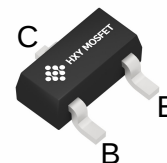


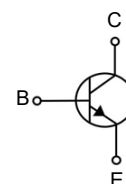


Features

- Collector Current: $I_C=50\text{mA}$
- Power Dissipation of 225mW



SOT-23



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MMBTH10	SOT-23	3EM	3000

Maxmim Ratings (Ta=25 unless otherwise noted)

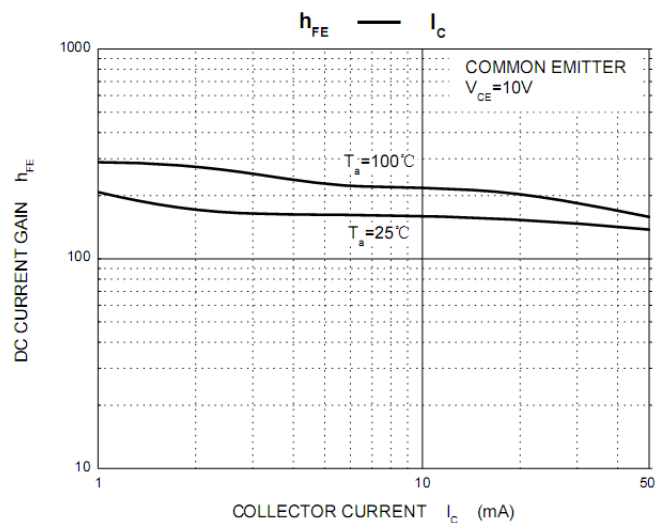
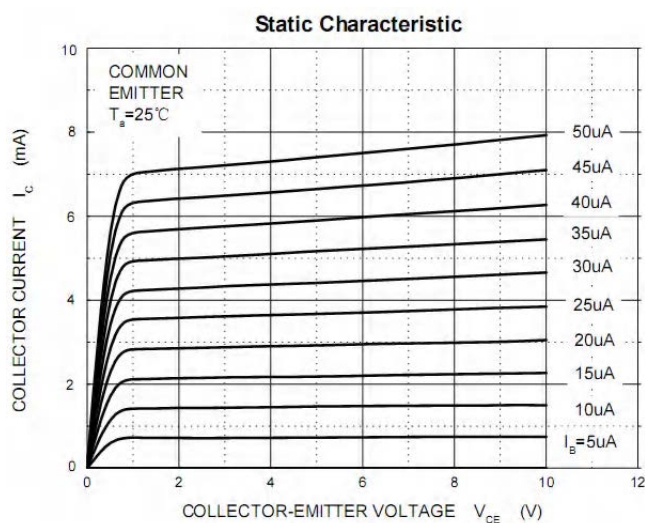
Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	3	V
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	225	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	556	°C/W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~+150	°C

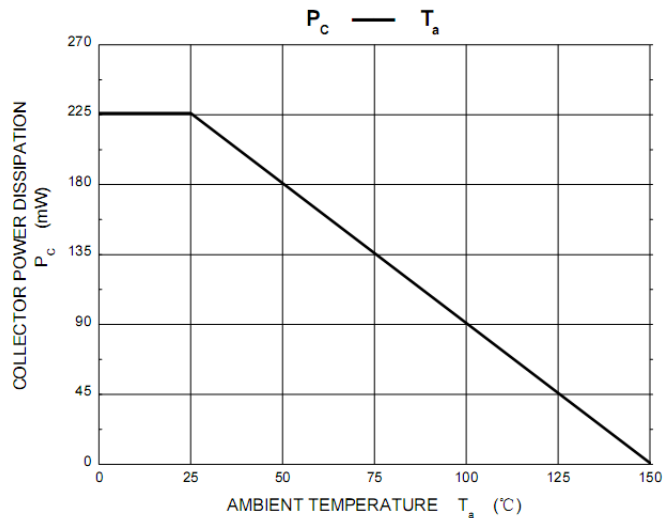
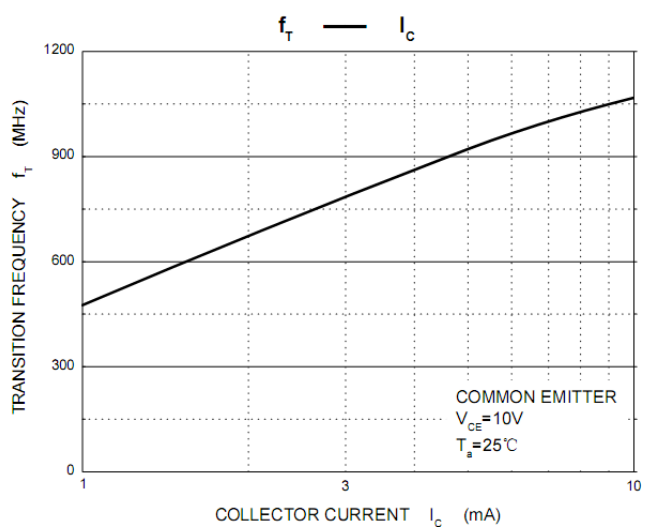
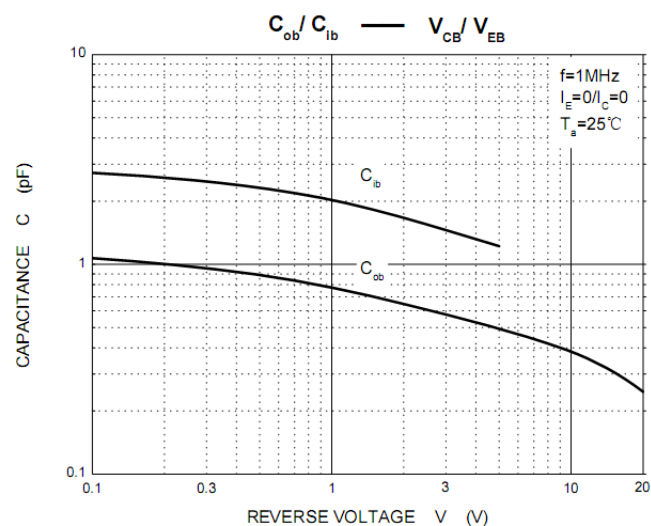
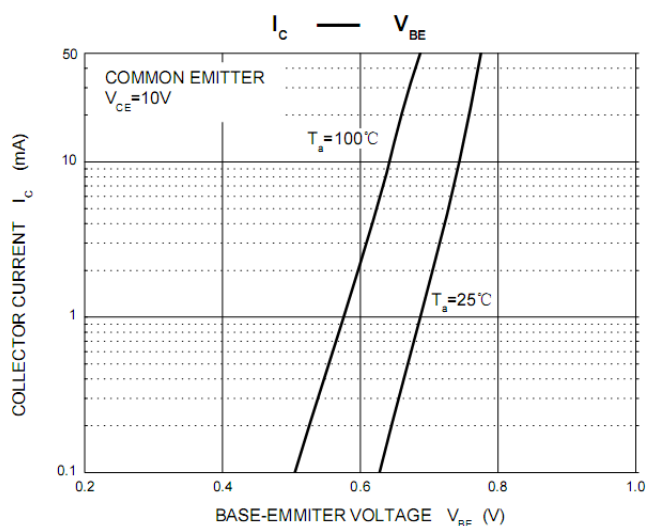
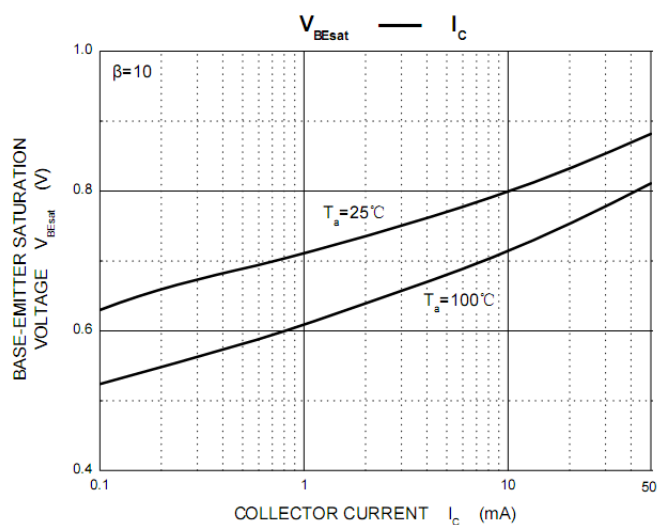
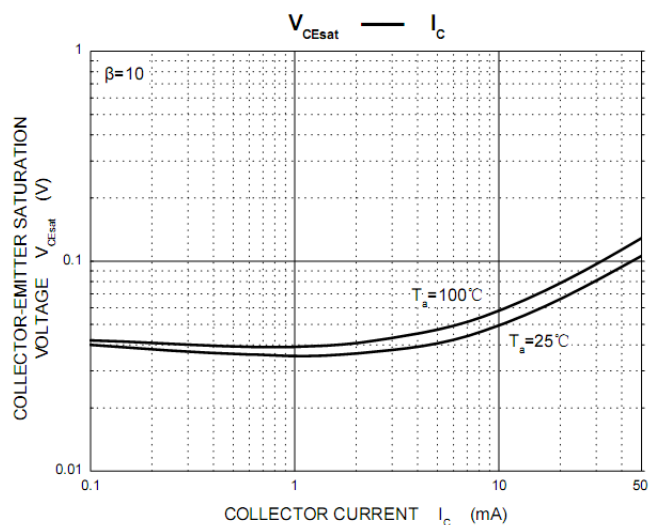


Electrcal Charcteristics (T_a=25 unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	3			V
Collector cut-off current	I_{CBO}	$V_{CB}=25V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=2V, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=10V, I_C=4mA$	100		200	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=4mA, I_B=0.4mA$			0.5	V
Base-emitter voltage	V_{BE}	$V_{CE}=10V, I_C=4mA$			0.95	V
Transition frequency	f_T	$V_{CE}=10V, I_C=4mA$ $f=100MHz$	650			MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$			0.7	pF

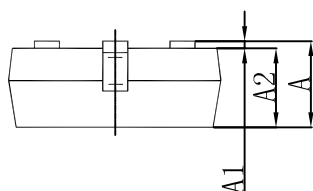
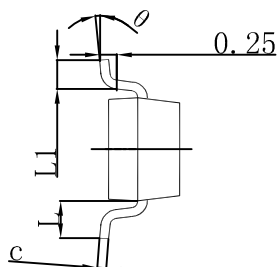
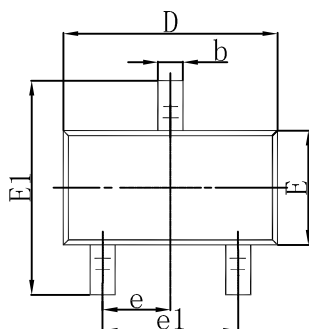
Typical Characteristics





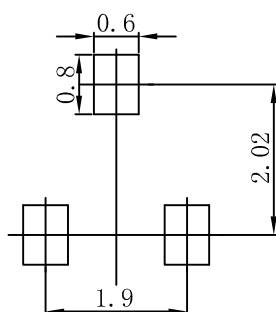


SOT-23 Package Outline Dimensions



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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