

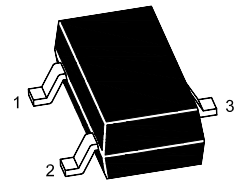


# MMBTA44 NPN Transistor

## Features

- For High Voltage Switching and Amplifier Applications.

SOT-23  
(TO-236)



1.Base 2.Emitter 3.Collector

## Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	500	V
Collector Emitter Voltage	$V_{CEO}$	400	V
Emitter Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	300	mA
Power Dissipation	$P_D$	350	mW
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to 150	°C

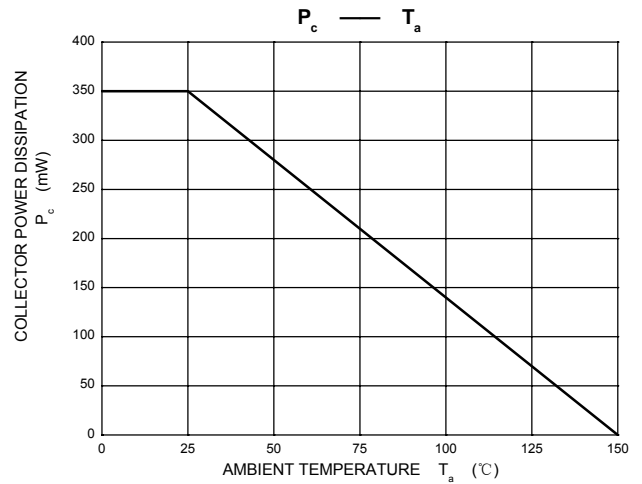
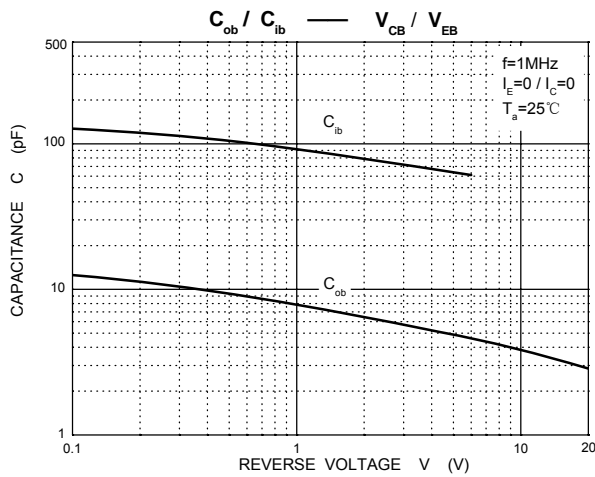
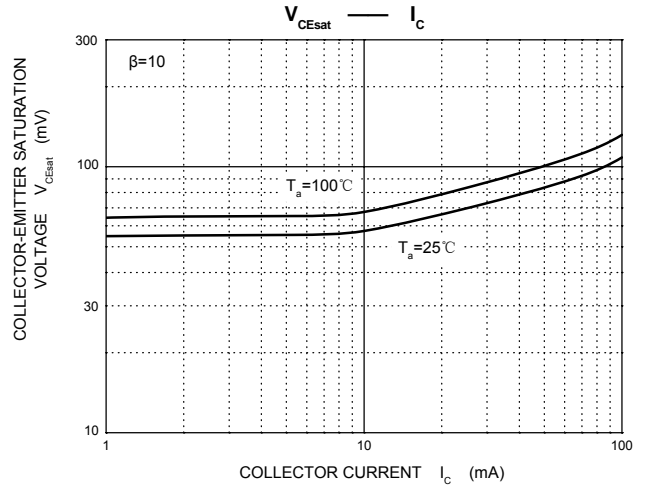
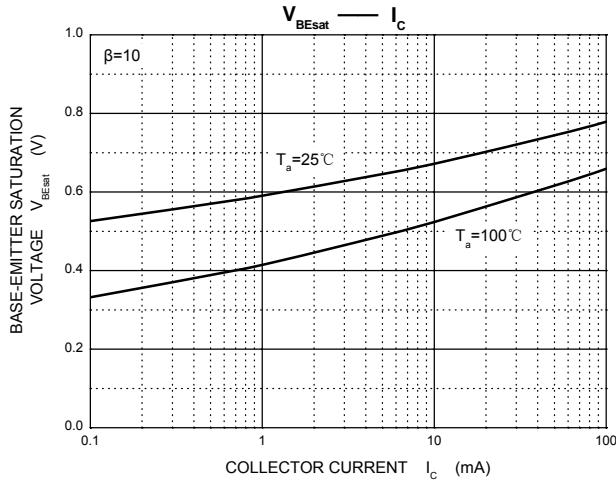
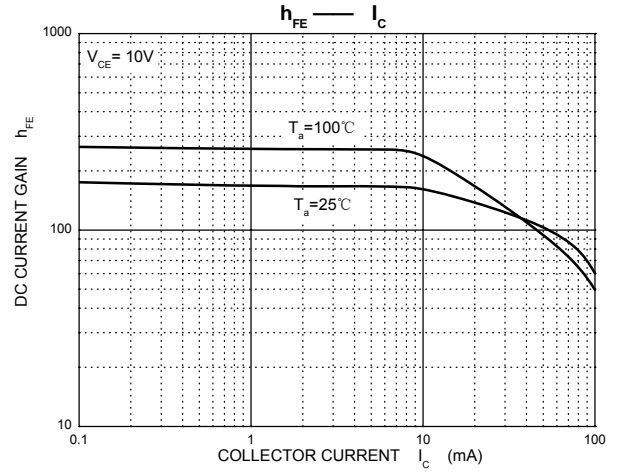
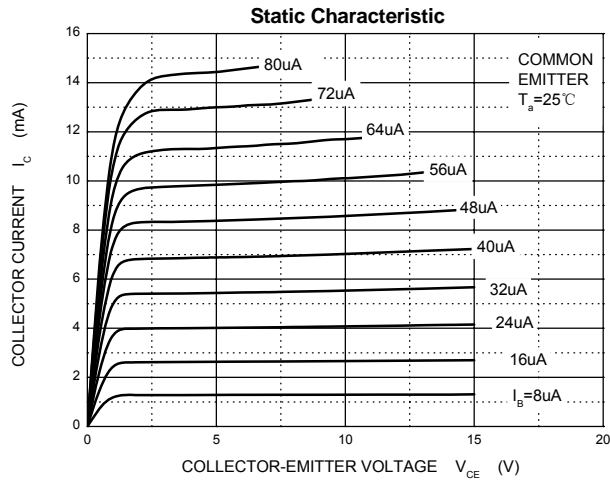
## Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 10\text{ V}$ , $I_C = 1\text{ mA}$ at $V_{CE} = 10\text{ V}$ , $I_C = 10\text{ mA}$ at $V_{CE} = 10\text{ V}$ , $I_C = 50\text{ mA}$ at $V_{CE} = 10\text{ V}$ , $I_C = 100\text{ mA}$	$H_{FE}$	40 50 45 40	- - - -	- 200 - -	
Collector Base Cutoff Current at $V_{CB} = 400\text{ V}$	$I_{CBO}$	-	-	0.1	$\mu\text{A}$
Collector Emitter Cutoff Current at $V_{CE} = 400\text{ V}$	$I_{CEO}$	-	-	0.5	$\mu\text{A}$
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	$I_{EBO}$	-	-	0.1	$\mu\text{A}$
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	500	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	400	-	-	V
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	6	-	-	V
Collector Emitter Saturation Voltage at $I_C = 1\text{ mA}$ , $I_B = 0.1\text{ mA}$ at $I_C = 10\text{ mA}$ , $I_B = 1\text{ mA}$ at $I_C = 50\text{ mA}$ , $I_B = 5\text{ mA}$	$V_{CE(sat)}$	- - -	- - -	0.4 0.5 0.75	V
Base Emitter Saturation Voltage at $I_C = 10\text{ mA}$ , $I_B = 1\text{ mA}$	$V_{BE(sat)}$	-	-	0.75	V
Collector Base Capacitance at $V_{CB} = 20\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	-	7	pF

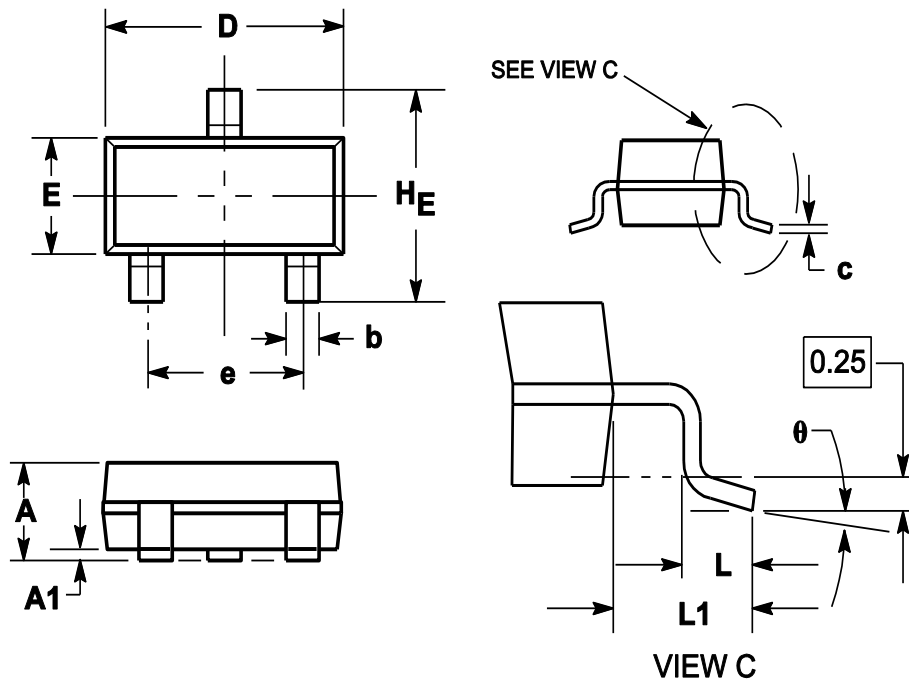


### Electrical Characteristics Curves





## Package Outline(SOT-23)



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.900	1.025	1.150
A1	0.000	0.050	0.100
b	0.300	0.400	0.500
c	0.080	0.115	0.150
D	2.800	2.900	3.000
E	1.200	1.300	1.400
HE	2.250	2.400	2.550
e	1.800	1.900	2.000
L1	0.550REF		
L	0.300		0.500
$\theta$	0°		8°

## Ordering Information

Device	Package	Reel Dimension (inch)	Shipping
MMBTA44	SOT-23	7	3,000