

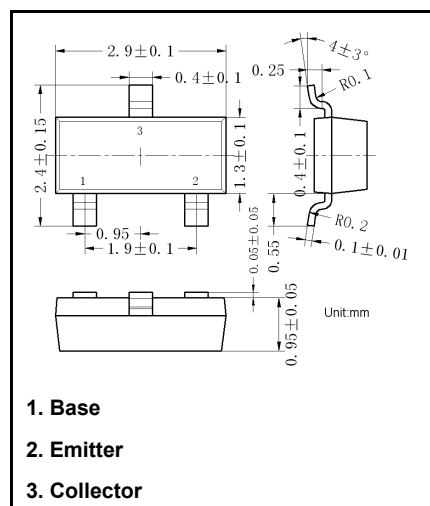
# SOT-23 Plastic-Encapsulate Transistors

## MMBTA94 PNP Transistors

### Features

- High Breakdown Voltage

### Marking: 4D



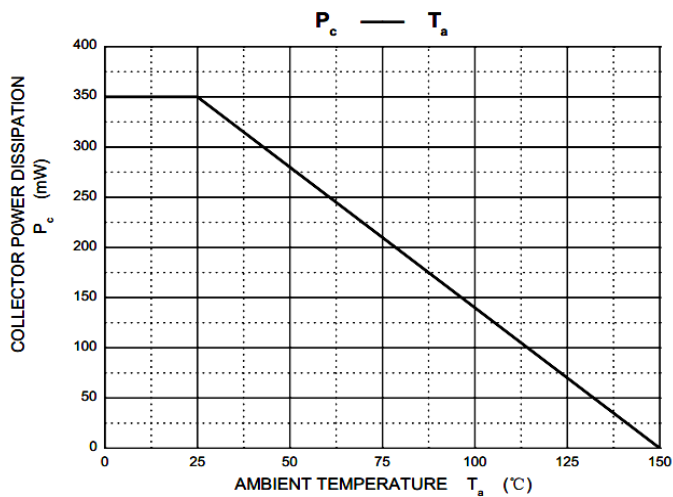
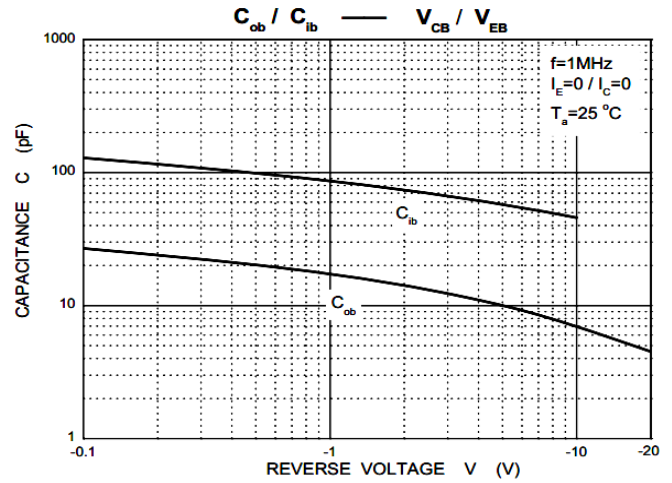
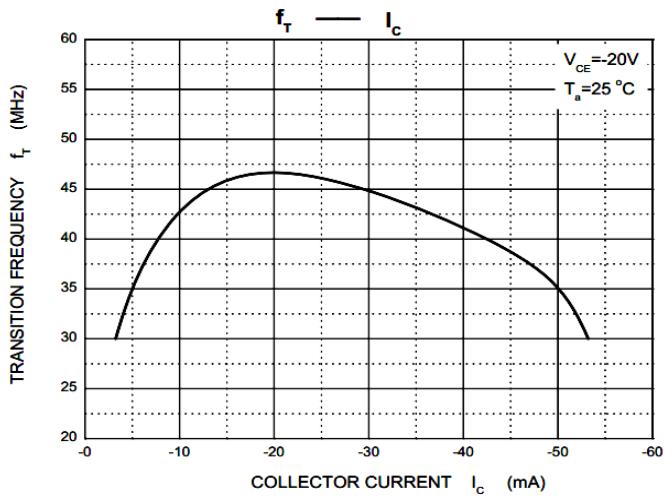
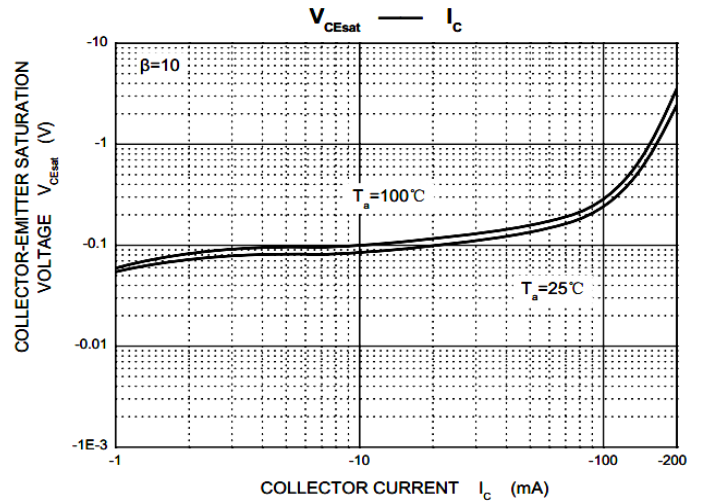
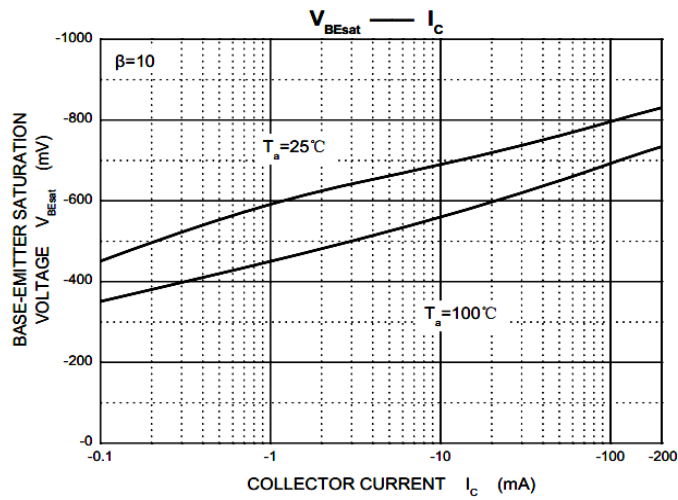
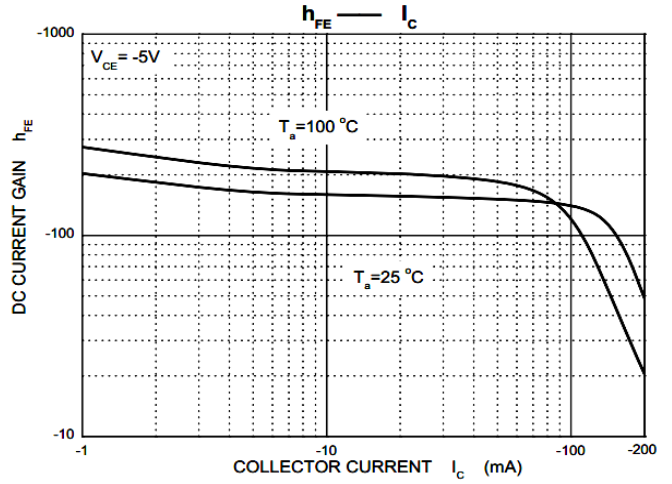
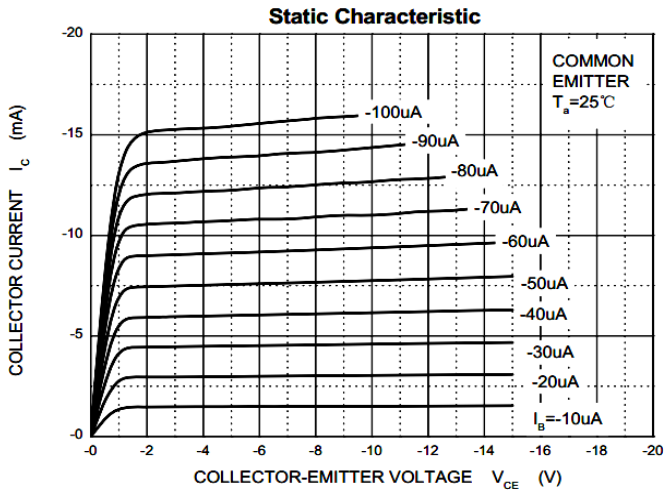
### Maximum Ratings (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector Base Voltage	-400	V
V <sub>CEO</sub>	Collector Emitter Voltage	-400	V
V <sub>EBO</sub>	Emitter Base Voltage	-5	V
I <sub>c</sub>	Collector Current - Continuous	-200	mA
I <sub>CM</sub>	Collector Current - Pulsed	-300	mA
P <sub>c</sub>	Collector Power Dissipation	350	mW
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55 ~ +150	°C
R <sub>θJA</sub>	Thermal Resistance from Junction to Ambient	357	°C/W

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

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>c</sub> = -100μA, I <sub>E</sub> = 0	-400			V
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>c</sub> = -1mA, I <sub>B</sub> = 0	-400			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> = -100μA, I <sub>c</sub> = 0	-5			V
I <sub>cBO</sub>	Collector cut-off current	V <sub>CB</sub> = -400V, I <sub>E</sub> = 0			-0.1	μA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> = -400V, I <sub>B</sub> = 0			-5	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> = -4V, I <sub>c</sub> = 0			-0.1	μA
h <sub>FE(1)</sub>	DC current gain	V <sub>CE</sub> = -10V, I <sub>c</sub> = -1mA	70			
h <sub>FE(2)</sub>		V <sub>CE</sub> = -10V, I <sub>c</sub> = -10mA	100		250	
h <sub>FE(3)</sub>		V <sub>CE</sub> = -10V, I <sub>c</sub> = -100mA	40			
h <sub>FE(4)</sub>		V <sub>CE</sub> = -10V, I <sub>c</sub> = -500mA	40			
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>c</sub> = -10mA, I <sub>B</sub> = -1mA			-0.2	V
		I <sub>c</sub> = -50mA, I <sub>B</sub> = -5mA			-0.3	V
V <sub>BE(sat)</sub>	Base-emitter saturation voltage	I <sub>c</sub> = -10mA, I <sub>B</sub> = -1mA			-0.75	V
f <sub>T</sub>	Transition frequency	V <sub>CE</sub> = -20V, I <sub>c</sub> = -10mA, f = 30MHz	50			MHz

# Typical Characteristics



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