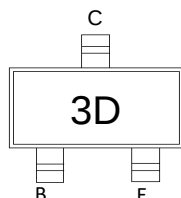
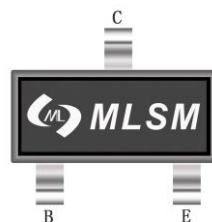


Features

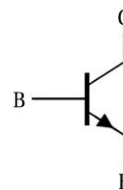
- High Collector-Emitter Voltage
- Complement to MMBTA94



Marking and pin assignment



SOT-23 top view



Schematic diagram



Pb-Free



Halogen-Free

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	6	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 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)

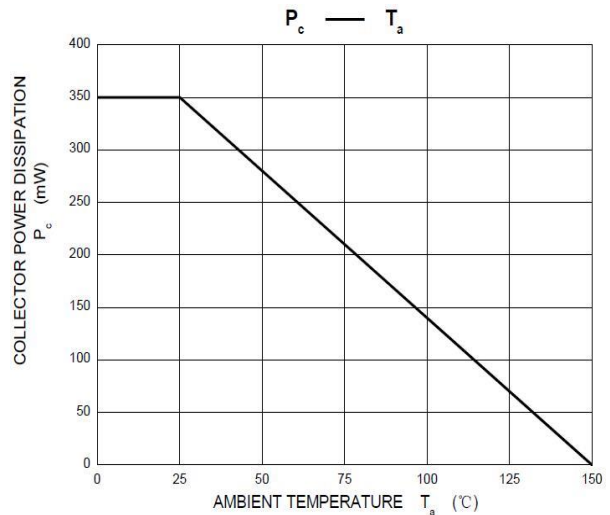
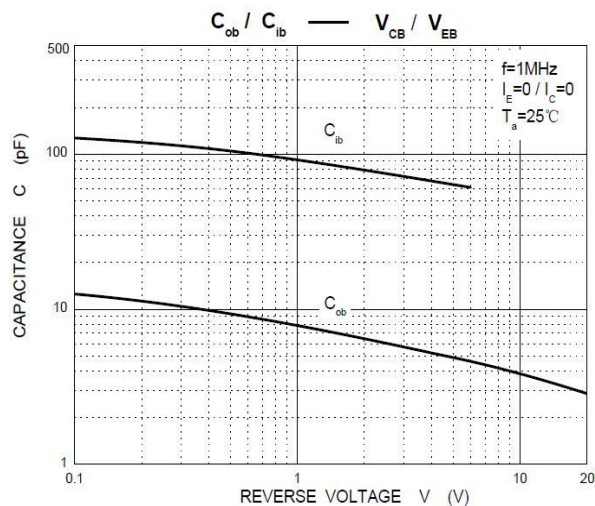
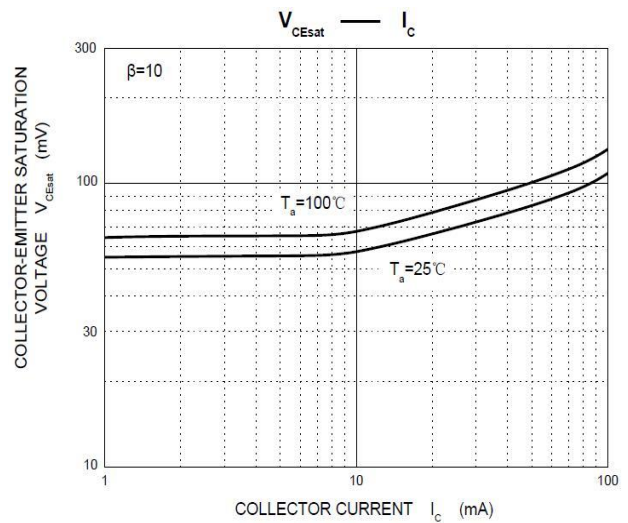
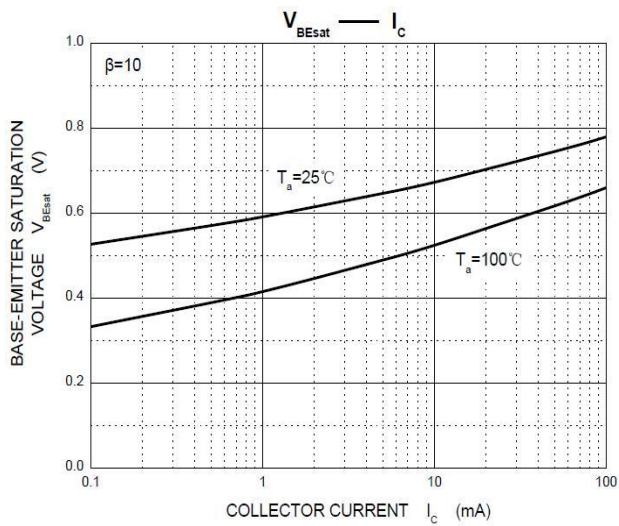
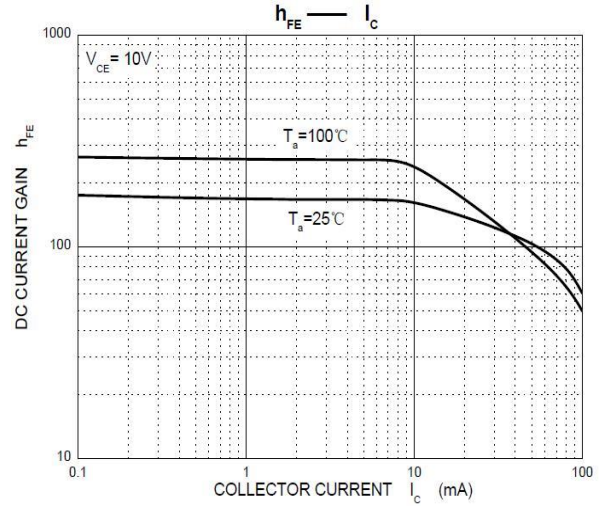
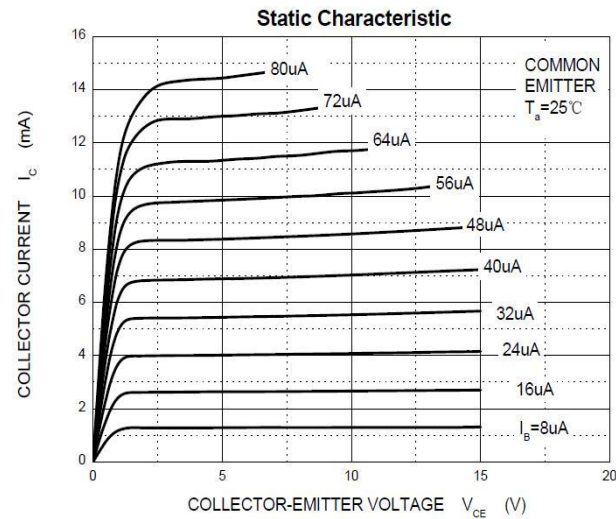
Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	400	--	--	V
$V_{(BR)CEO}^*$	Collector-emitter breakdown voltage	$I_C=1mA, I_B=0$	400	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=10\mu A, I_C=0$	6	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB}=400V, I_E=0$	--	--	0.1	μA
I_{EBO}	Collector cut-off current	$V_{EB}=4V, I_C=0$	--	--	0.1	μA
h_{FE1}^*	DC current gain	$V_{CE}=10V, I_C=1mA$	40	--	--	
h_{FE2}^*		$V_{CE}=10V, I_C=10mA$	50	--	200	
h_{FE3}^*		$V_{CE}=10V, I_C=50mA$	45	--	--	
h_{FE4}^*		$V_{CE}=10V, I_C=100mA$	40	--	--	
$V_{CE(sat)1}^*$	Collector-emitter saturation voltage	$I_C=1mA, I_B=0.1mA$	--	--	0.4	V
$V_{CE(sat)2}^*$		$I_C=10mA, I_B=1mA$	--	--	0.5	V
$V_{CE(sat)3}^*$		$I_C=50mA, I_B=5mA$	--	--	0.75	V
$V_{BE(sat)}^*$	Base-emitter saturation voltage	$I_C=10mA, I_B=1mA$	--	--	0.75	V
C_{ob}	Collector output capacitance	$V_{CB}=20V, I_E=0, f=1MHz$	--	--	7	pF
C_{ib}	Emitter input capacitance	$V_{EB}=0.5V, I_C=0, f=1MHz$	--	--	130	pF
f_T	Transition frequency	$V_{CE}=20V, I_C=10mA, f=30MHz$	50	--	--	MHz

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

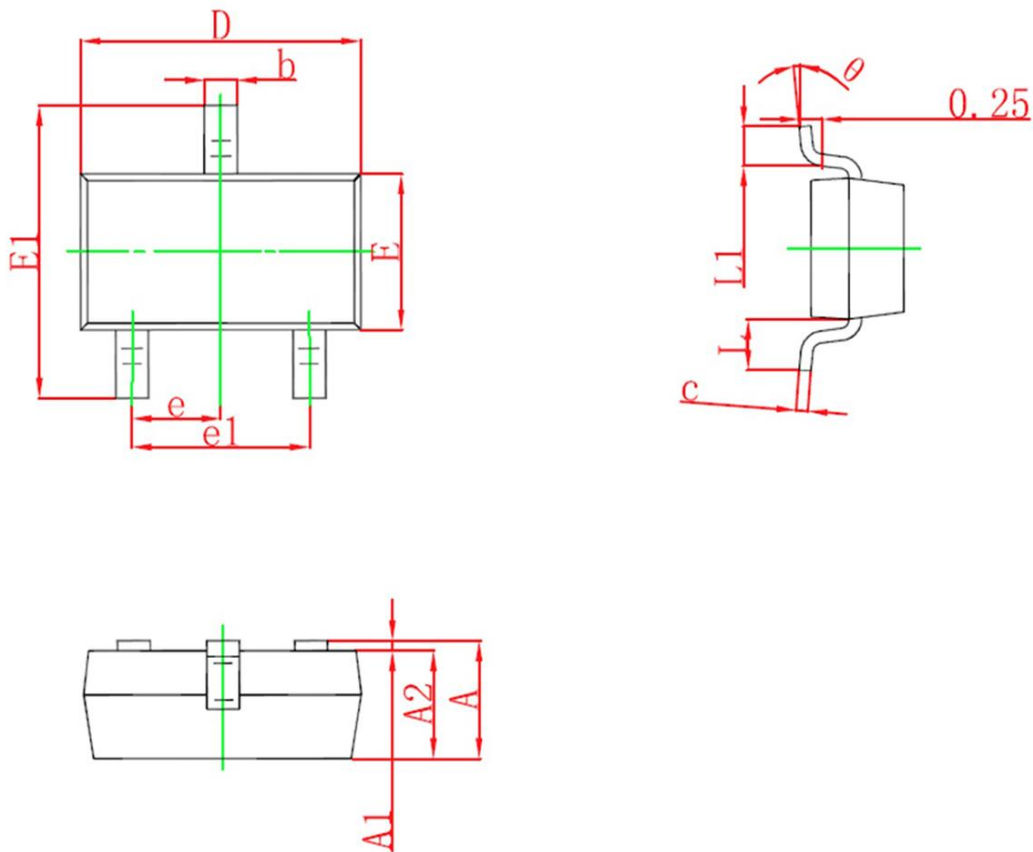
Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MMBTA44	SOT-23	3D	3,000	45,000	180,000	7"reel

Typical Operating Characteristics



SOT-23 Package information



Symbol	Dimensions in Millimeters(mm)		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
E1	2.250	2.550	0.088	0.100
E	1.200	1.400	0.047	0.055
e	0.950TYP		0.037TYP	
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°