

Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

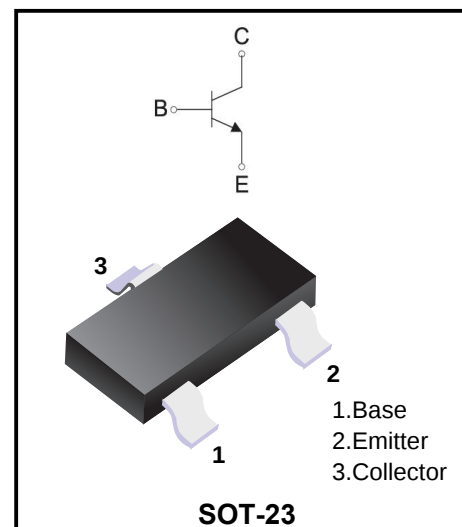
FEATURES

- ◆ High Collector-Emitter Voltage
- ◆ Complement to MMBTA94

Marking Code

MMBTA44

3D



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

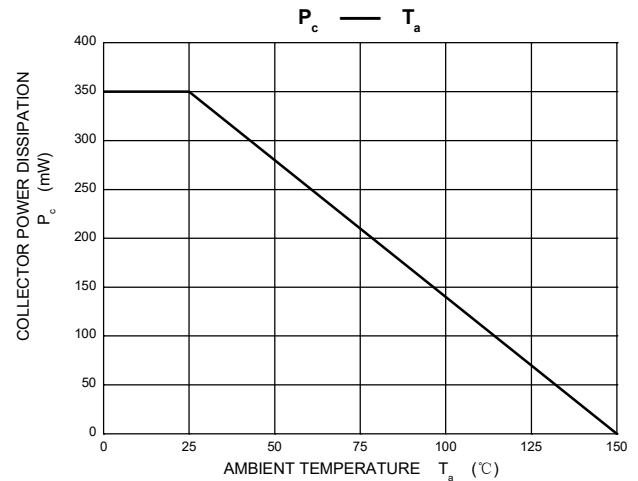
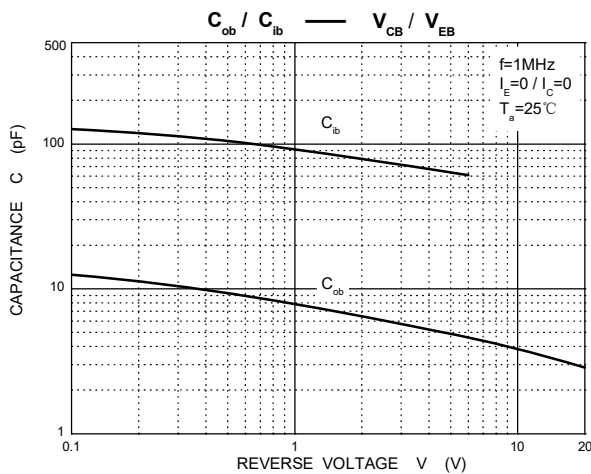
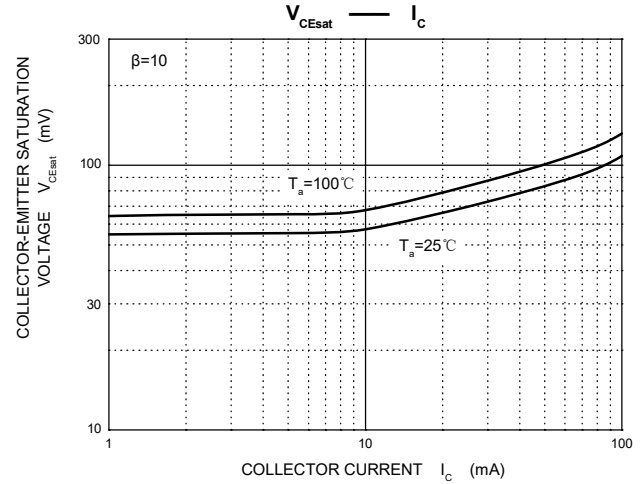
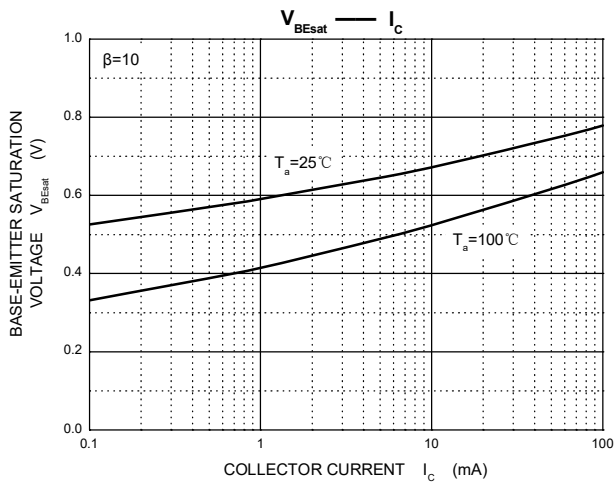
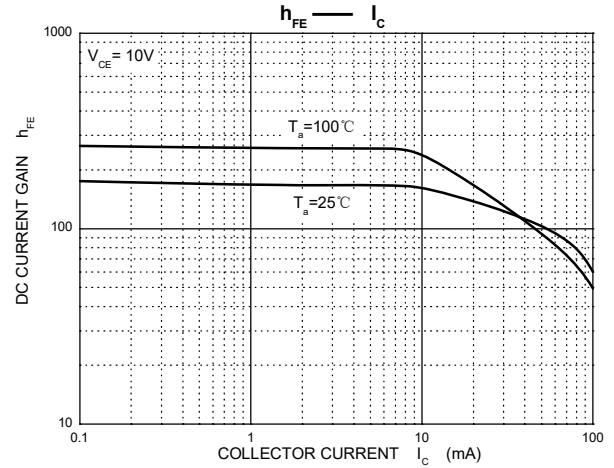
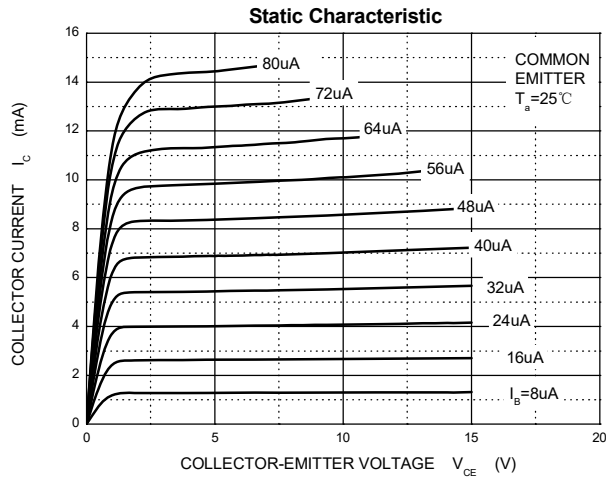
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	400	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	200	mA
Collector Current -Pulsed	I_{CM}	300	mA
Collector Power Dissipation	P_C	350	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	357	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55~+150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	$V_{(BR)CBO}$	400			V
Collector-emitter breakdown voltage	$I_C=1mA, I_B=0$	$V_{(BR)CEO}$	400			V
Emitter-base breakdown voltage	$I_E=10\mu A, I_C=0$	$V_{(BR)EBO}$	6			V
Collector cut-off current	$V_{CB}=400V, I_E=0$	I_{CBO}			0.1	μA
Emitter cut-off current	$V_{EB}=4V, I_C=0$	I_{EBO}			0.1	μA
DC current gain	$V_{CE}=10V, I_C=1mA$	$h_{FE(1)}$	40			
	$V_{CE}=10V, I_C=10mA$	$h_{FE(2)}$	50		200	
	$V_{CE}=10V, I_C=50mA$	$h_{FE(3)}$	45			
	$V_{CE}=10V, I_C=100mA$	$h_{FE(4)}$	40			
Collector-emitter saturation voltage	$I_C=1mA, I_B=0.1mA$	$V_{CE(sat)1}$			0.4	V
	$I_C=10mA, I_B=1mA$	$V_{CE(sat)2}$			0.5	V
	$I_C=50mA, I_B=5mA$	$V_{CE(sat)3}$			0.75	V
Base-emitter saturation voltage	$I_C=10mA, I_B=1mA$	$V_{BE(sat)}$			0.75	V
Collector output capacitance	$V_{CB}=20V, I_E=0, f=1MHz$	C_{ob}			7	pF
Emitter input capacitance	$V_{EB}=0.5V, I_C=0, f=1MHz$	C_{ib}			130	pF

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

Typical Characteristics



Ordering information

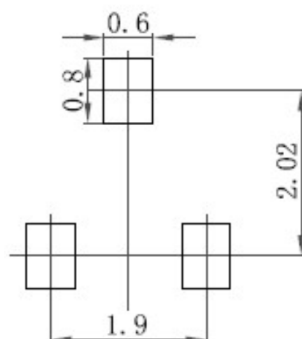
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-23

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



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