEx}	V _{CE} =-30V, V _{BE(off)} =-3V		-50	nA
DC current gain	h _{FE1}	V _{CE} =-1V, I _C =-100μA	60		
	h _{FE2}	V _{CE} =-1V, I _C =-1mA	80		
	h _{FE3}	V _{CE} =-1V, I _C =-10mA	100	300	
Collector-emitter saturation voltage	V _{CE(sat)1}	I _C =-50mA, I _B =-5mA		-0.3	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = -50mA, I _B =-5mA		-0.95	V
Transition frequency	f _T	V _{CE} =-20V, I _C =-10mA, f=100MH	250		MHz
Collector output capacitance	C _{ob}	V _{CB} =-5V, I _E =0, f=1MHz		4.5	pF
Collector output capacitance	C _{ib}	V _{EB} =-0.5V, I _E =0, f=1MHz		10	pF
Delay Time	td	V _{CC} =-3V, V _{BE} =-0.5V		35	nS
Rise Time	tr	I _C =-10mA, I _{B1} =I _{B2} =-1mA		35	nS
Storage Time	ts	V _{CC} =-3V, I _C =-10mA		225	nS
Fall Time	tf	I _{B1} =I _{B2} =-1mA		75	nS

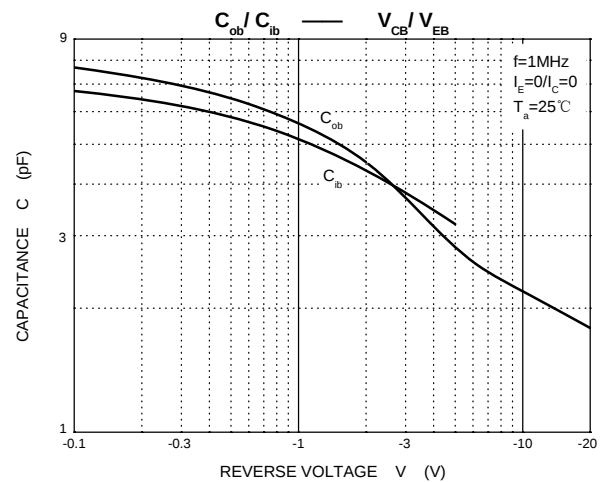
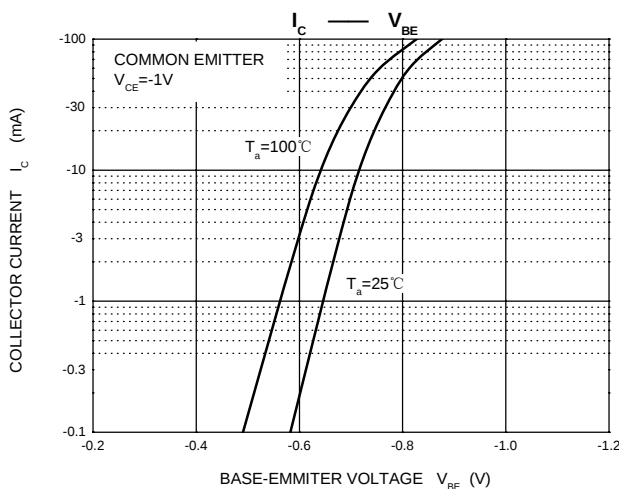
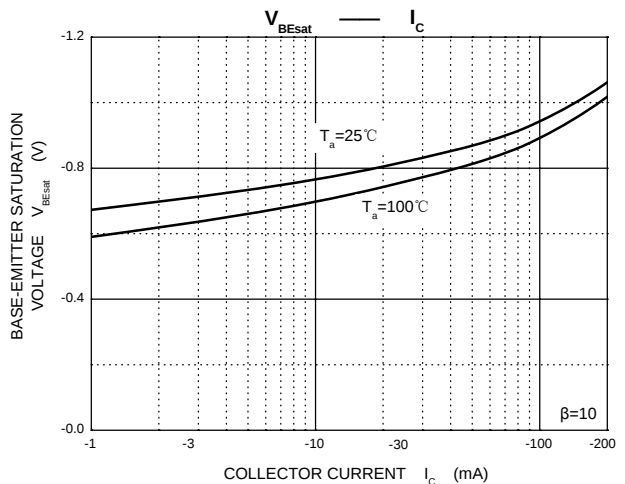
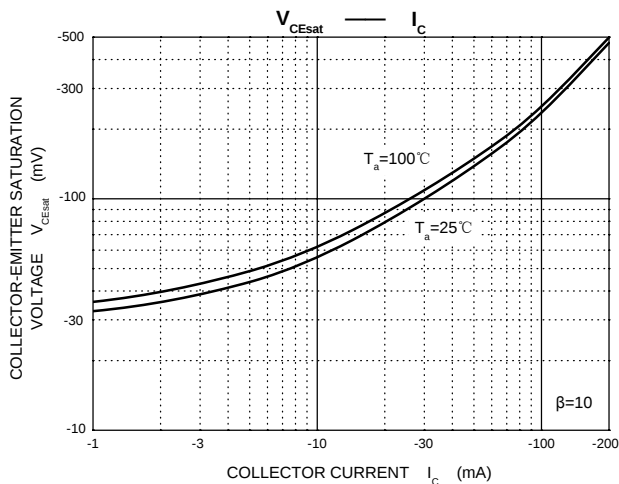
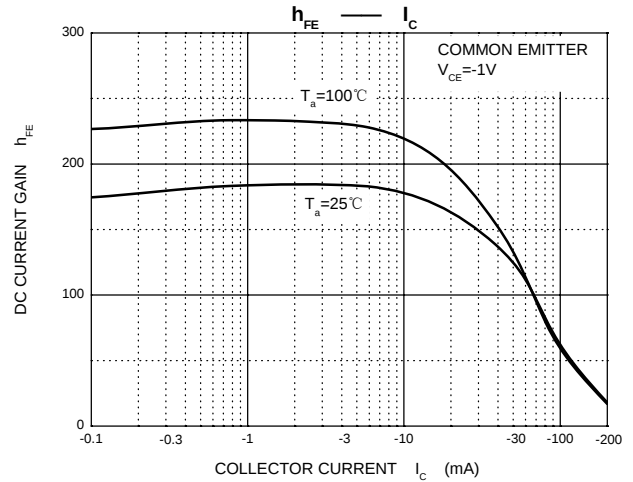
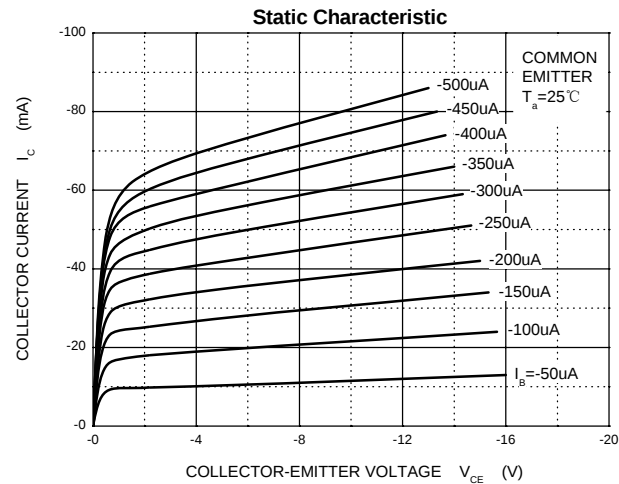
• CLASSIFICATION OF h_{FE(1)}

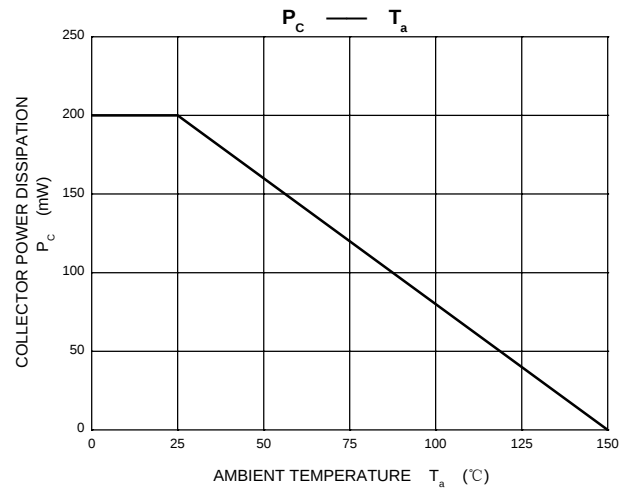
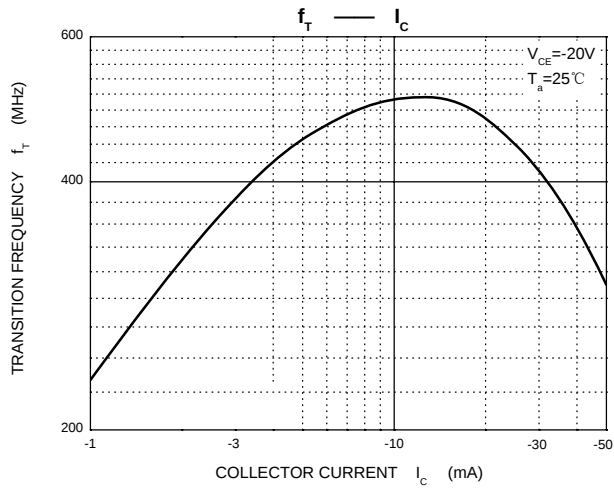
HFE	100-300	
RANK	L	H
RANGE	100 - 200	200 - 300

• Ordering Information:

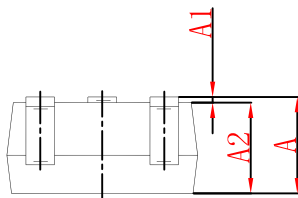
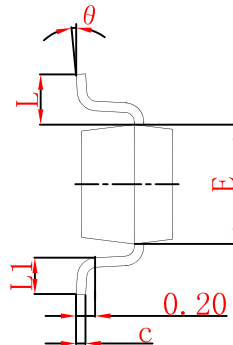
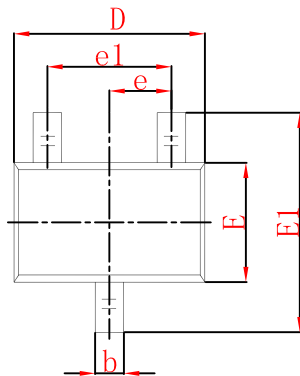
Part NO.	MMBT3906W
Marking	K5N
Packing Information	REEL TAPE
Basic ordering unit (pcs)	3000

• Typical Characteristics

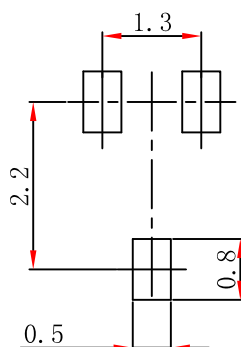




SOT-323 Package Outline Dimensions



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°



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.