

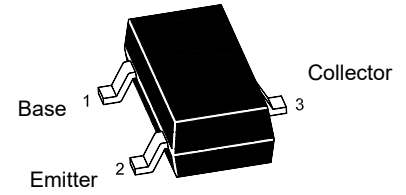


FMMT493 NPN Transistor

Features

- For switching and AF amplifier applications.
- As complementary type of the PNP transistor FMMT593 is recommended.

Marking: 493



SOT-23

Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	120	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1	A
Power Dissipation	P_D	250	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C



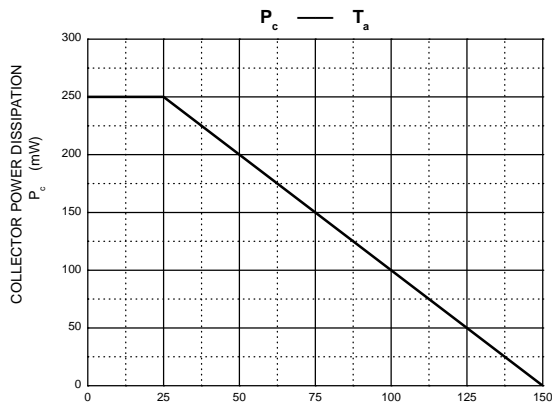
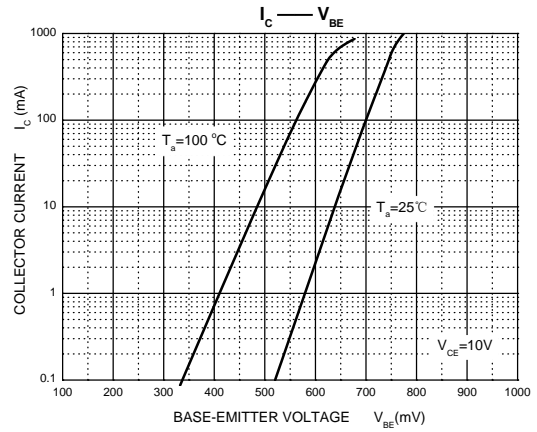
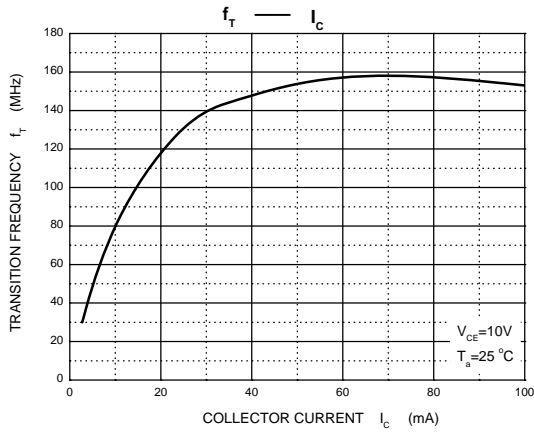
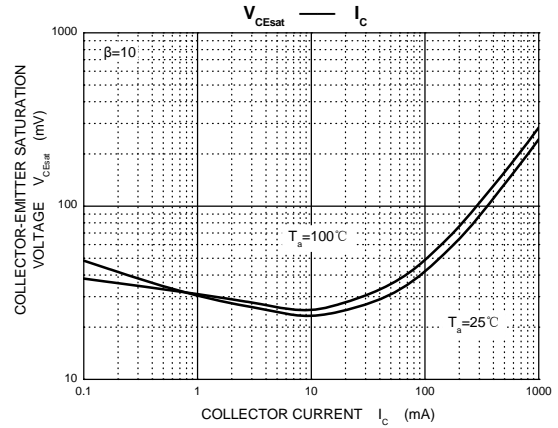
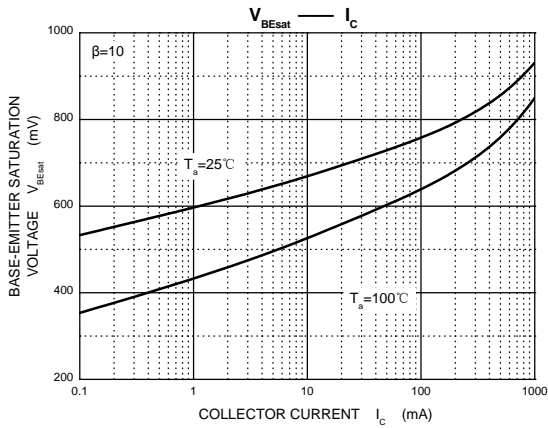
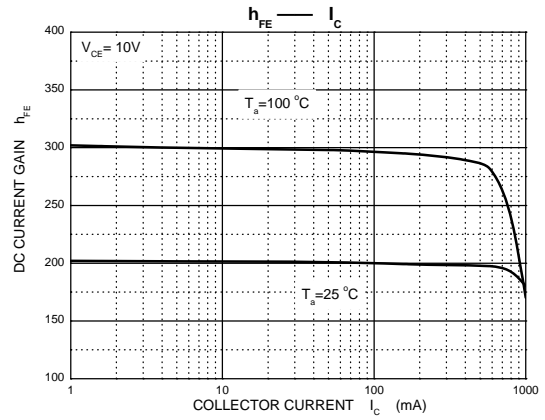
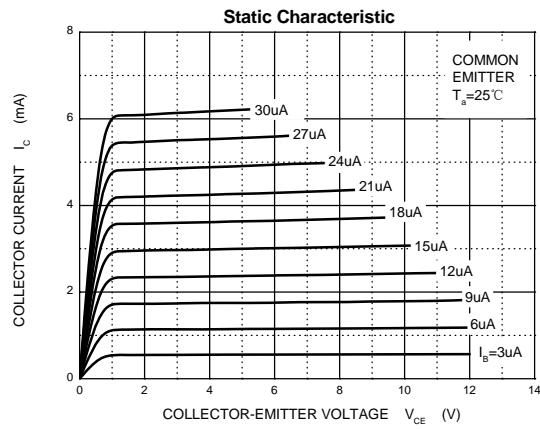
Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 10\text{ V}$, $I_C = 1\text{ mA}$ at $V_{CE} = 10\text{ V}$, $I_C = 250\text{ mA}$ at $V_{CE} = 10\text{ V}$, $I_C = 500\text{ mA}$ at $V_{CE} = 10\text{ V}$, $I_C = 1000\text{ mA}$	H_{FE}	100 100 60 20	- 300 - -	-
Collector Base Cutoff Current at $V_{CB} = 100\text{ V}$	I_{CBO}	-	0.1	μA
Collector Base Cutoff Current at $V_{CE} = 100\text{ V}$	I_{CES}	-	0.1	μA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	I_{EBO}	-	0.1	μA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	120	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	100	-	V
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$ at $I_C = 1\text{ A}$, $I_B = 100\text{ mA}$	$V_{CE(sat)}$	- -	0.3 0.6	V
Base Emitter Saturation Voltage at $I_C = 1\text{ A}$, $I_B = 100\text{ mA}$	$V_{BE(sat)}$	-	1.15	V
Base Emitter Saturation Voltage at $V_{CE} = 10\text{ V}$, $I_C = 1\text{ A}$	$V_{BE(on)}$	-	1	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 50\text{ mA}$, $f = 100\text{ MHz}$	f_T	150	-	MHz
Collector Base Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	10	pF



Typical Characteristics Curves

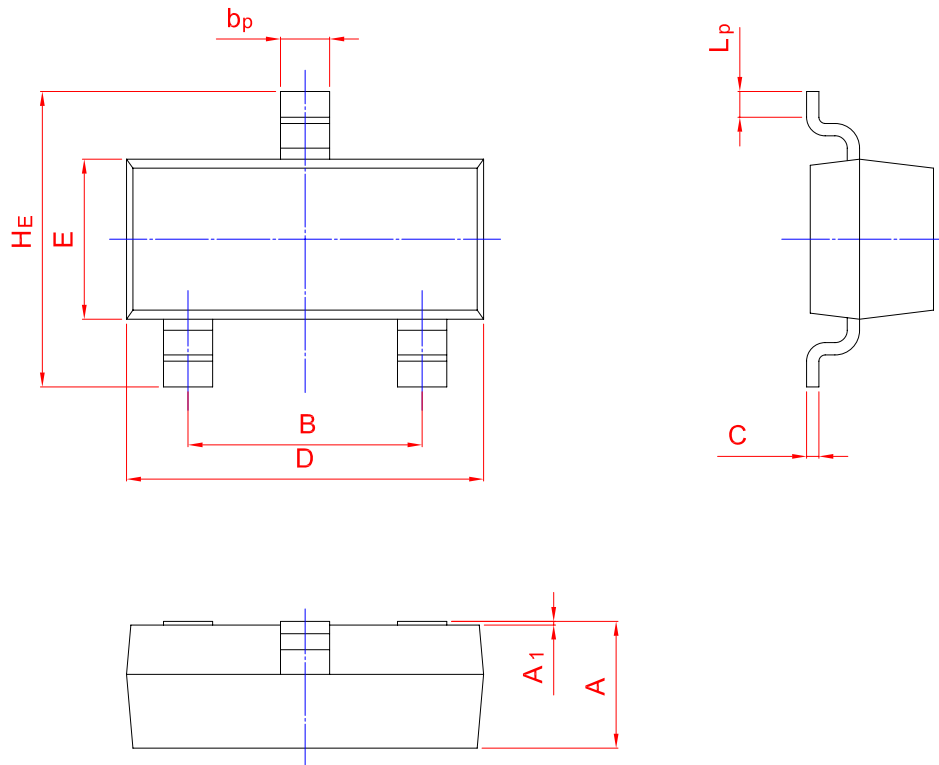
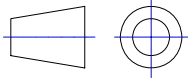




PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b _p	C	D	E	HE	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