



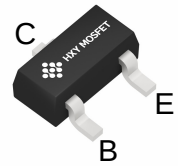
Features

- Collector Current: $I_C = -0.6A$
- Power Dissipation of 300mw

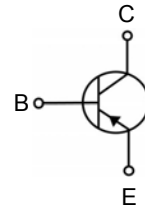
Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MMBT5401	SOT-23	2L	3000

1. BASE
2. EMITTER
3. COLLECTOR



SOT-23



Maxmim Ratings (Ta=25 unless otherwise noted)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	-160	V
Collector-Emitter Voltage	V_{CEO}	-150	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-600	mA
Collector Power Dissipation	P_C	300	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	416	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{stg}	-55~+150	$^{\circ}C$

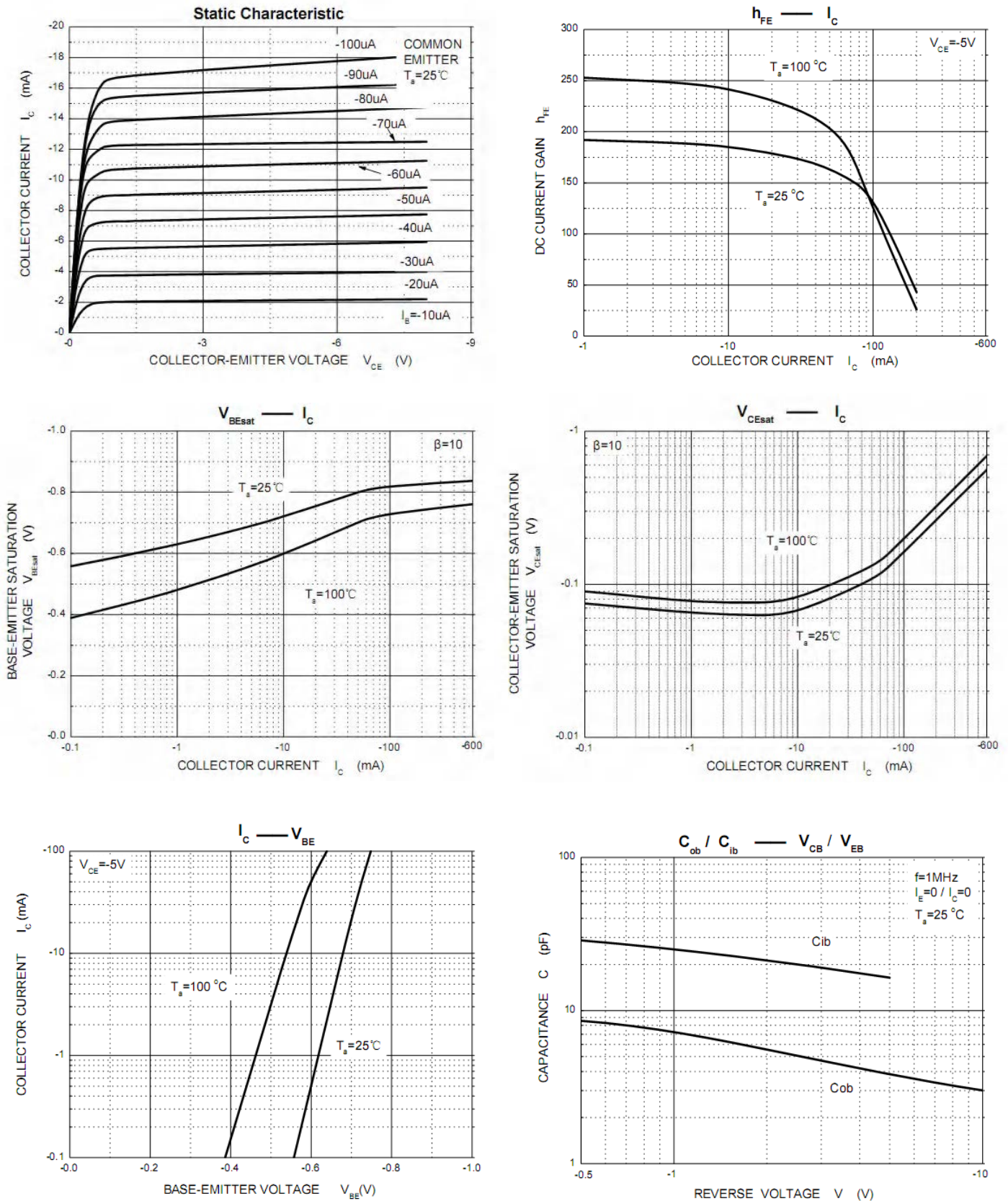
Electrcal Charcteristics (Ta=25 unless otherwise specified)

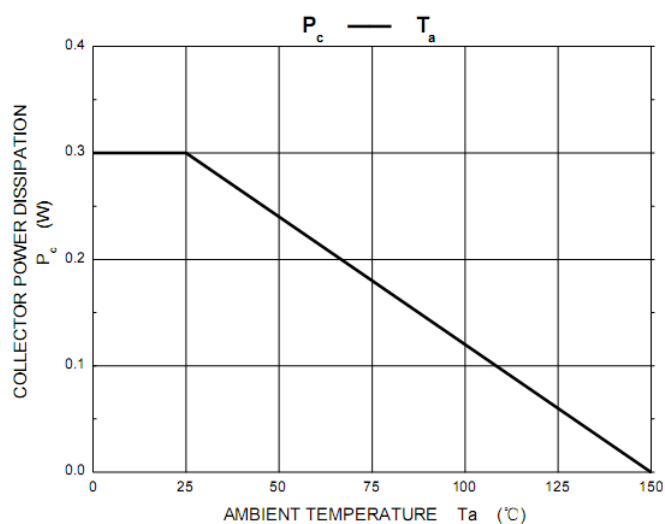
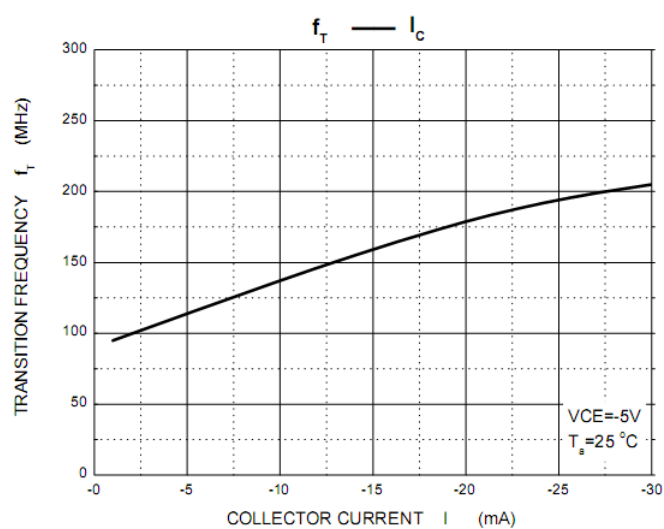
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-160			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C = -1mA, I_B = 0$	-150			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -120V, I_E = 0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-0.1	μA
DC current gain	$h_{FE(1)}^*$	$V_{CE} = -5V, I_C = -1mA$	80			
	$h_{FE(2)}^*$	$V_{CE} = -5V, I_C = -10mA$	100		300	
	$h_{FE(3)}^*$	$V_{CE} = -5V, I_C = -50mA$	50			
Collector-emitter saturation voltage	$V_{CE(sat)1}^*$	$I_C = -10mA, I_B = -1mA$			-0.2	V
	$V_{CE(sat)2}^*$	$I_C = -50mA, I_B = -5mA$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)1}^*$	$I_C = -10mA, I_B = -1mA$			-1	V
	$V_{BE(sat)2}^*$	$I_C = -50mA, I_B = -5mA$			-1	V
Transition frequency	f_T	$V_{CE} = -5V, I_C = -10mA, f = 30MHz$	100			MHz

*Pulse test: pulse width $\leq 300\mu s$, duty cycles $\leq 2.0\%$.



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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