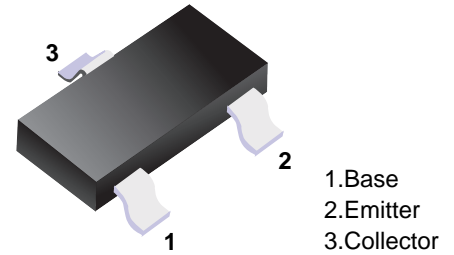


■ NPN Transistors

■ Features

- Ideal for Medium Power Amplification and Switching
- Complementary PNP Type Available (MMBT4403)



■ Simplified outline(SOT-23)

■ Marking

Marking	2X
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■ Absolute Maximum Ratings Ta = 25°C

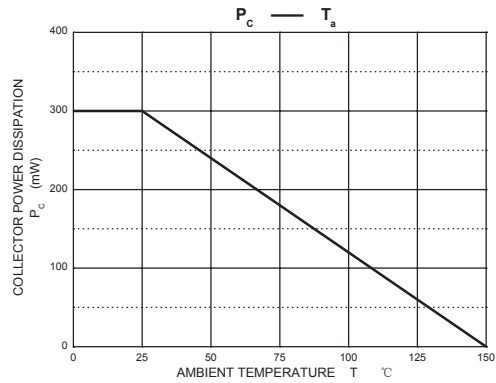
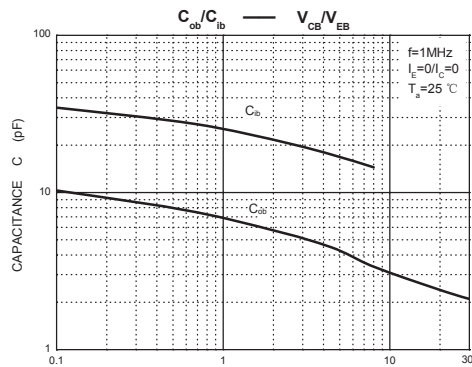
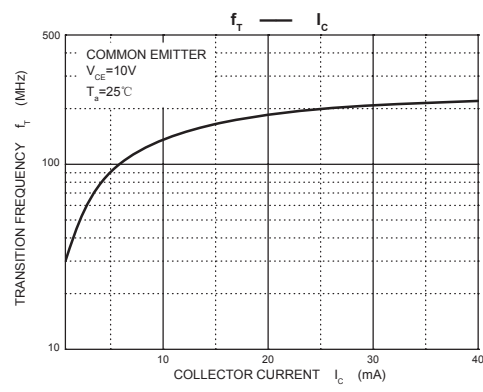
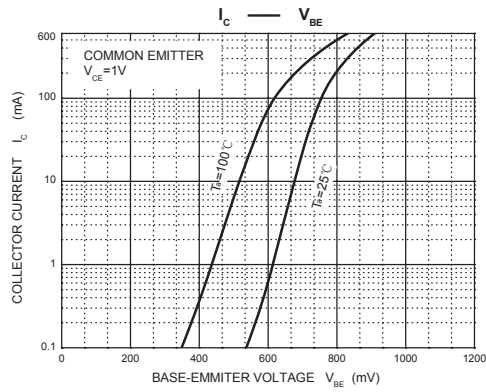
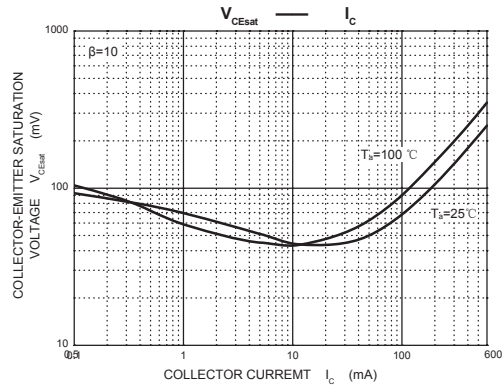
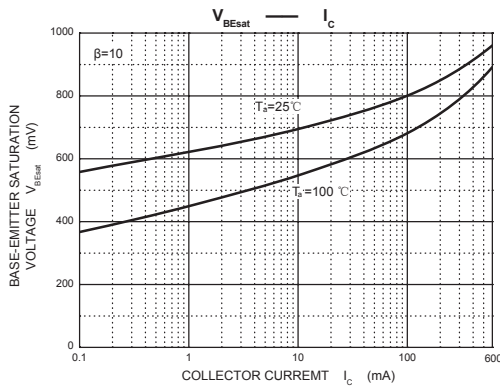
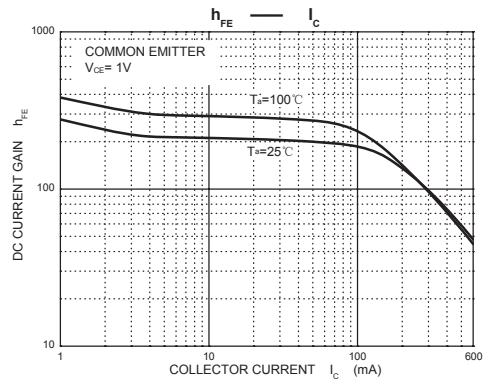
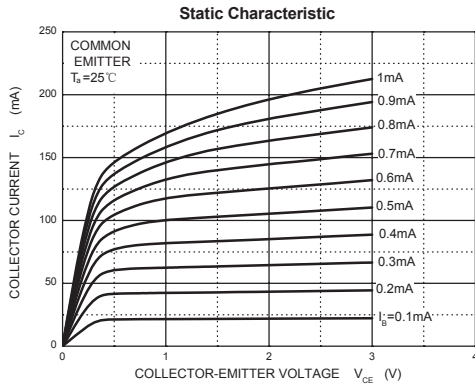
Parameter	Symbol	Rating	Unit
Collector-base voltage	V <sub>CB0</sub>	60	V
Collector-emitter voltage	V <sub>CEO</sub>	40	V
Emitter-base voltage	V <sub>EBO</sub>	6.0	V
Collector current	I <sub>C</sub>	600	mA
Total Device Dissipation Alumina Substrate	P <sub>D</sub>	300	mW
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	417	°C/W
Junction and Storage Temperature	T <sub>J</sub> , T <sub>stg</sub>	-55 to 150	°C

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditions	Min	Typ	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> = 1.0 mA, 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	6.0			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 50 V, I <sub>E</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>	I <sub>C</sub> = 0.1 mA, V <sub>CE</sub> = 1.0 V	20			
		I <sub>C</sub> = 1.0 mA, V <sub>CE</sub> = 1.0 V	40			
		I <sub>C</sub> = 10 mA, V <sub>CE</sub> = 1.0 V	80			
		I <sub>C</sub> = 150 mA, V <sub>CE</sub> = 1.0 V	100		300	
		I <sub>C</sub> = 500 mA, V <sub>CE</sub> = 2.0 V	40			
Collector-emitter saturation voltage *	V <sub>CE(sat)</sub>	I <sub>C</sub> = 150 mA, I <sub>B</sub> = 15 mA			0.4	V
		I <sub>C</sub> = 500 mA, I <sub>B</sub> = 50 mA			0.75	
Base-emitter saturation voltage *	V <sub>BE(sat)</sub>	I <sub>C</sub> = 150 mA, I <sub>B</sub> = 15 mA	0.75		0.95	V
		I <sub>C</sub> = 500 mA, I <sub>B</sub> = 50 mA			1.2	
Transition frequency	f <sub>T</sub>	I <sub>C</sub> = 20 mA, V <sub>CE</sub> = 10 V, f = 100 MHz	250			MHz
Delay time	t <sub>d</sub>	V <sub>CC</sub> = 30 V, V <sub>EB</sub> = 2.0 V,			15	ns
Rise time	t <sub>r</sub>	I <sub>C</sub> = 150 mA, I <sub>B1</sub> = 15 mA			20	
Storage time	t <sub>s</sub>	V <sub>CC</sub> = 30 V, I <sub>C</sub> = 150 mA,			225	ns
Fall time	t <sub>f</sub>	I <sub>B1</sub> = I <sub>B2</sub> = 15 mA			30	

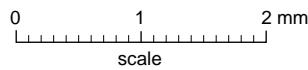
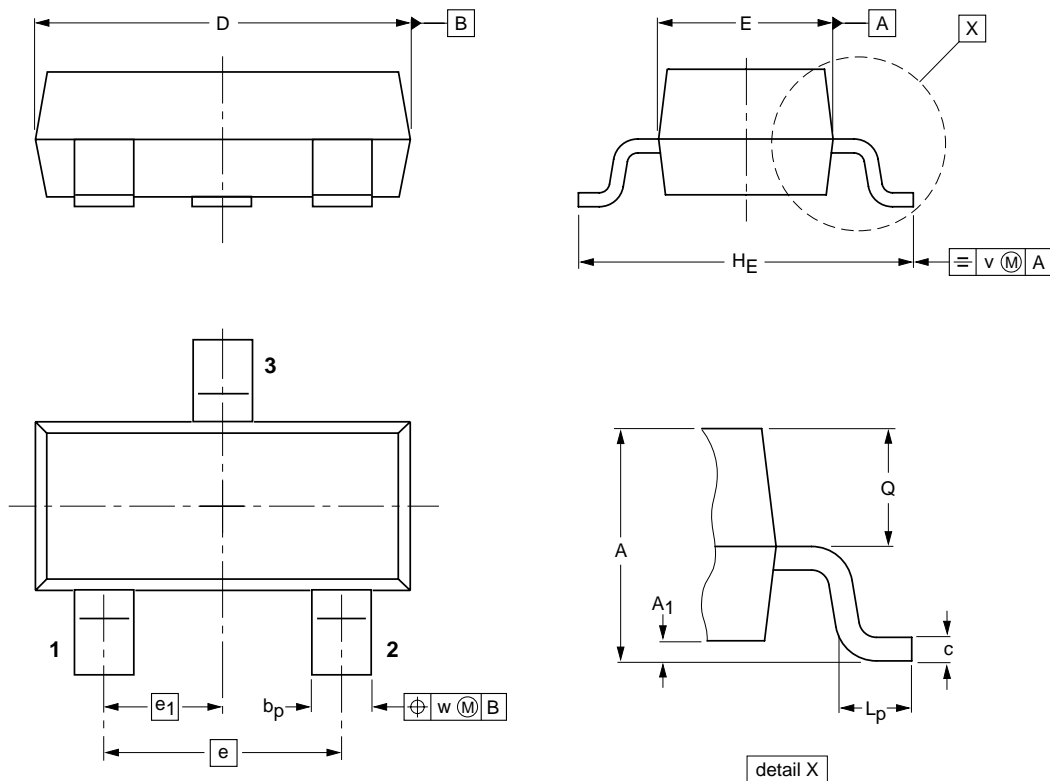
\* Pulse test: pulse width ≤ 300 μs, duty cycle ≤ 2.0%.

■ Typical Characteristics



**Package Outline**

**SOT-23**



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1

单击下面可查看定价，库存，交付和生命周期等信息

[>>YFW\(佑风微\)](#)