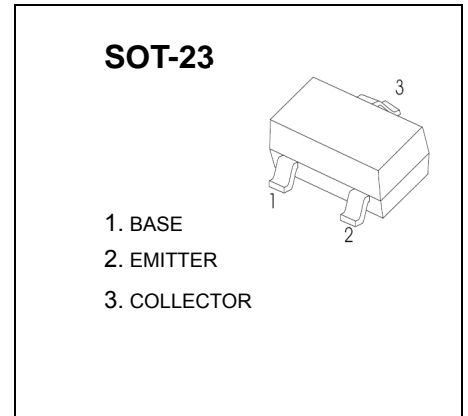


SOT-23 Plastic-Encapsulate Transistors

MMBT4403 TRANSISTOR (PNP)**FEATURES**

Switching transistor

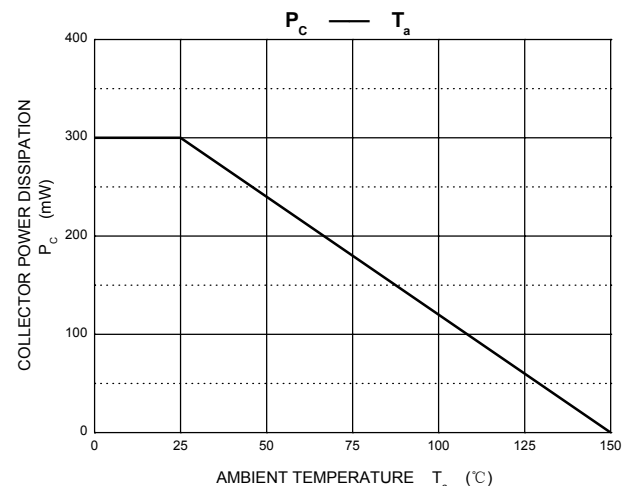
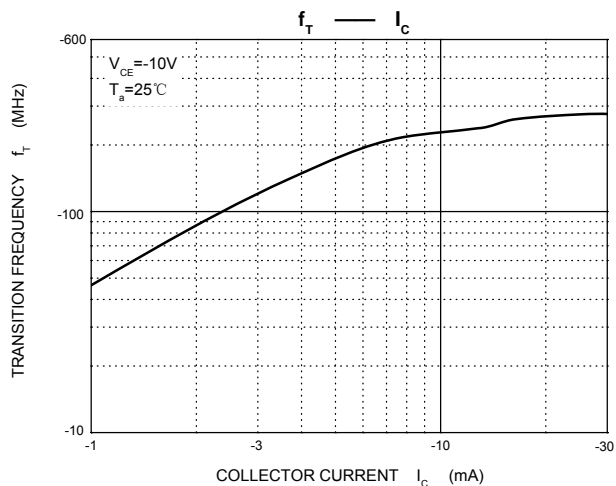
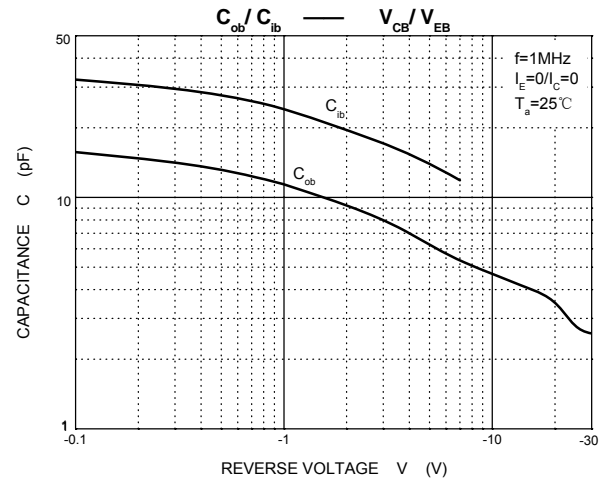
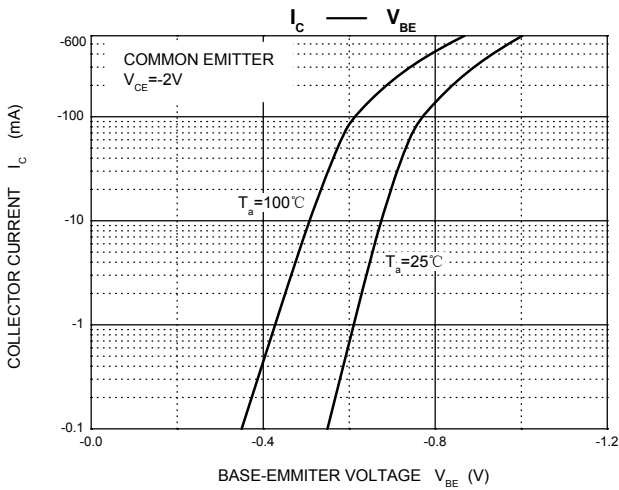
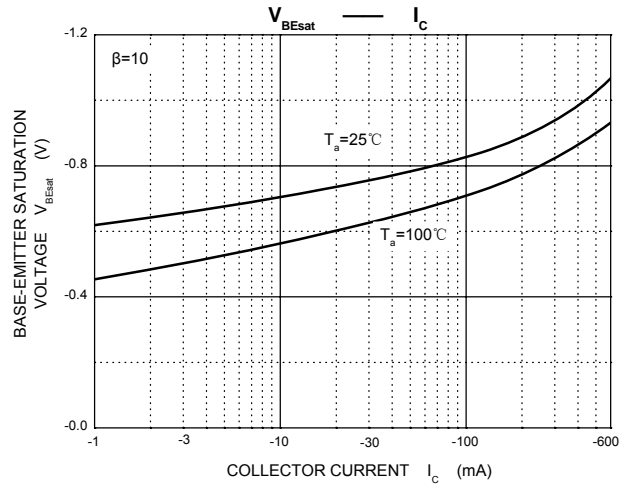
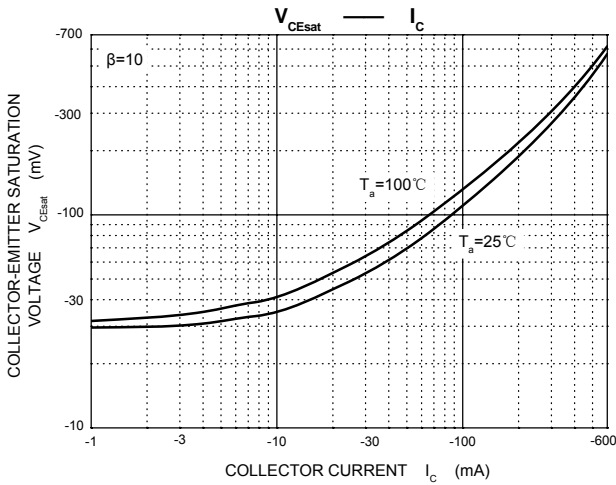
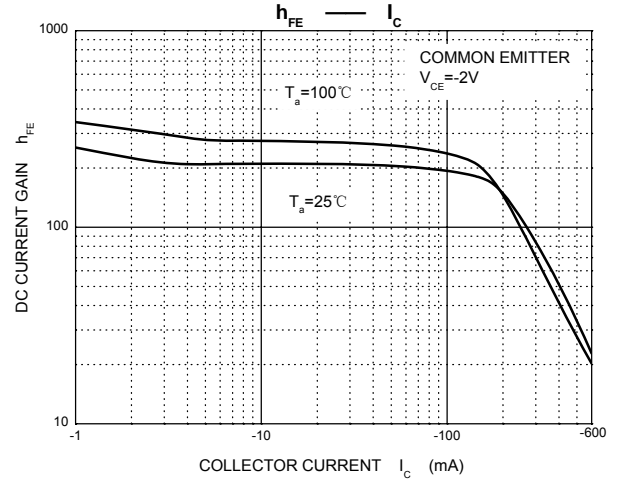
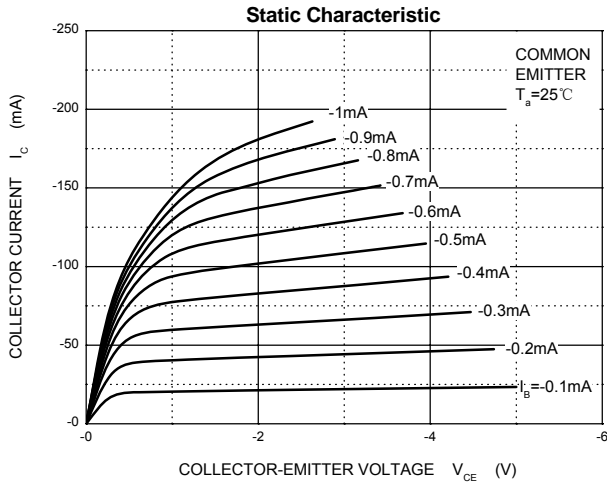
MARKING : 2T**MAXIMUM RATINGS** ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-0.6	A
P_C	Collector Power Dissipation	0.3	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

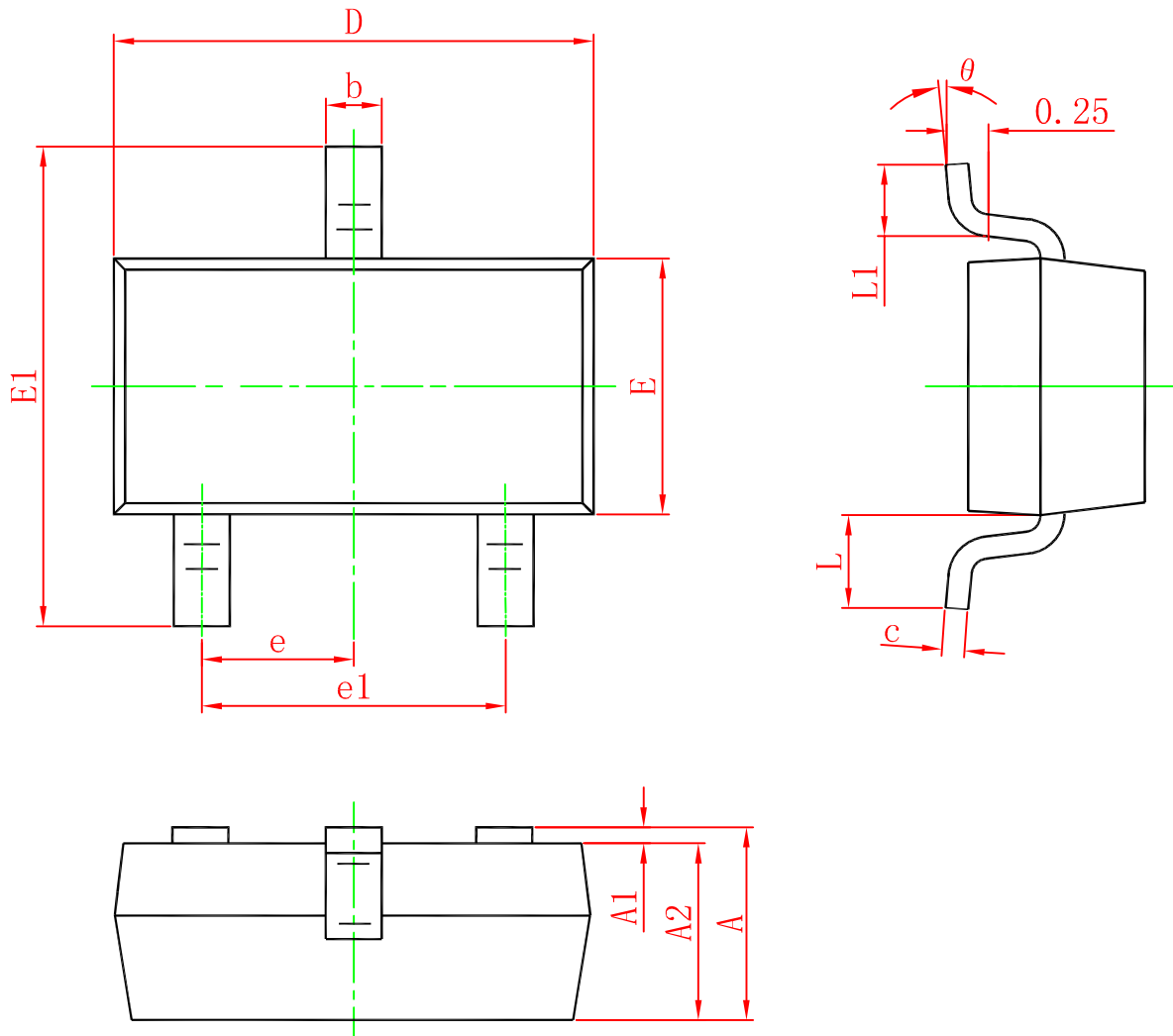
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}$, $I_E=0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}$, $I_B=0$	-40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}$, $I_C=0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB}=-35\text{V}$, $I_E=0$		-0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=-35\text{V}$, $I_B=0$		-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-4\text{V}$, $I_C=0$		-0.1	μA
DC current gain	h_{FE}	$V_{CE}=-2\text{V}$, $I_C=-150\text{mA}$	100	300	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-150\text{mA}$, $I_B=-15\text{mA}$		-0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-150\text{mA}$, $I_B=-15\text{mA}$		-0.95	V
Transition frequency	f_T	$V_{CE}=-10\text{V}$, $I_C=-20\text{mA}$ $f=100\text{MHz}$	200		MHz
Delay time	t_d	$V_{CC}=-30\text{V}$, $V_{EB}=-2\text{V}$,		15	ns
Rise time	t_r	$I_C=-150\text{mA}$, $I_{B1}=-15\text{mA}$		20	ns
Storage time	t_s	$V_{CC}=-30\text{V}$, $I_C=-150\text{mA}$.		225	ns
Fall time	t_f	$I_{B1}=I_{B2}=-15\text{mA}$		30	ns

Typical Characteristics



SOT-23 Plastic-Encapsulate Transistors

SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		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
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
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°