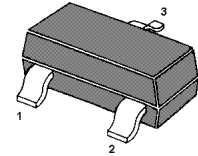


## MMBT491A NPN Silicon Epitaxial Planar Transistor

**MARKING:** 491A



1.Base 2.Emitter 3.Collector  
SOT-23 Plastic Package

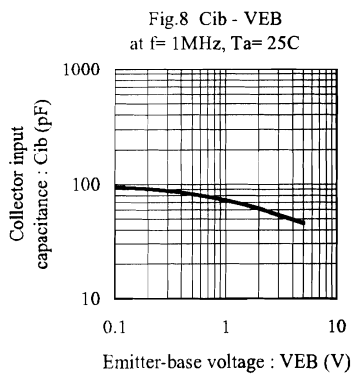
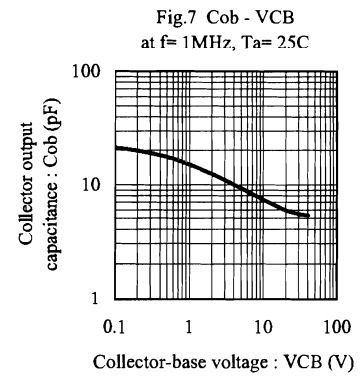
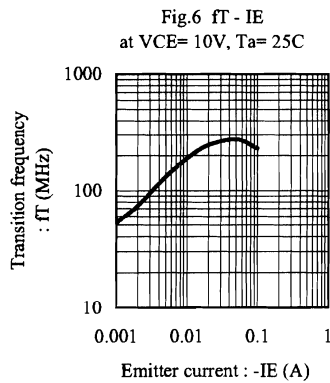
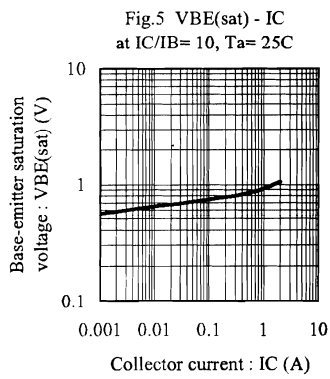
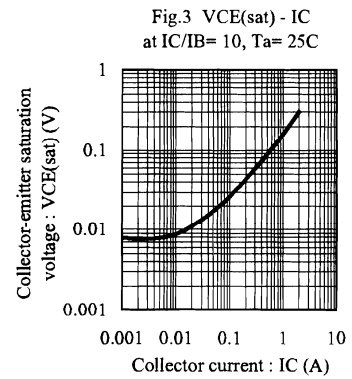
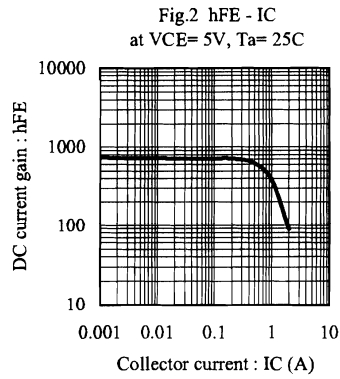
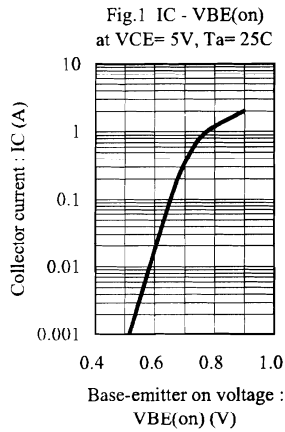
### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	40	V
Collector Emitter Voltage	$V_{CEO}$	40	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	1	A
Peak Pulse Current	$I_{CM}$	2	A
Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_S$	- 55 to + 150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 1\text{ mA}$	$h_{FE}$	300	-	-
at $V_{CE} = 5\text{ V}$ , $I_C = 500\text{ mA}$	$h_{FE}$	300	900	-
at $V_{CE} = 5\text{ V}$ , $I_C = 1\text{ A}$	$h_{FE}$	200	-	-
Collector Base Cutoff Current at $V_{CB} = 30\text{ V}$	$I_{CBO}$	-	100	nA
Collector Emitter Cutoff Current at $V_{CE} = 30\text{ V}$	$I_{CES}$	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	$I_{EBO}$	-	100	nA
Collector Emitter Saturation Voltage at $I_C = 500\text{ mA}$ , $I_B = 50\text{ mA}$	$V_{CEsat}$	-	0.3	V
at $I_C = 1\text{ A}$ , $I_B = 100\text{ mA}$		-	0.5	
Base Emitter Saturation Voltage at $I_C = 1\text{ A}$ , $I_B = 100\text{ mA}$	$V_{BEsat}$	-	1.2	V
Base Emitter Voltage at $I_C = 1\text{ A}$ , $V_{CE} = 5\text{ V}$	$V_{BE}$	-	1.1	V
Collector Output Capacitance at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	10	pF
Gain Bandwidth Product at $V_{CE} = 10\text{ V}$ , $I_C = 50\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	150	-	MHz

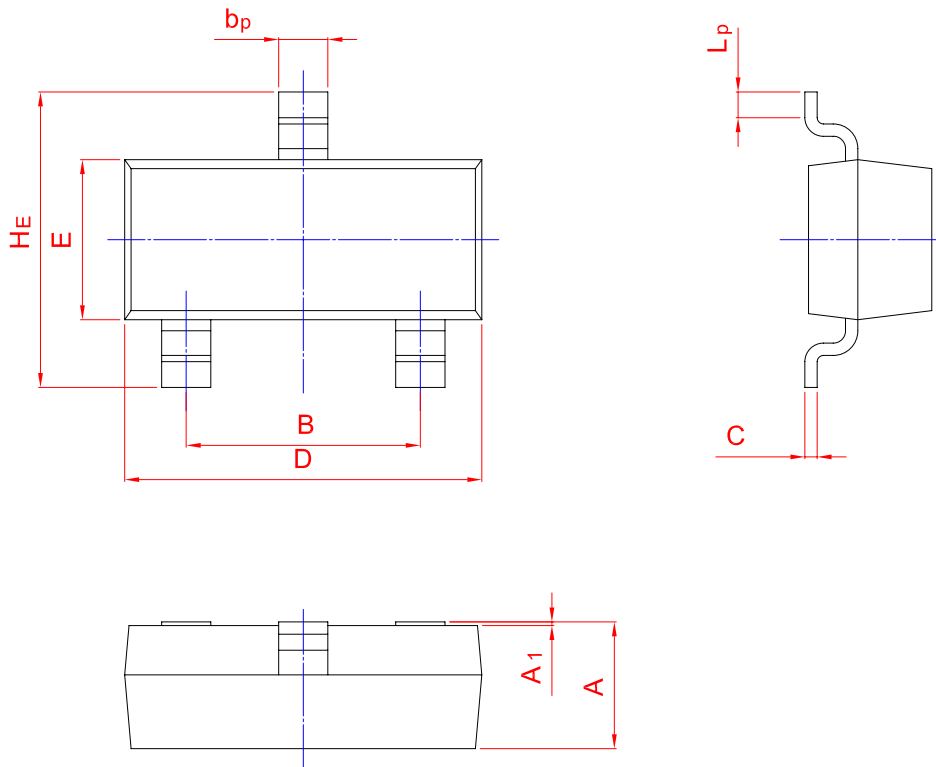
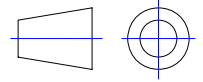
## Typical Characteristics



## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	bp	C	D	E	HE	A1	Lp
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