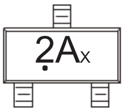
MMBT3906 TRANSISTOR (PNP)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-23-3

FEATURES

- As complementary type, the NPN transistor MMBT3904 is Recommended
- Epitaxial planar die construction



2A= Device code
Solid dot = Green molding compound device, if none, the normal device.
X= Code

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

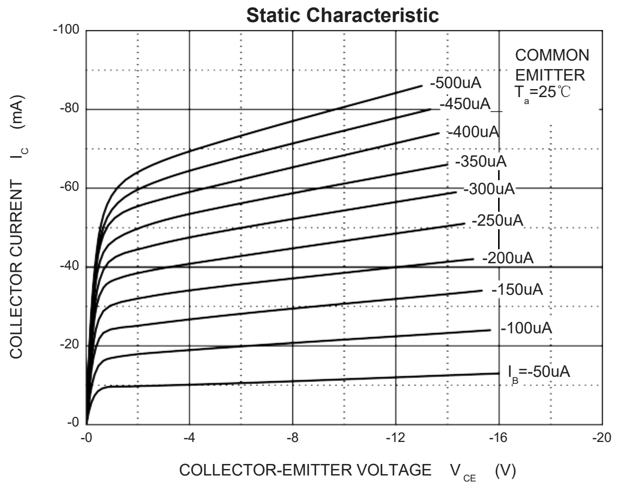
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-0.2	A
P_C	Collector Dissipation	0.2	W
$R_{\theta JA}$	Thermal resistance junction to ambient	625	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

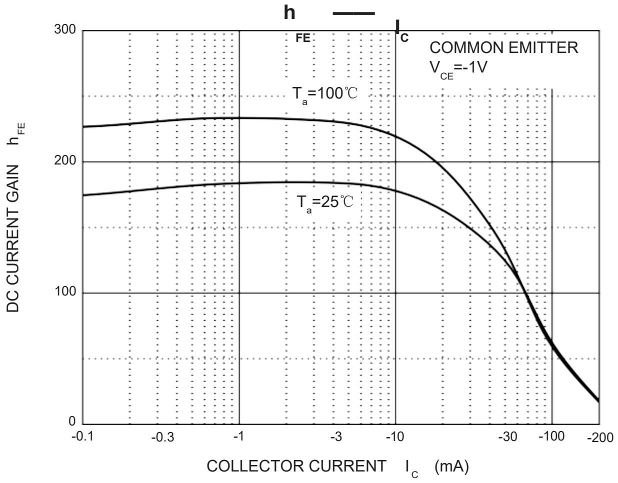
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

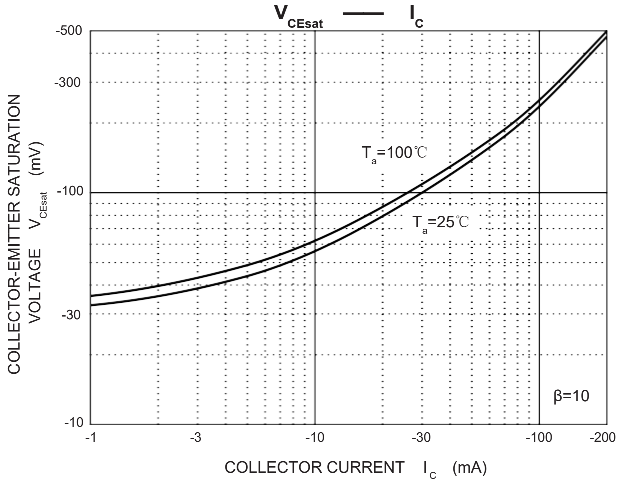
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-10μA, I_E=0	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= -1mA, I_B=0	-40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= -10μA, I_C=0	-5		V
Collector cut-off current	I_{CBO}	V_{CB}= -40 V, 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	td	V_{CC}=-3V,V_{BE}=-0.5V I_C=-10mA, I_{B1}=I_{B2}=-1mA		35	nS
Rise Time	tr			35	nS
Storage Time	ts	V_{CC}=-3V,I_C=-10mA I_{B1}=I_{B2}=-1mA		225	nS
Fall Time	tf			75	nS

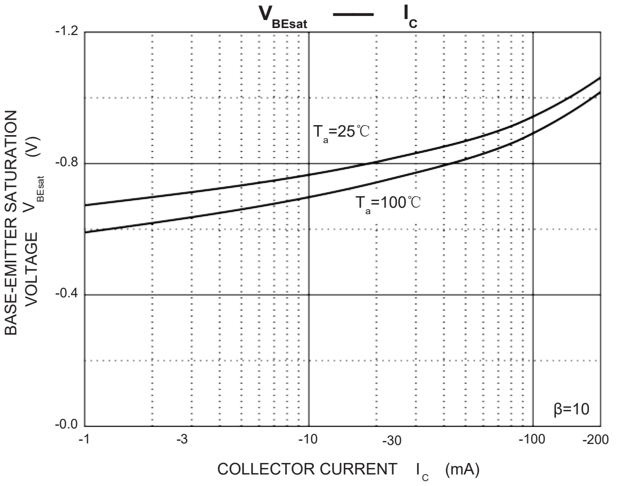
CLASSIFICATION OF $h_{FE(1)}$

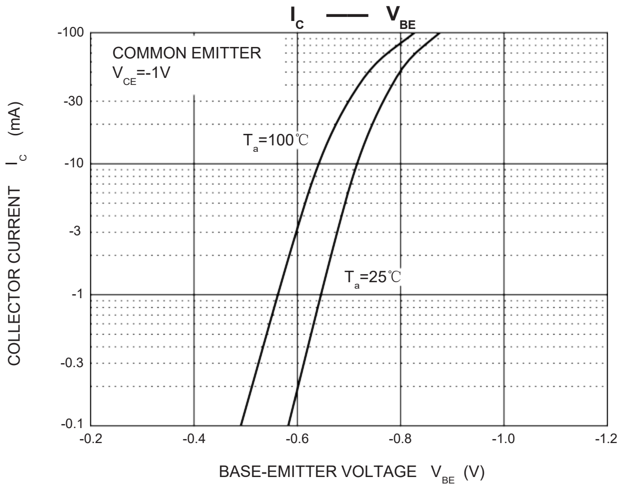
HFE	100-300	
RANK	**L**	**H**
RANGE	100－200	200－300

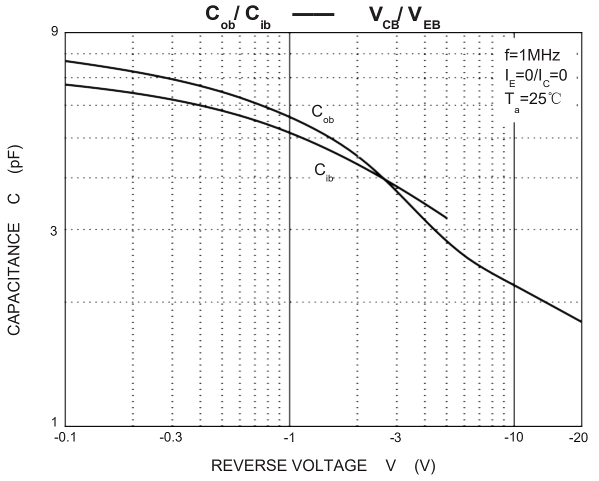

Static Characteristic

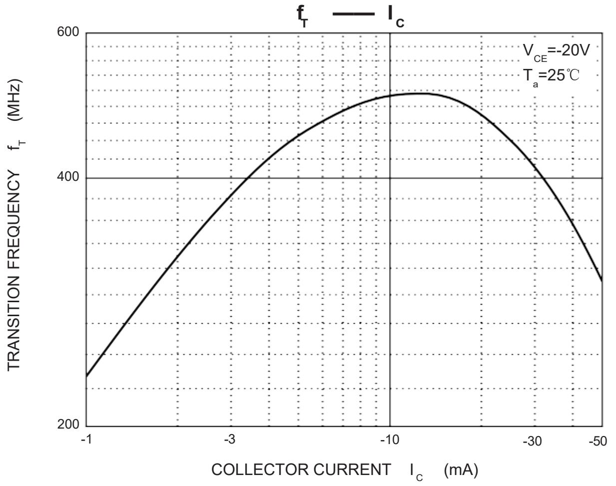

h_{FE} — I_C

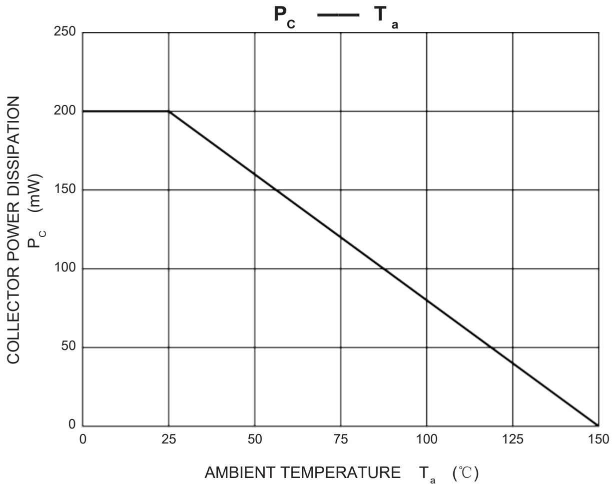

V_{CEsat} — I_C


V_{BEsat} — I_C


I_C — V_{BE}


C_{ob} / C_{ib} — V_{CB} / V_{EB}


f_T — I_C


P_C — T_a