

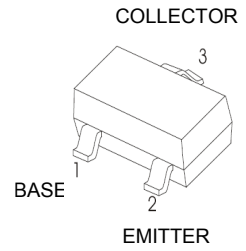


### MMBT4403W TRANSISTOR (PNP)

#### FEATURES

Switching transistor

MARKING : 2T



#### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CBO</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	-600	mA
P <sub>C</sub>	Collector Power Dissipation	300	mW
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	417	°C/W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C

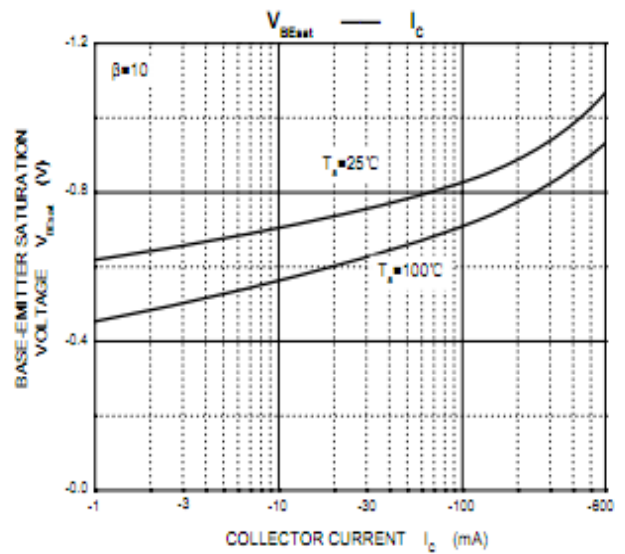
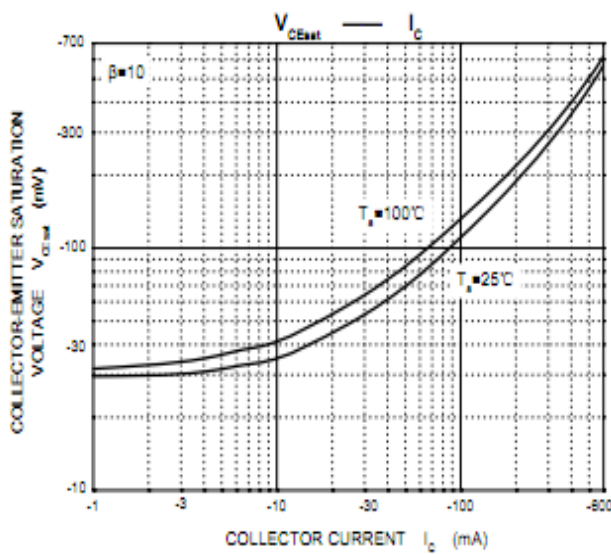
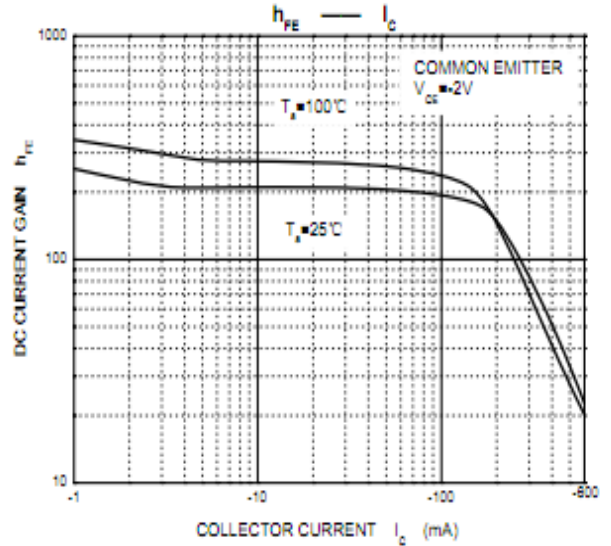
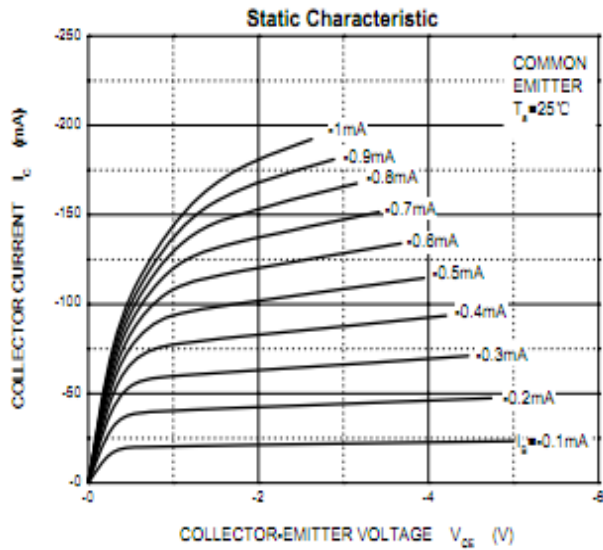
#### SOT-323

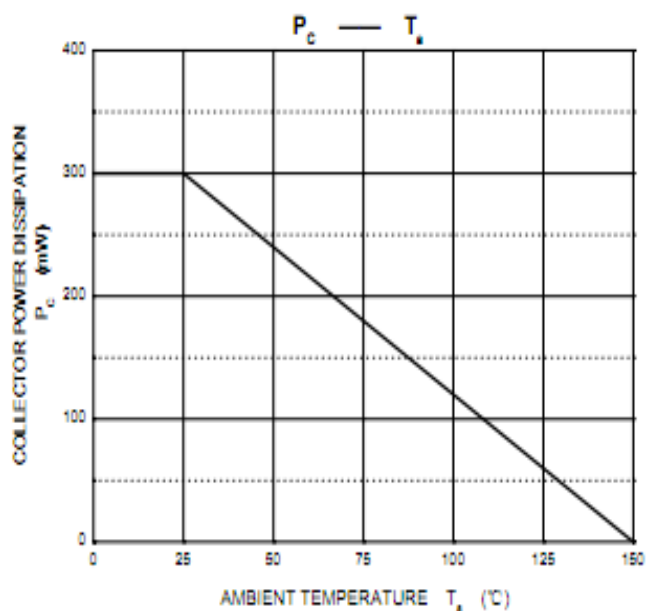
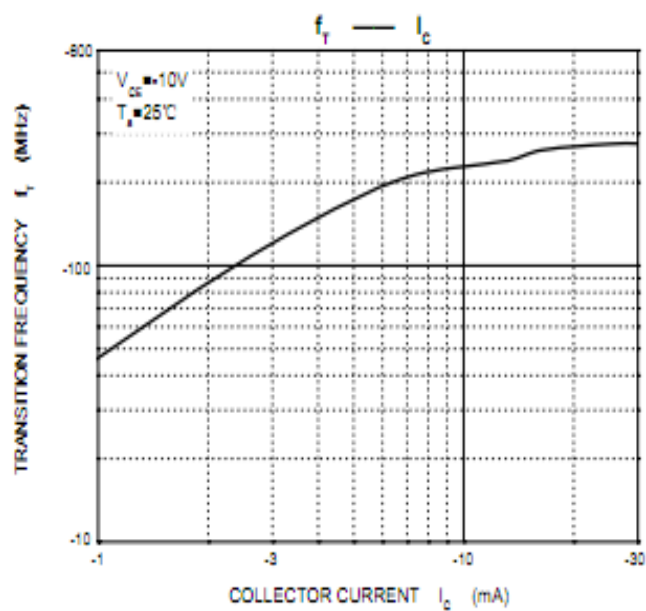
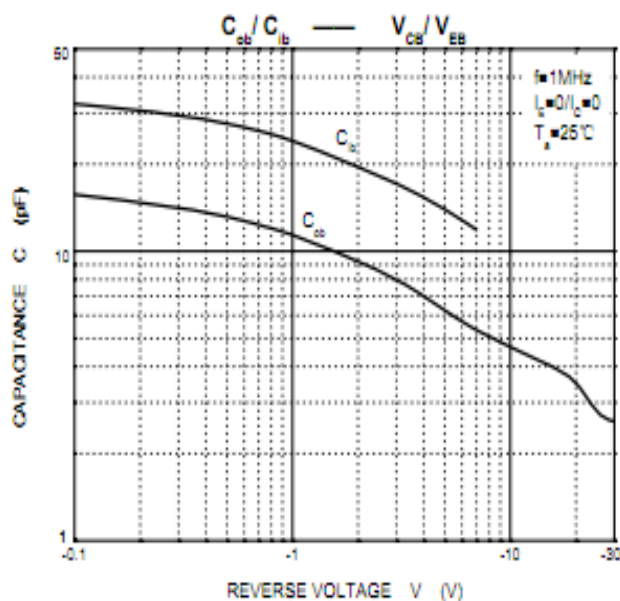
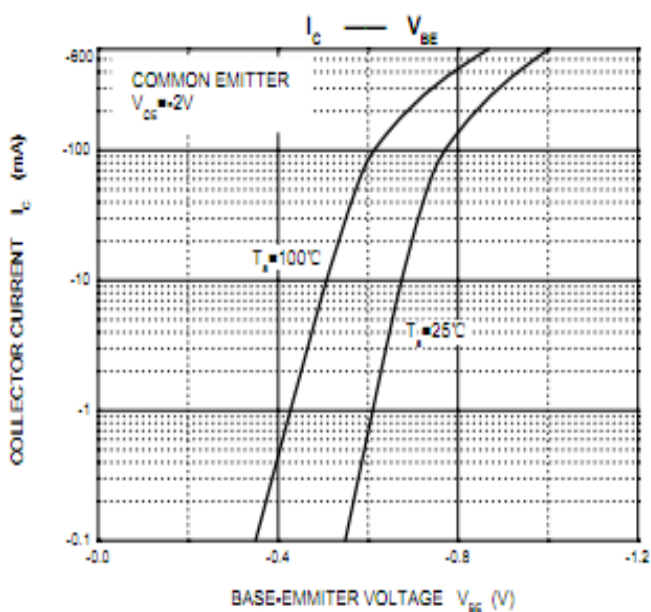
#### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

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	h <sub>0</sub>			
	h <sub>FE2</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-1mA	h <sub>10</sub>			
	h <sub>FE3</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-10mA	h <sub>30</sub>			
	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	h <sub>50</sub>			
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	ns
Rise time	t <sub>r</sub>	I <sub>C</sub> =-150mA, I <sub>B1</sub> =-15mA			20	ns
Storage time	t <sub>s</sub>	V <sub>CC</sub> =-30V, I <sub>C</sub> =-150mA			225	ns
Fall time	t <sub>f</sub>	I <sub>B1</sub> =I <sub>B2</sub> =-15mA			h <sub>0</sub>	ns



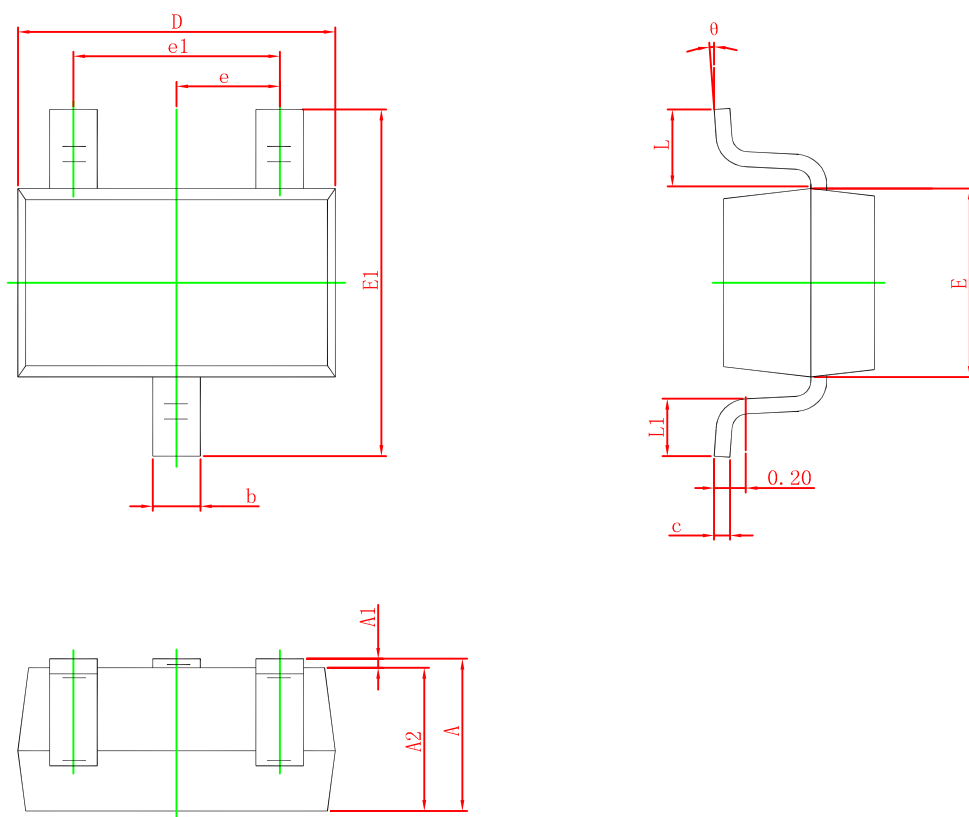
## Typical Characteristics







## SOT-323 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°