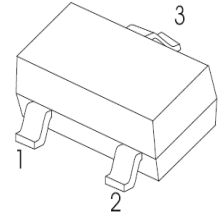


**SOT-23 Plastic-Encapsulate Transistor**
**MMBT4403 TRANSISTOR (PNP)**
**SOT-23**
**FEATURES**

- Switching transistor

1. BASE
2. EMITTER
3. COLLECTOR


**MARKING: 2T**
**MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)**

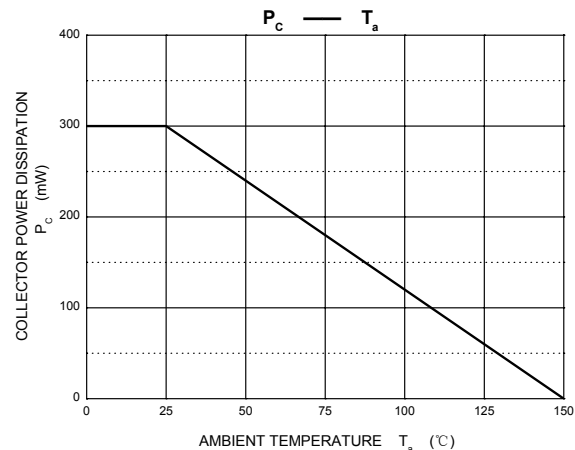
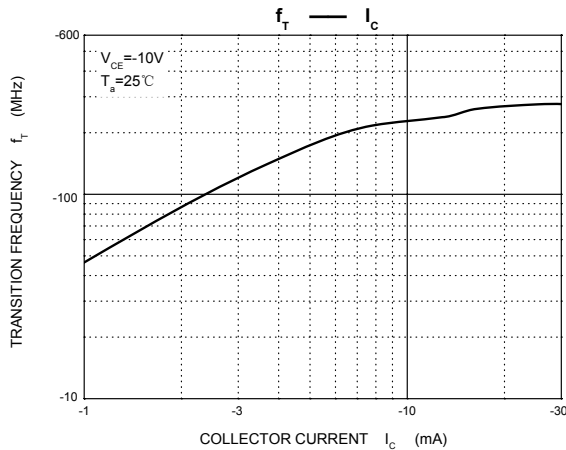
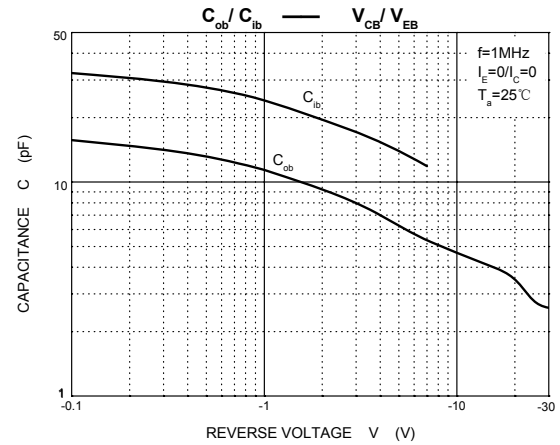
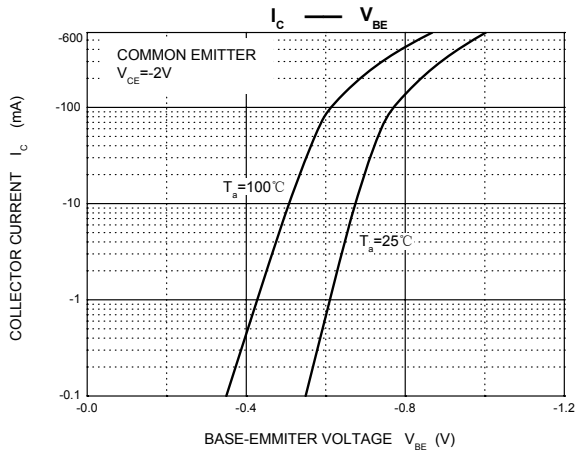
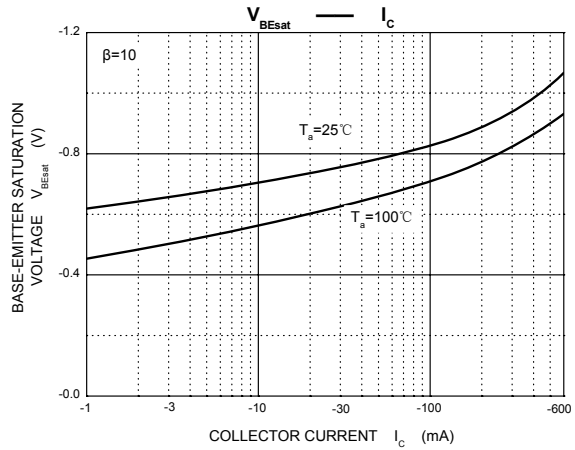
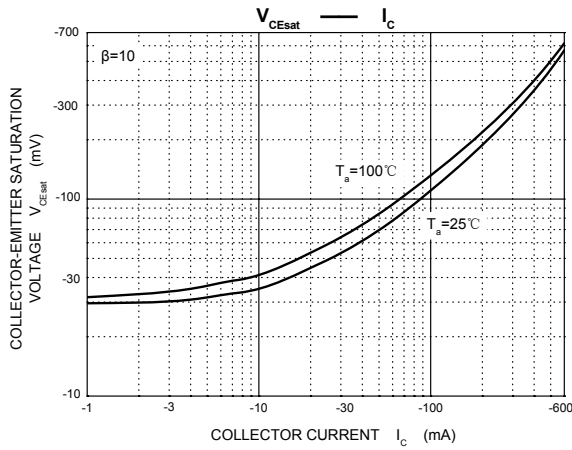
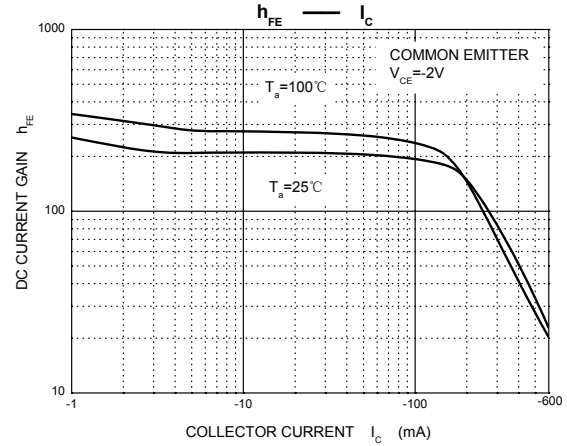
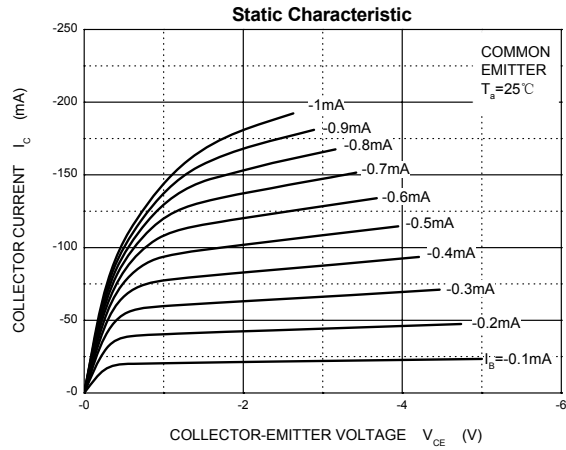
Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	-40	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-40	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current –Continuous	-600	mA
P <sub>C*</sub>	Collector Power Dissipation	300	mW
R <sub>θJA</sub>	Thermal Resistance, junction to Ambient	417	°C/W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55-150	°C

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-100 μA, I <sub>E</sub> =0	-40			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-1mA, I <sub>B</sub> =0	-40			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-100 μA, I <sub>C</sub> =0	-5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =-35V, I <sub>E</sub> =0			-0.1	μA
Collector cut-off current	I <sub>CEX</sub>	V <sub>CE</sub> =-35V, V <sub>BE</sub> =0.4V			-0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-4V, I <sub>C</sub> =0			-0.1	μA
DC current gain	h <sub>FE1</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-0.1mA	H0			
	h <sub>FE2</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-1mA	I0			
	h <sub>FE3</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-10mA	F00			
	h <sub>FE4</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-150mA	100		300	
	h <sub>FE5</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-500mA	G0			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-150mA, I <sub>B</sub> =-15mA			-0.4	V
		I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA			-0.75	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-150mA, I <sub>B</sub> =-15mA			-0.95	V
		I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA			-1.3	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-20mA, f=100MHz	200			MHz
Delay time	t <sub>d</sub>	V <sub>CC</sub> =-30V, V <sub>BE(off)</sub> =-0.5V			15	μs
Rise time	t <sub>r</sub>	I <sub>C</sub> =-150mA, I <sub>B1</sub> =-15mA			20	μs
Storage time	t <sub>s</sub>	V <sub>CC</sub> =-30V, I <sub>C</sub> =-150mA			225	μs
Fall time	t <sub>f</sub>	I <sub>B1</sub> =I <sub>B2</sub> =-15mA			I0	μs

The above data are for reference only.

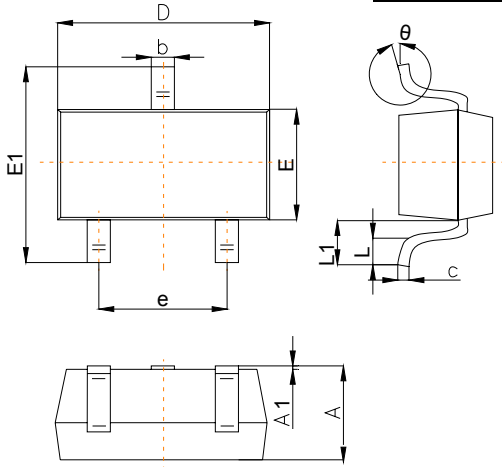
## Typical Characteristics



The curve above is for reference only.

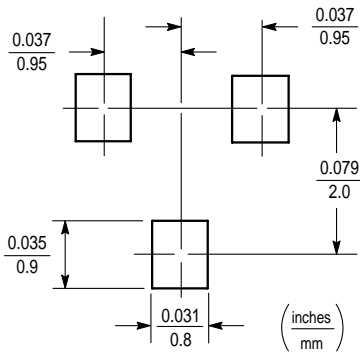
## Outline Drawing

### SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	0.90		1.40
A1	0.00		0.10
b	0.30		0.50
c	0.08		0.20
D	2.80	2.90	3.10
E	1.20		1.60
E1	2.25		2.80
e	1.80	1.90	2.00
L	0.10		0.50
L1	0.4		0.55
θ	0°		10°

### Suggested Pad Layout



#### Note:

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

## PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOT-23	7'	330	3000	203×203×195	45000	438×438×220	180000