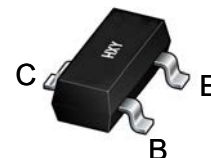




Features

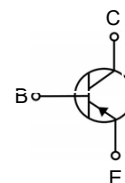
- Collector Current: $I_C=0.2A$
- Power Dissipation of 250mw



SOT-23

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MMBT3906	SOT-23	2A	3000



Maxmim Ratings (Ta=25 unless otherwise noted)

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	-200	mA
Collector Power Dissipation	P_C	200	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55~+150	°C

Classification Of h_{FE}

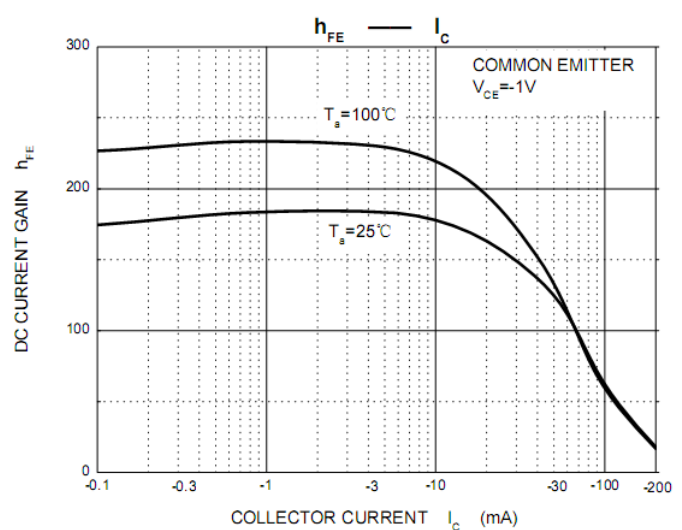
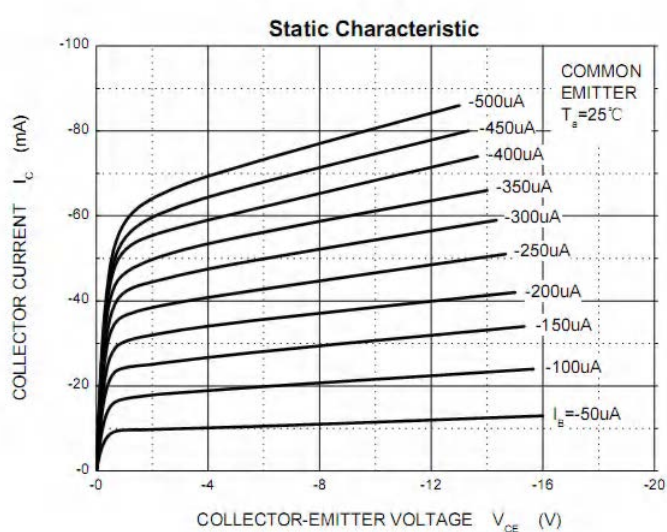
HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

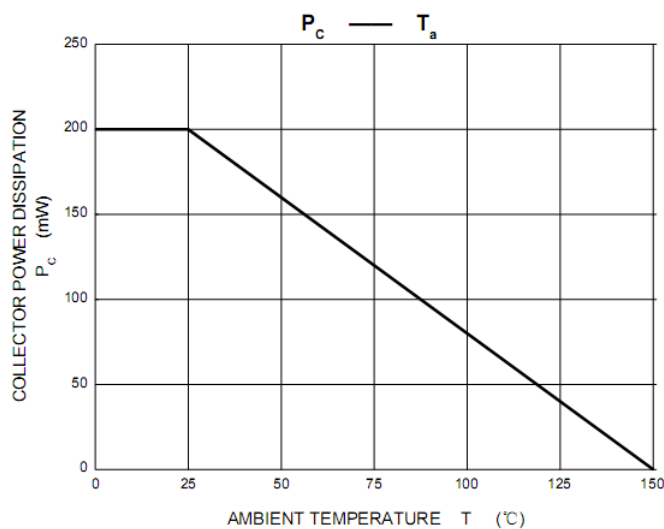
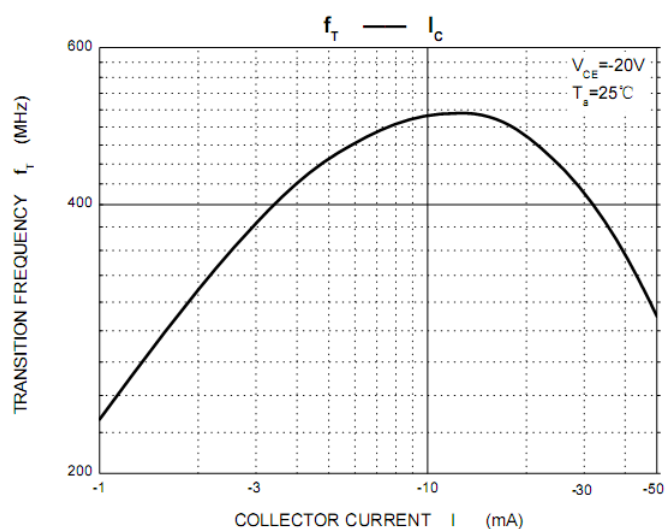
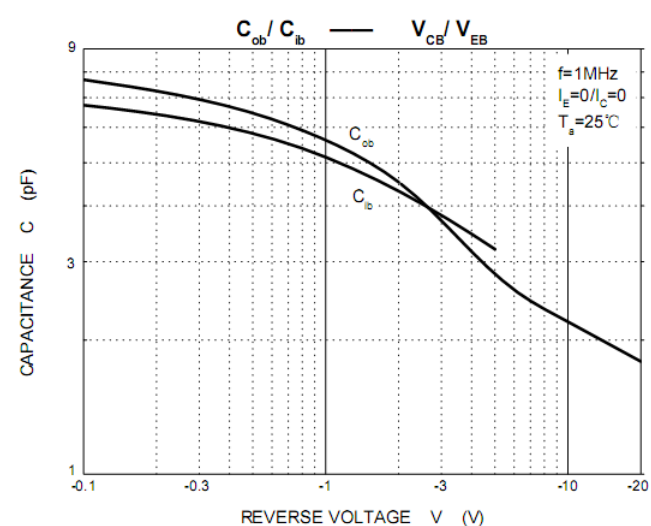
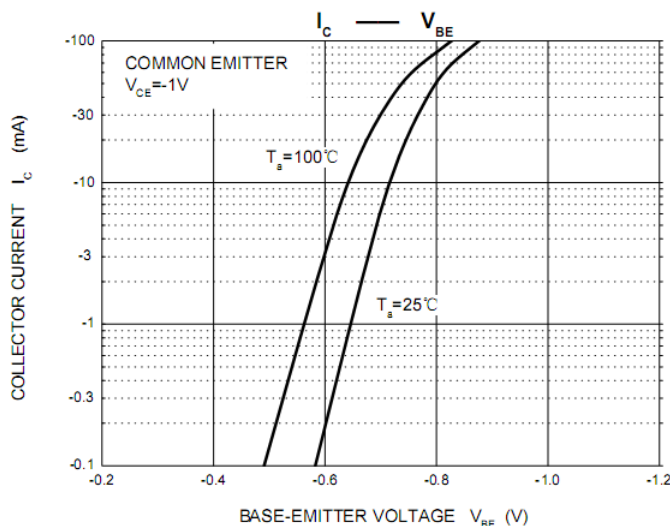
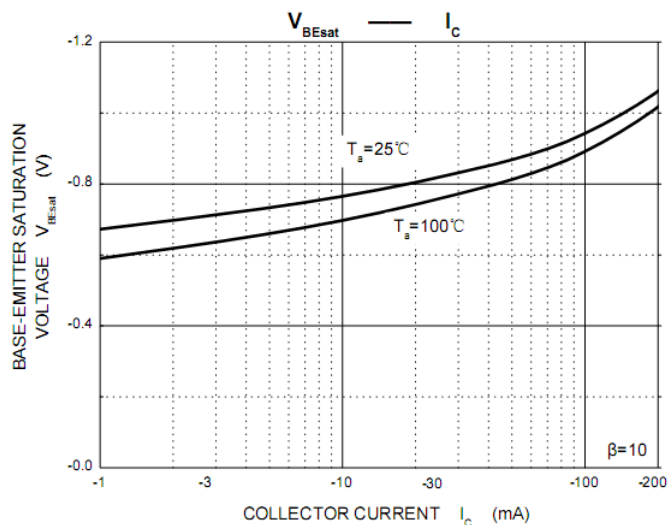
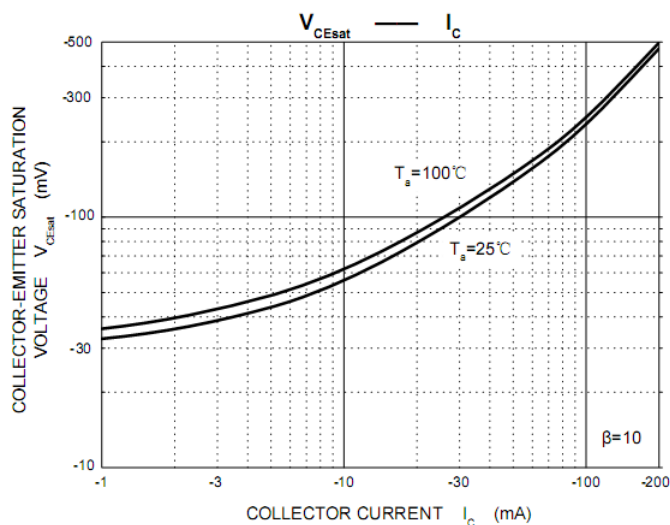


Electrcal Charcteristics ($T_a=25$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB}=-40V, I_E=0$	-100		nA
Collector cut-off current	I_{CEX}	$V_{CE}=-30V, V_{BE(off)}=-3V$	-	50	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5V, I_C=0$		-100	nA
DC current gain	h_{FE1}	$V_{CE}=-1V, I_C=-10mA$	100	300	
	h_{FE2}	$V_{CE}=-1V, I_C=-50mA$	60		
	h_{FE3}	$V_{CE}=-2V, I_C=-100mA$	30		
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	$V_{CE}=-20V, I_C=-10mA, f=100MHz$	300		MHz
Delay Time	t_d	$V_{CC}=-3V, V_{BE}=-0.5V$ $I_C=-10mA, I_{B1}=I_{B2}=-1mA$		35	nS
Rise Time	t_r		35		nS
Storage Time	t_s	$V_{CC}=-3V, I_C=-10mA$ $I_{B1}=I_{B2}=-1mA$	nS	225	
Fall Time	t_f		75		nS

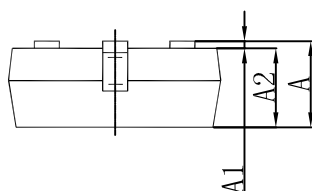
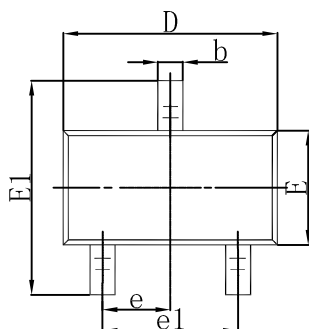
Typical Characteristics





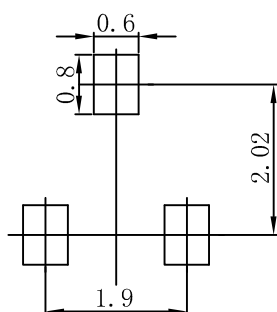


SOT-23 Package Outline Dimensions



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	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



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



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