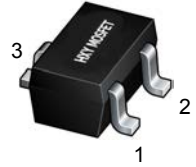




Features

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

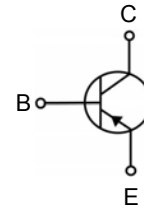
1. BASE
2. EMITTER
3. COLLECTOR



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
HMMBT5401T	SOT-523	2L	3000

SOT-523



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	$^{\circ}C$

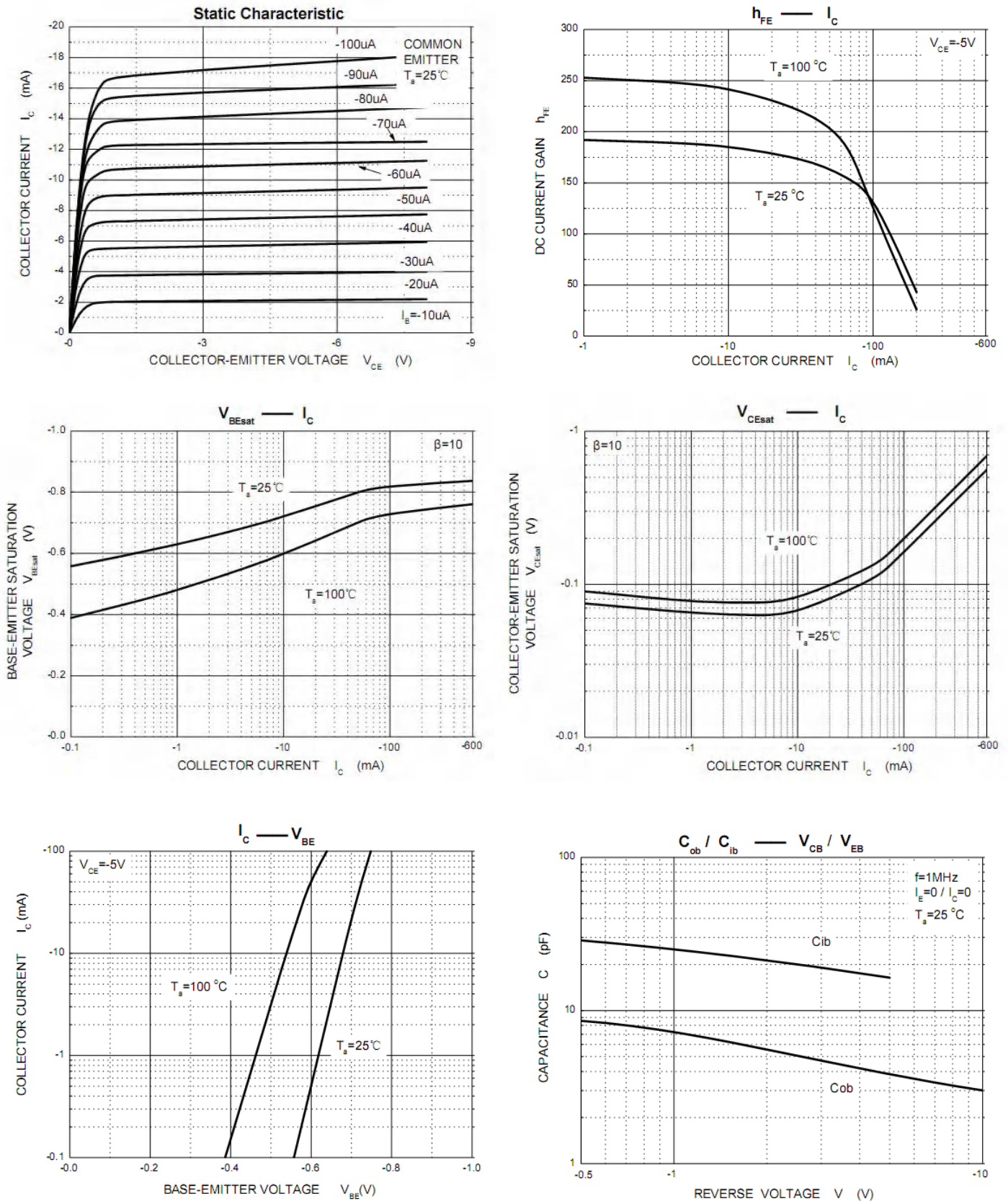
Electrcal Charcteristics (Ta=25 unless otherwise specified)

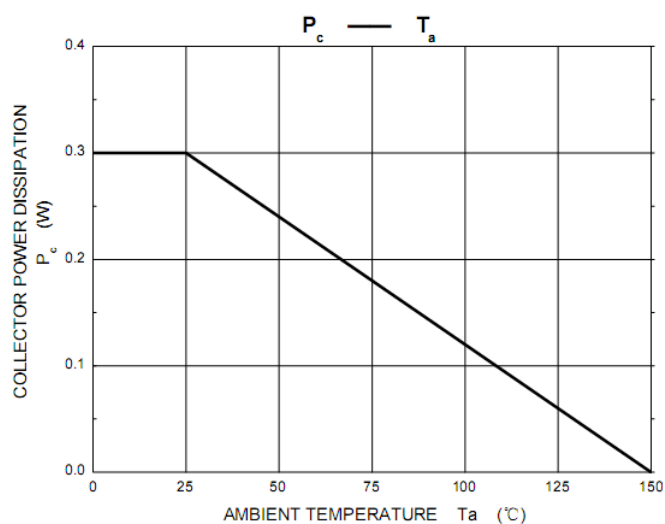
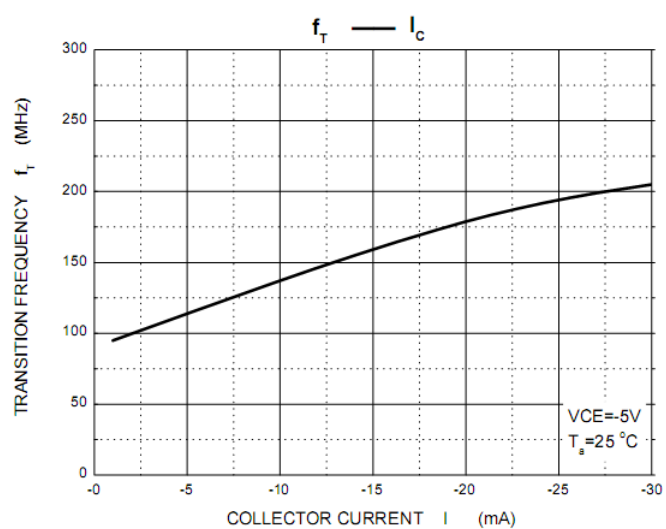
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-160			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-150			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Collector 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 $\leq 2.0\%$.



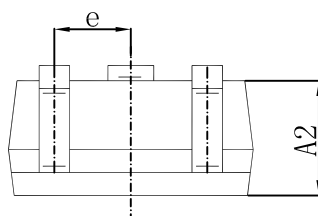
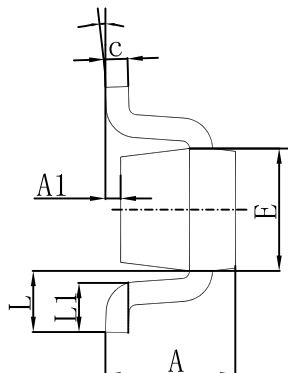
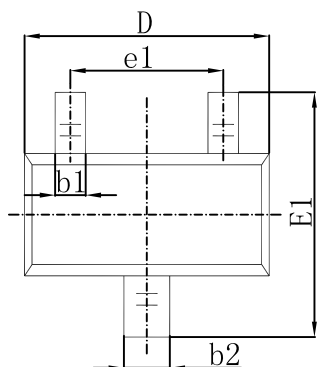
Typical Characteristics





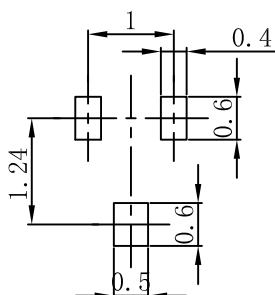


SOT-523 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-523 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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