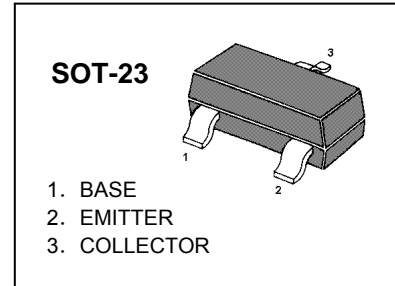


**MMBT4401 TRANSISTOR ( NPN )**
**FEATURES**

- Epitaxial Planar Die Construction
- Complementary PNP Type Available (MMBT4403)
- Ideal for Medium Power Amplification and Switching

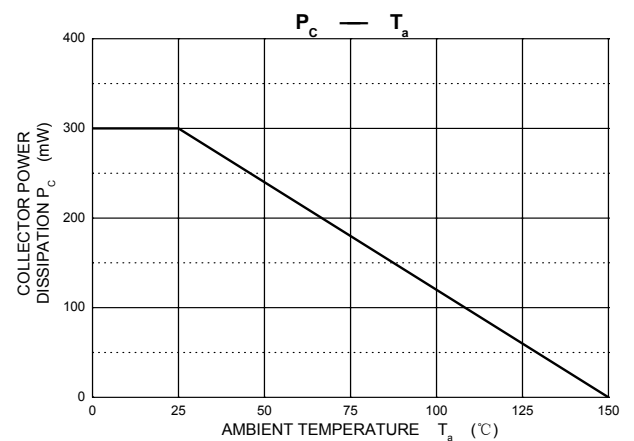
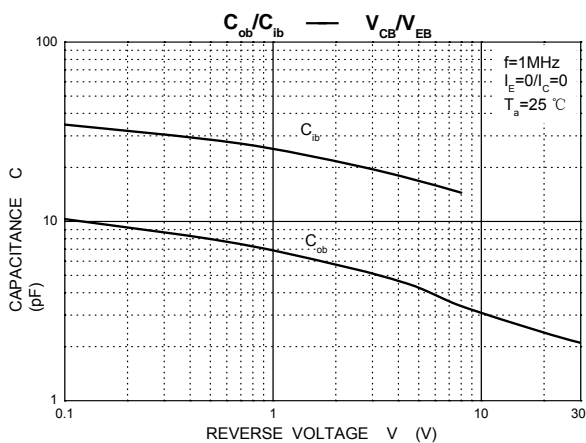
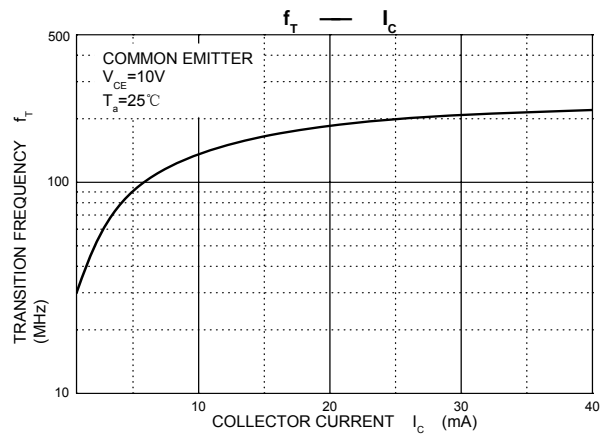
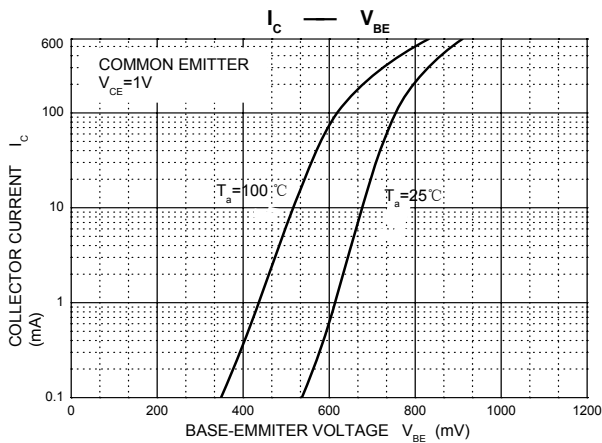
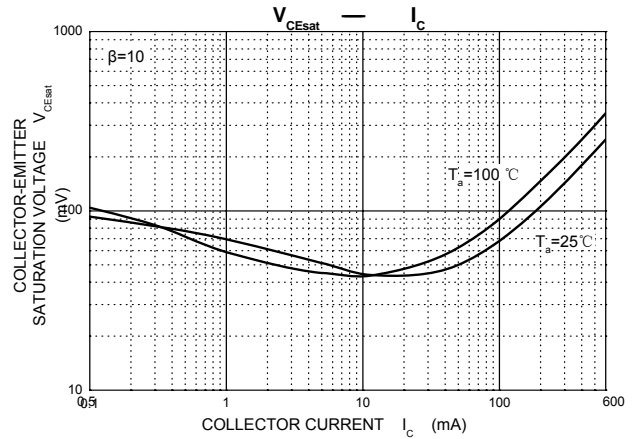
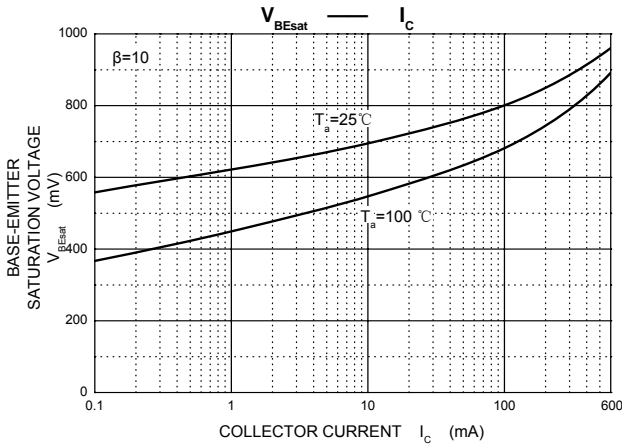
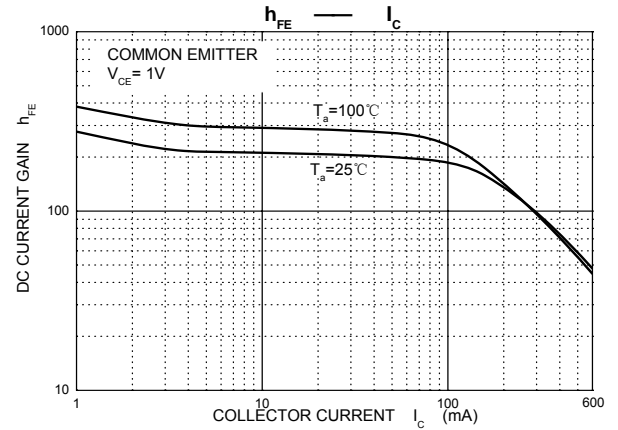
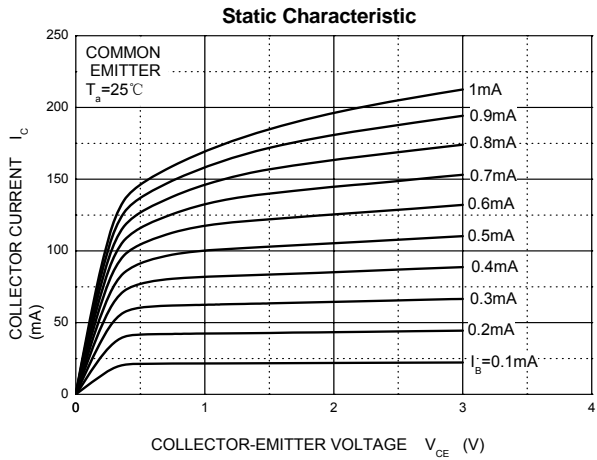

**MARKING: 2X**
**MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Value	Units
V <sub>CB0</sub>	Collector-Base Voltage	60	V
V <sub>CEO</sub>	Collector-Emitter Voltage	40	V
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
I <sub>C</sub>	Collector Current -Continuous	600	mA
P <sub>C</sub>	Collector Power dissipation	0.3	W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55 to +150	°C
R <sub>θJA</sub>	Thermal Resistance, junction to Ambient	417	°C/mW

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

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 100μA, I <sub>E</sub> =0	60		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> = 100μA, I <sub>C</sub> =0	6		V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =50 V, I <sub>E</sub> =0		0.1	μA
Collector cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> =30 V, I <sub>B</sub> =0		0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0		0.1	μA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =150mA	100	300	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA		0.4	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 150mA, I <sub>B</sub> =15mA		0.95	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 20mA f = 100MHz	250		MHz

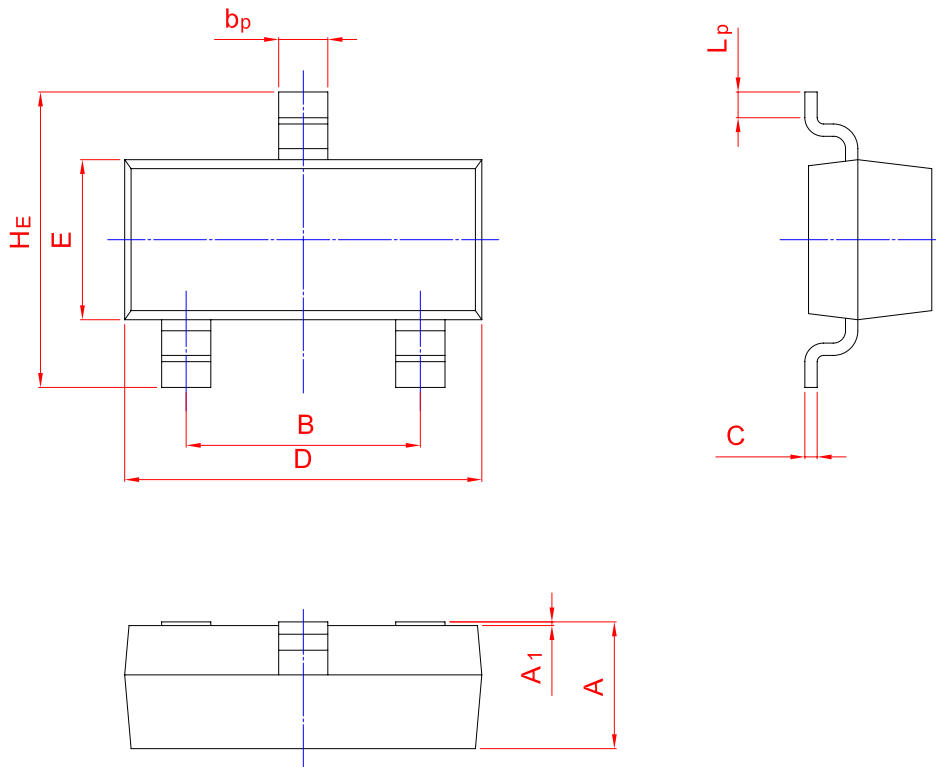
Typical Characteristics



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	$b_p$	C	D	E	$H_E$	$A_1$	$L_p$
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20