

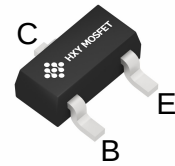


Features

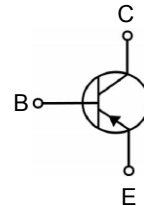
- High Breakdown Voltage

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MMBTA94	SOT-23	4D	3000



SOT-23



Maximum Ratings (Ta=25°C unless otherwise noted)

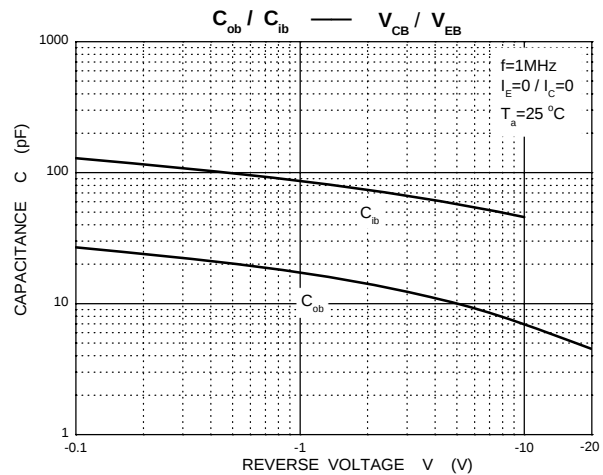
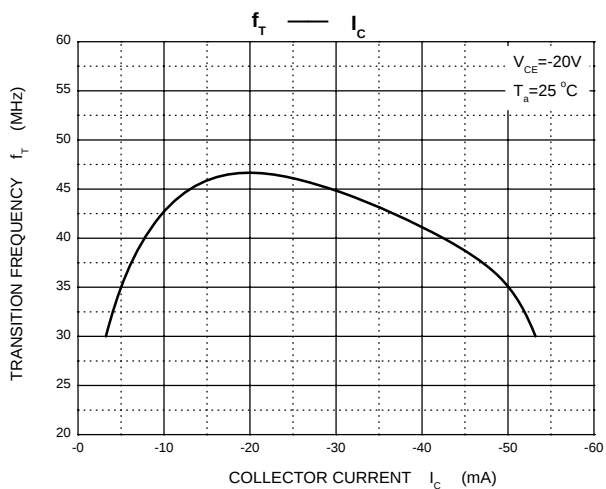
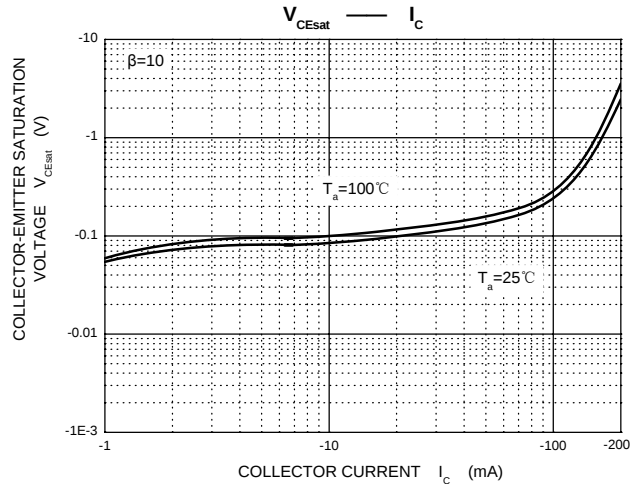
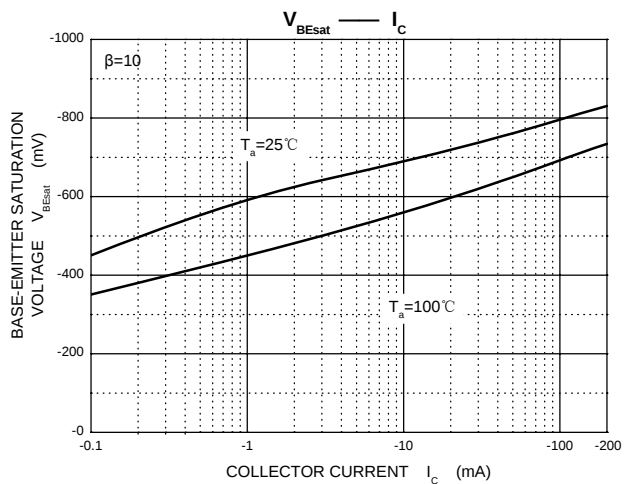
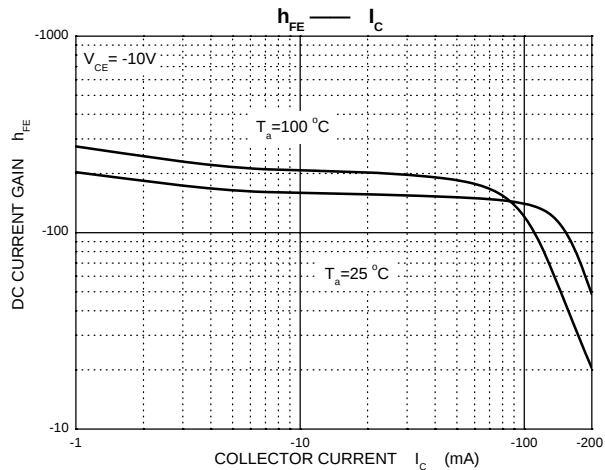
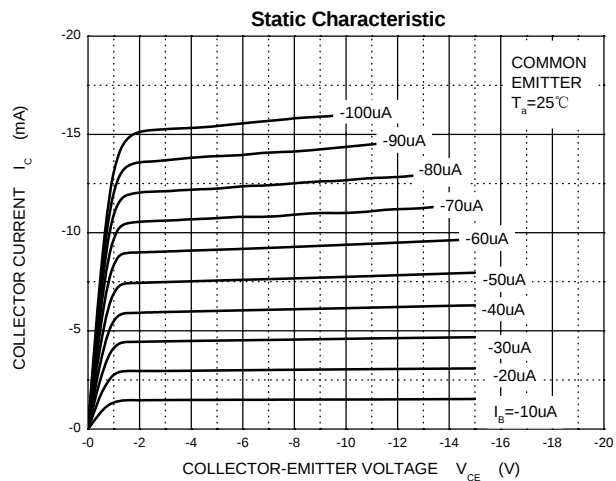
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-400	V
V_{CEO}	Collector-Emitter Voltage	-400	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-200	mA
I_{CM}	Collector Current -Pulsed	-300	mA
P_C	Collector Power Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	357	°C/W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

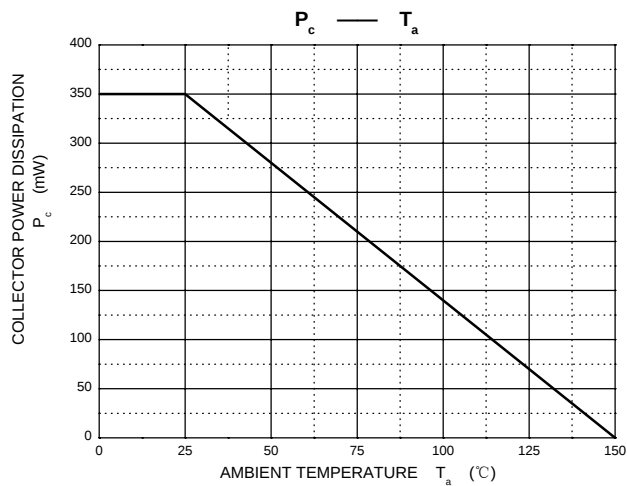
Electrical Characteristics (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-400		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-400		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_C = 0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB} = -400V, I_E = 0$		-0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = -400V, I_B = 0$		-5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$		-0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = -10V, I_C = -10mA$	100	200	
	$h_{FE(2)}$	$V_{CE} = -10V, I_C = -1mA$	70		
	$h_{FE(3)}$	$V_{CE} = -10V, I_C = -100mA$	40		
	$h_{FE(4)}$	$V_{CE} = -10V, I_C = -50mA$	40		
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C = -10mA, I_B = -1mA$		-0.2	V
	$V_{CE(sat)2}$	$I_C = -50mA, I_B = -5mA$		-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -10mA, I_B = -1mA$		-0.75	V
Transition frequency	f_T	$V_{CE} = -20V, I_C = -10mA, f = 30MHz$	50		MHz

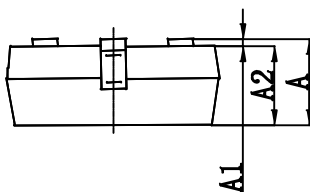
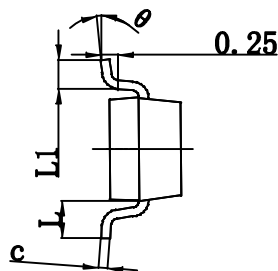
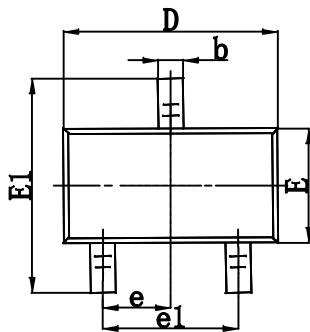


Typical Characteristics



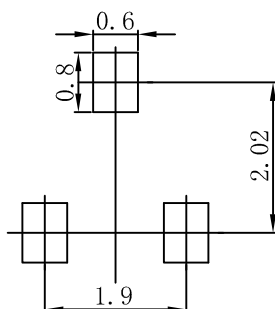


SOT-23 Package Outline Dimensions



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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