

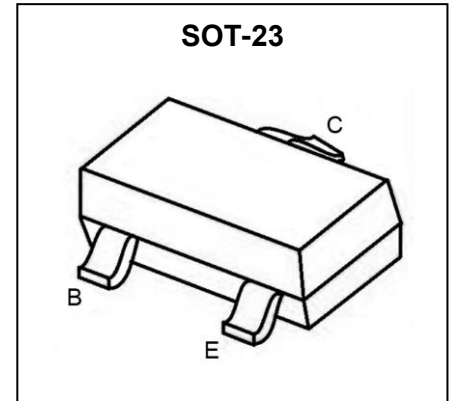


MMBTA44 Transistor(NPN)

Feature

- For Switching and Amplifier Applications
- High Collector-Emitter Voltage

Marking: 3D



MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

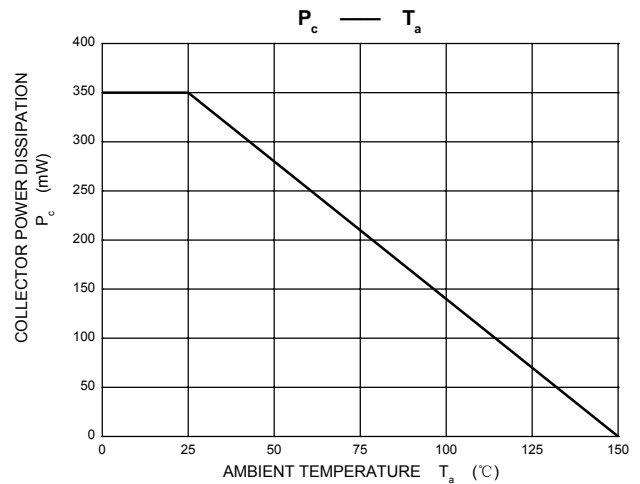
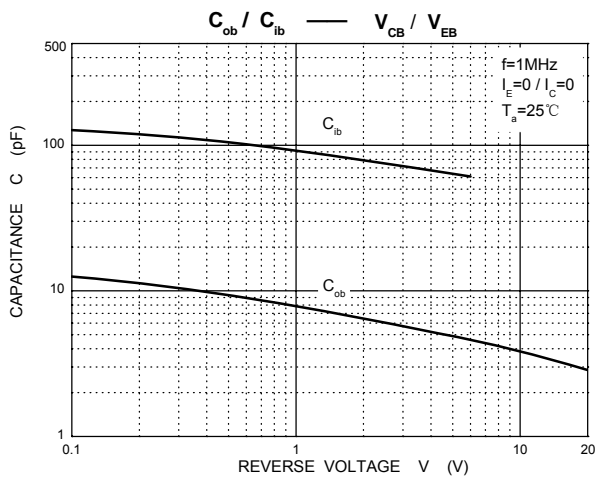
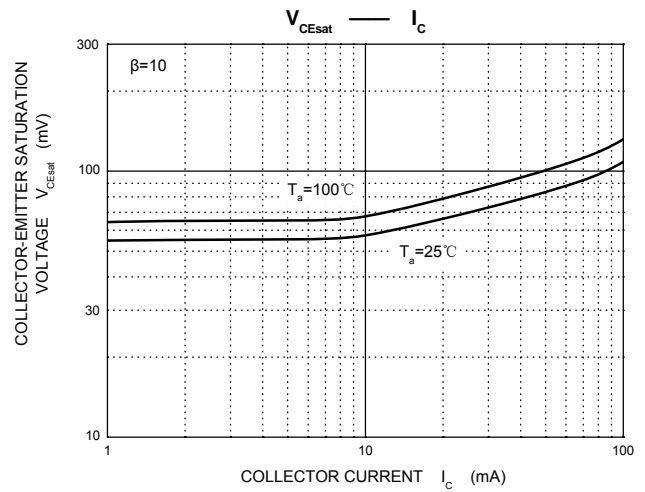
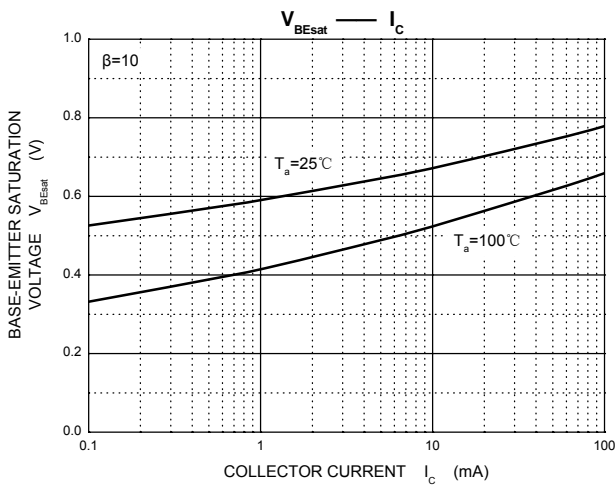
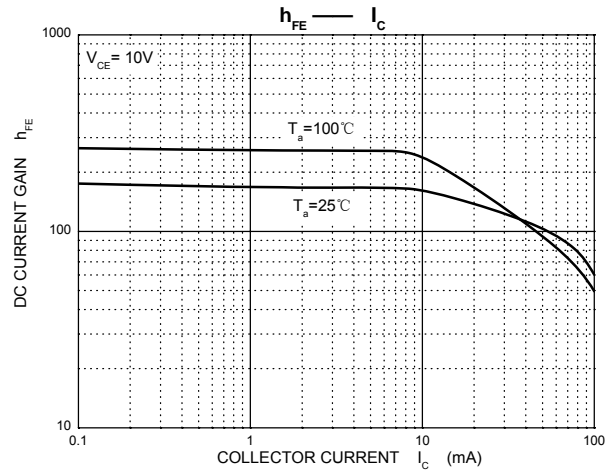
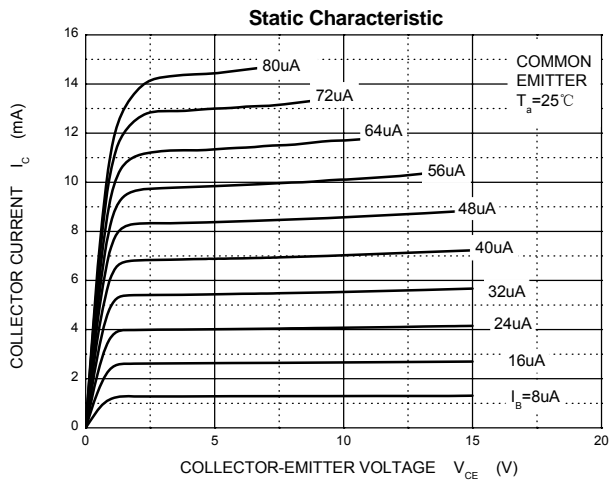
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	400	V
Collector-Emitter Voltage	V _{CEO}	400	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current -Continuous	I _c	0.2	A
Power Dissipation	P _d	0.35	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

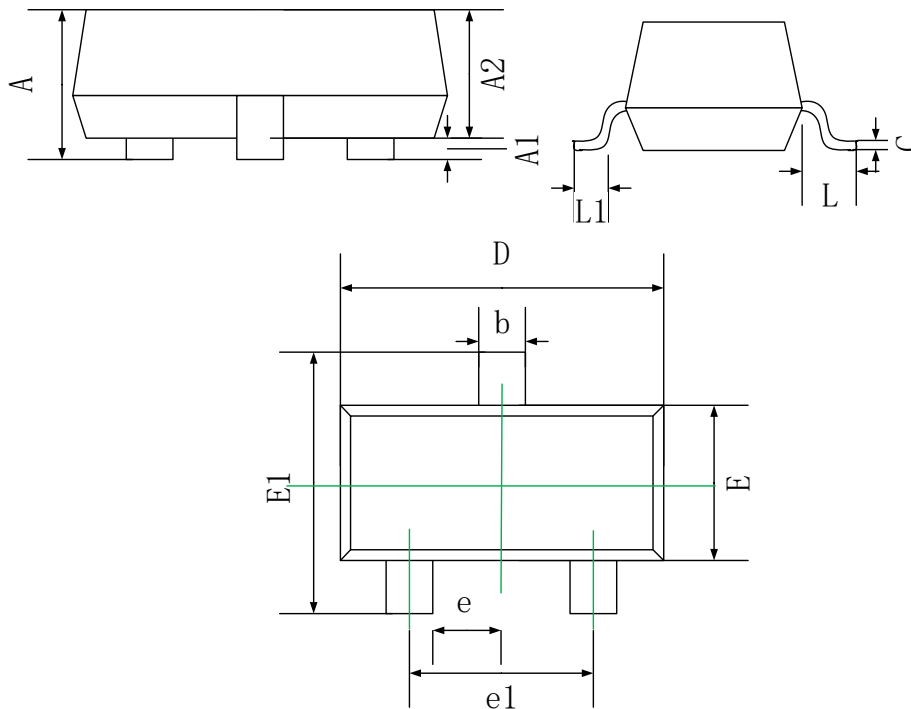
Parameter	Symbol	Test Condition	Min	Max	Unit
Collector-base breakdown voltage	V _{(BR)CB0}	I _c =100μA, I _E =0	400		V
Collector-emitter breakdown voltage	V _{(BR)CEO*}	I _c =1mA, I _B =0	400		V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	6		V
Collector cut-off current	I _{CBO}	V _{CB} =400V, I _E =0		100	nA
Emitter cut-off current	I _{EBO}	V _{EB} =4V, I _C =0		100	nA
DC current gain	h _{FE} *	V _{CE} =10V, I _C =1mA	40		
		V _{CE} =10V, I _C =10mA	50	200	
		V _{CE} =10V, I _C =50mA	45		
		V _{CE} =10V, I _C =100mA	40		
Collector-emitter saturation voltage	V _{CE(sat)} *	I _C =1mA, I _B =0.1mA		0.4	V
		I _C =10mA, I _B =1mA		0.5	V
		I _C =50mA, I _B =5mA		0.75	V
Base-emitter saturation voltage	V _{BE(sat)} *	I _C =10mA, I _B =1mA		0.75	V
Collector output capacitance	C _{ob}	V _{CB} =20V, I _E =0, f=1MHz		7	pF
Emitter input capacitance	C _{ib}	V _{CB} =0.5V, I _E =0, f=1MHz		130	pF
Transition frequency	f _T	V _{CE} =20V, I _C =10mA, f=30MHz	50		MHZ

*Pulse test: pulse width ≤300μs, duty cycle ≤ 2.0%.

Typical Characteristics

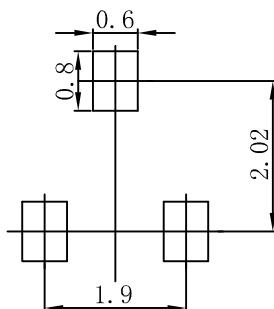


SOT-23 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.