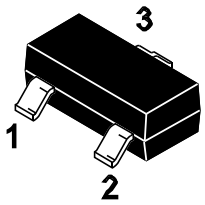
FMMT493
NPN Transistor

Features

- For Switching and AF Amplifier Applications.

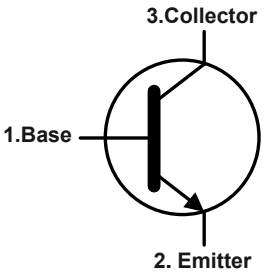
SOT-23



1.Base 2.Emitter 3.Collector

Marking: 493

Equivalent Circuit



Absolute Maximum Ratings

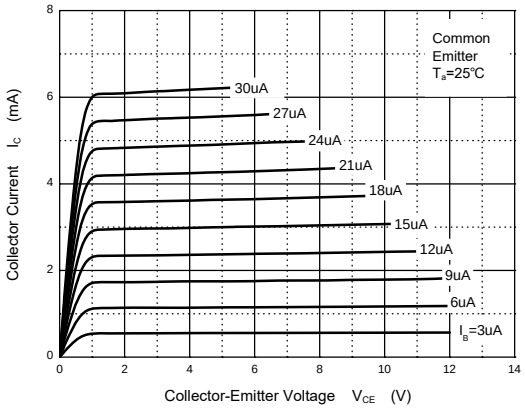
Ratings at 25℃ ambient temperature unless otherwise specified.

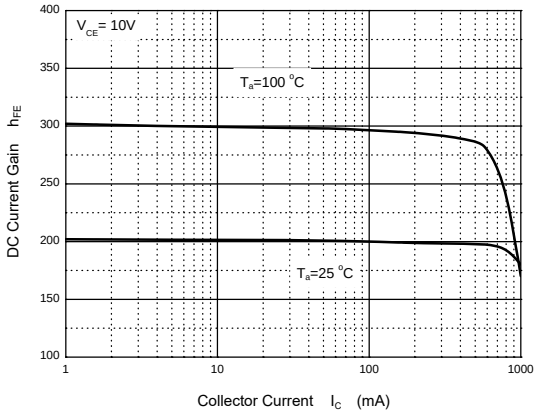
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	120	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1	A
Maximum Power Dissipation	P_D	250	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃

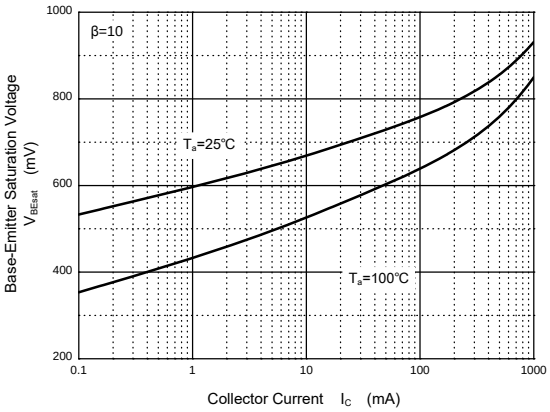
Electrical Characteristics (T_A=25℃)

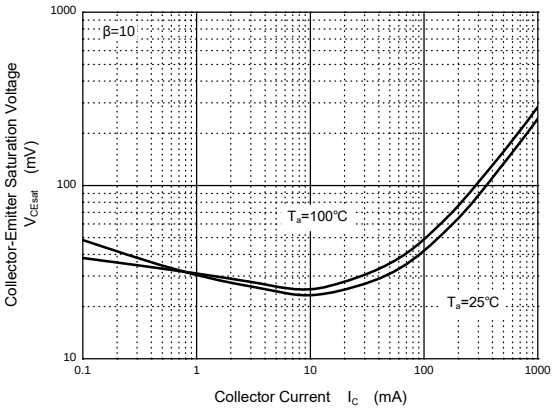
Parameter	Symbol	Min.	Max.	Unit
DC Current Gain Note1 at V_{CE} = 10 V, I_C = 1 mA at V_{CE} = 10 V, I_C = 250 mA at V_{CE} = 10 V, I_C = 500 mA at V_{CE} = 10 V, I_C = 1 A	H_{FE}	 100 100 60 20	 -- 300 -- --	--
Collector Base Cutoff Current at V_{CB} = 100V	I_{CBO}	--	100	nA
Emitter Base Cutoff Current at V_{EB} = 4 V	I_{EBO}	--	100	nA
Collector Base Breakdown Voltage at I_C = 100 μA	$V_{(BR)CBO}$	120	--	V
Collector Emitter Breakdown Voltage at I_C = 10 mA	$V_{(BR)CEO}$	100	--	V
Emitter Base Breakdown Voltage at I_E = 100 μA	$V_{(BR)EBO}$	5	--	V
Collector Emitter Saturation Voltage at I_C = 500 mA, I_B = 50 mA at I_C = 1 A, I_B = 100 mA	$V_{CE(sat)}$	 -- --	 300 600	mV
Base Emitter Saturation Voltage at I_C = 1 A, I_B = 100 mA	$V_{BE(sat)}$	--	1.15	V
Base Emitter On Voltage at V_{CE} = 10 V, I_C = 1 A	$V_{BE(on)}$	--	1	V
Transition Frequency at V_{CE} = 10 V, I_C = 50 mA,f = 100 MHz	F_T	150	--	MHz
Output Capacitance at V_{CB} = 10 V, f = 1 MHz	C_{ob}	--	10	pF

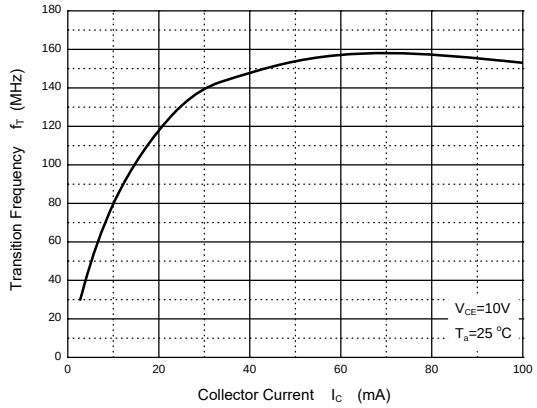
Typical Characteristic Curves

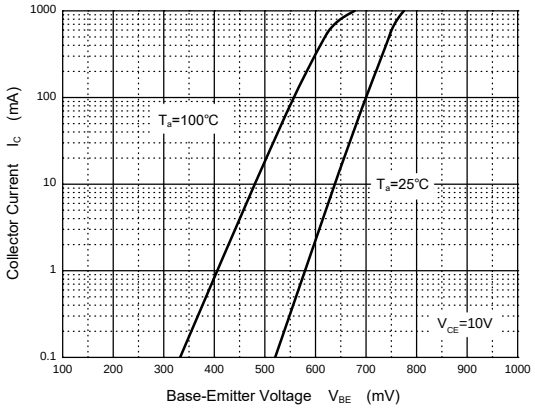


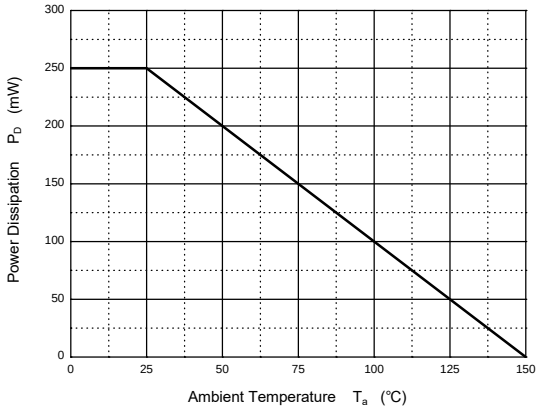






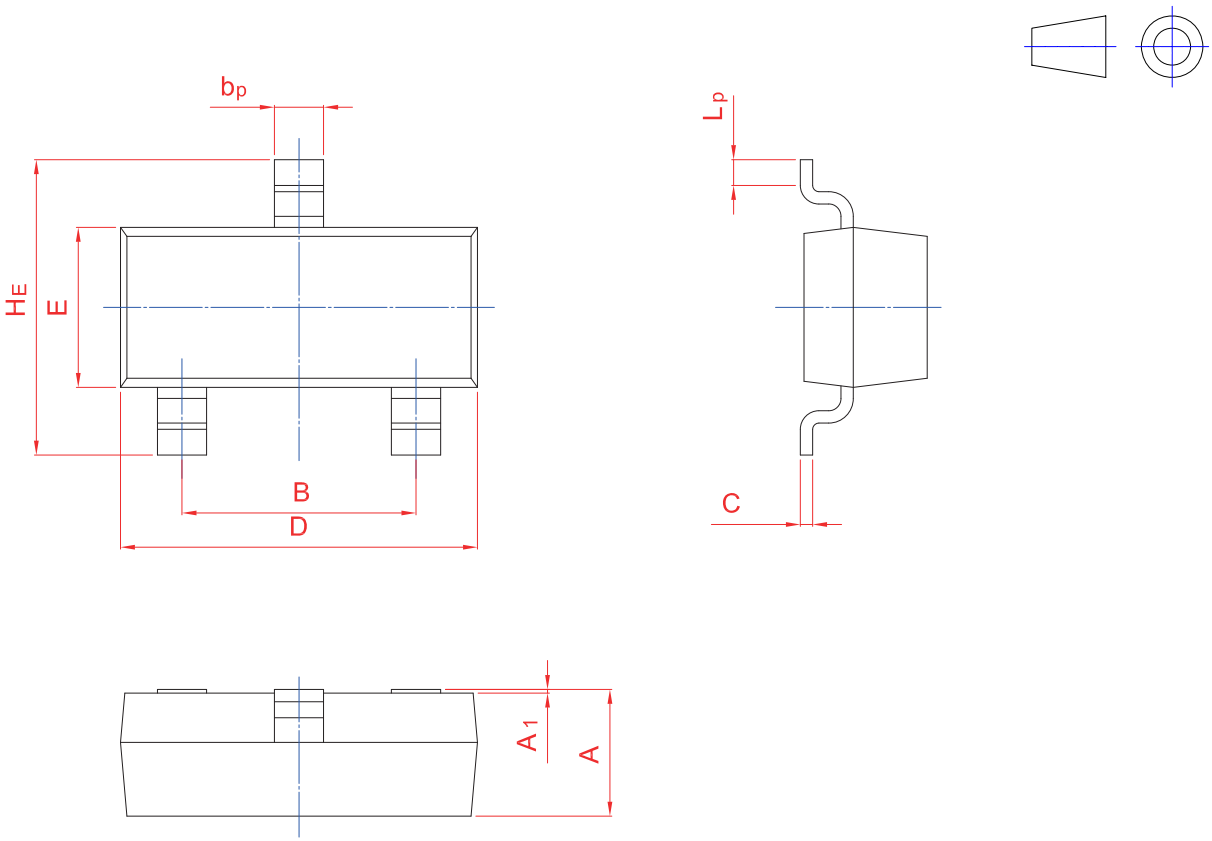






Package Outline

SOT-23



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.89	2.04 1.78	0.51 0.30	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20