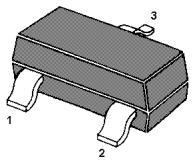
MMBT491A

NPN Silicon Epitaxial Planar Transistor



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

Marking:491A

Absolute Maximum Ratings (T_a = 25 °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	°C
Storage Temperature Range	T_S	- 55 to + 150	°C

Characteristics at T_a = 25 °C

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

Fig.1 IC - VBE(on)
at VCE= 5V, Ta= 25C

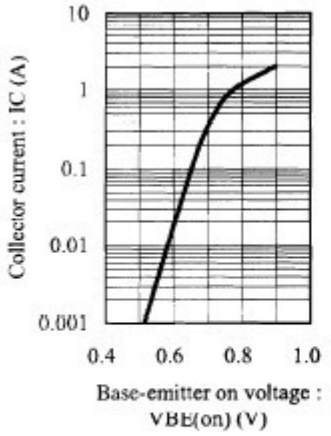


Fig.2 hFE - IC
at VCE= 5V, Ta= 25C

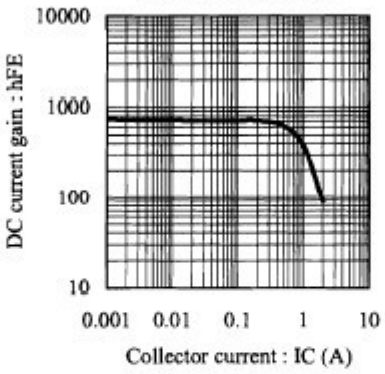


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

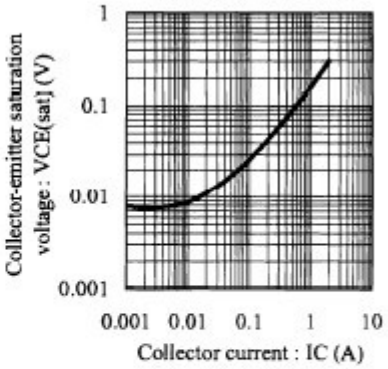


Fig.5 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

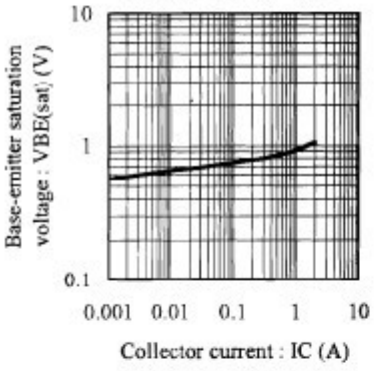


Fig.6 fT - IE
at VCE= 10V, Ta= 25C

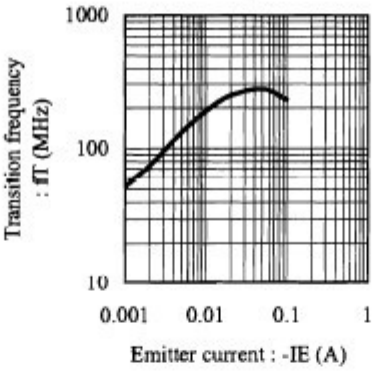


Fig.7 Cob - VCB
at f= 1MHz, Ta= 25C

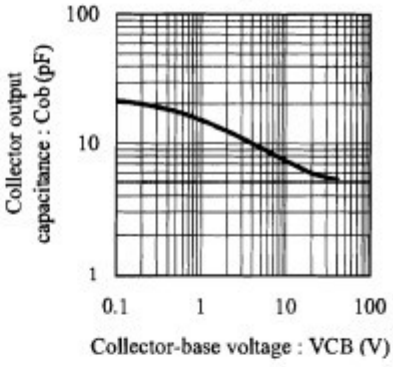


Fig.8 Cib - VEB
at f= 1MHz, Ta= 25C