

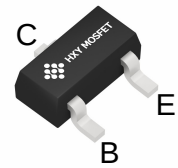


Features

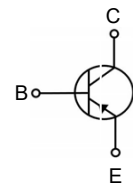
- Collector Current: $I_C=0.6A$
- Power Dissipation of 250mW

Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MMBT2907A	SOT-23	2F	3000



SOT-23



Maxmim Ratings (Ta=25 unless otherwise noted)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-600	mA
Collector Power Dissipation	P_C	250	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	500	°C/W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~+150	°C

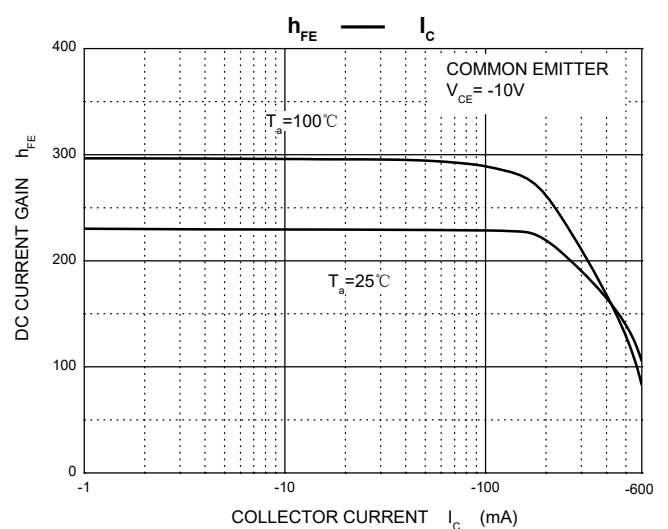
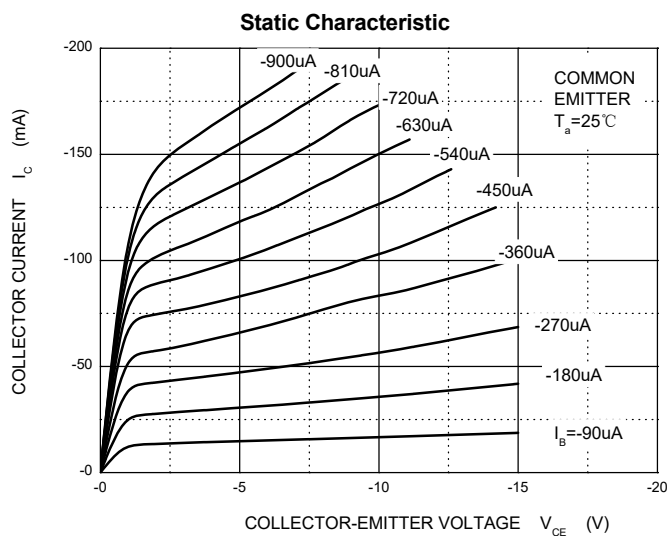


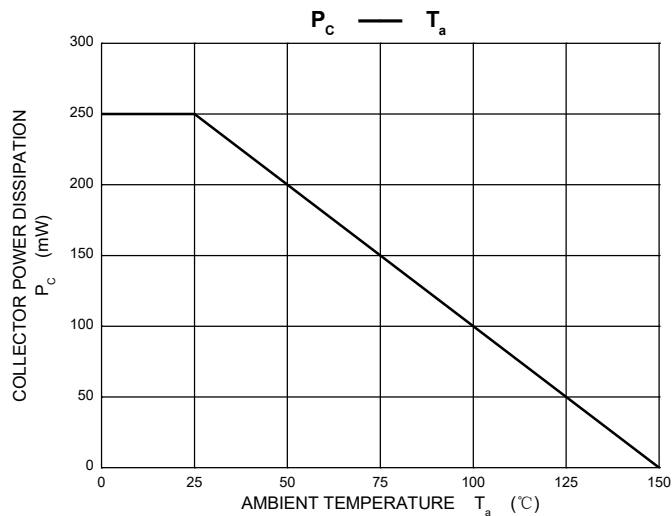
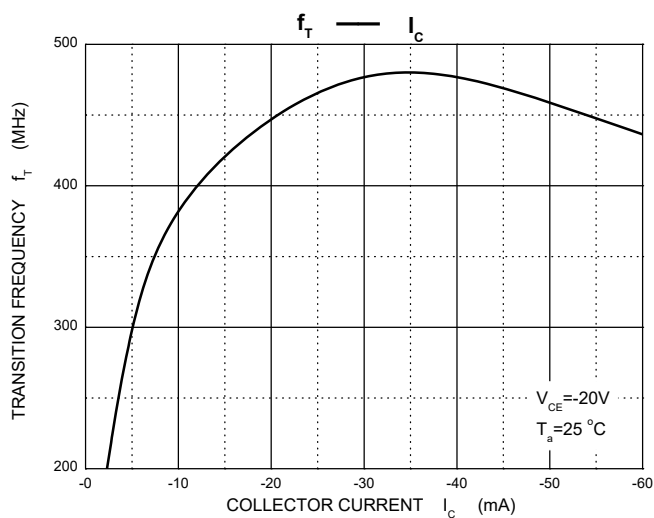
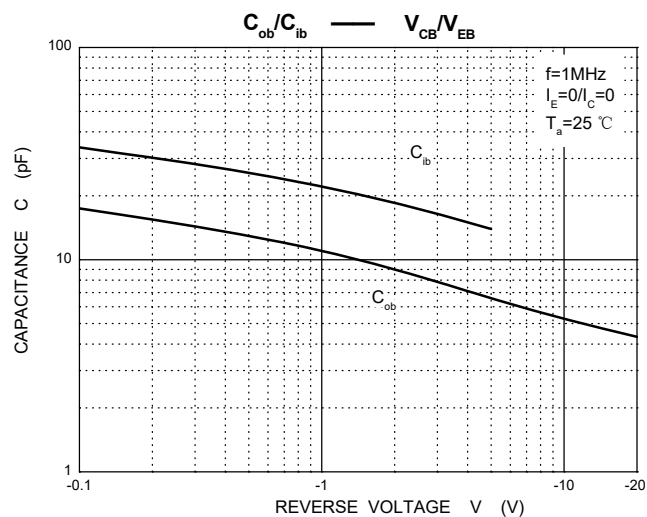
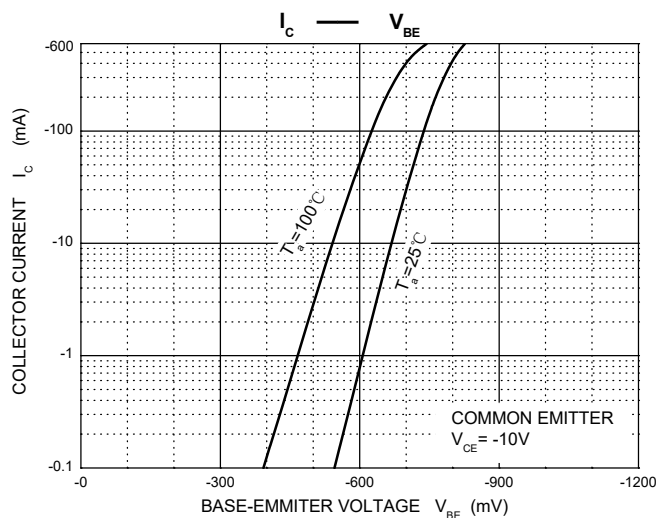
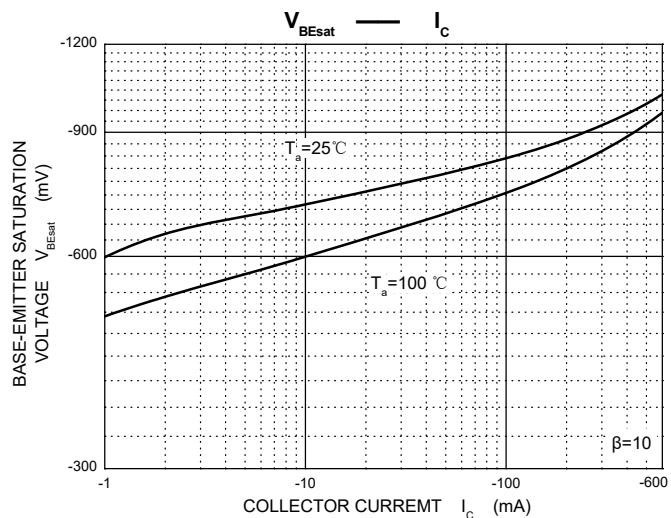
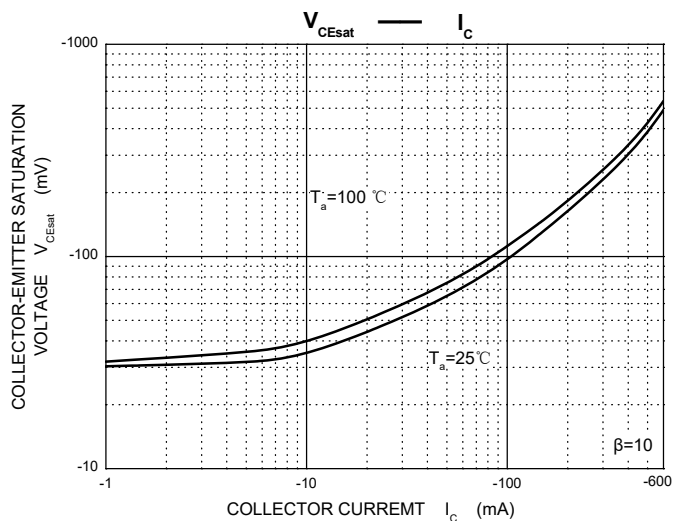
Electrical Characteristics ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=-10\text{mA}, I_B=0$	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-50\text{V}, I_E=0$			-20	nA
Base cut-off current	I_{EBO}	$V_{EB}=-3\text{V}, I_C=0$			-10	nA
Collector cut-off current	I_{CEX}	$V_{CE}=-30\text{V}, V_{BE(off)}=-0.5\text{V}$			-50	nA
DC current gain	$h_{FE(1)}^*$	$V_{CE}=-10\text{V}, I_C=-150\text{mA}$	100		300	
	$h_{FE(2)}^*$	$V_{CE}=-10\text{V}, I_C=-0.1\text{mA}$	52			
	$h_{FE(3)}^*$	$V_{CE}=-10\text{V}, I_C=-500\text{mA}$	32			
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=-150\text{mA}, I_B=-15\text{mA}$			-0.4	V
	$V_{CE(sat)}^*$	$I_C=-500\text{mA}, I_B=-50\text{mA}$			-0.67	V
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=-150\text{mA}, I_B=-15\text{mA}$			-1	V
	$V_{BE(sat)}^*$	$I_C=-500\text{mA}, I_B=-50\text{mA}$			-1.2	V
Transition frequency	f_T	$V_{CE}=-20\text{V}, I_C=-50\text{mA}, f=100\text{MHz}$	200			MHz
Delay time	t_d	$V_{CE}=-30\text{V}, I_C=-150\text{mA}, I_{B1}=-15\text{mA}$			10	ns
Rise time	t_r				25	ns
Storage time	t_s	$V_{CE}=-6\text{V}, I_C=-150\text{mA}, I_{B1}=-I_{B2}=-15\text{mA}$			225	ns
Fall time	t_f				60	ns

*Pulse test: $t_p \leq 300\mu\text{s}$, $\delta \leq 0.02$.

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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