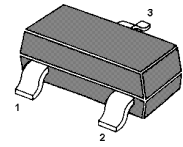


MMBT491A

NPN Silicon Epitaxial Planar Transistor



1.BASE 2.EMITTER 3.COLLECTOR

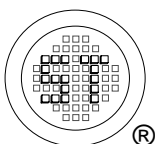
SOT-23 Plastic Package

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	$^\circ\text{C}$

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 500\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ A}$	h_{FE} h_{FE} h_{FE}	300 300 200	- 900 -	- - -
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 $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$ at $I_C = 1\text{ A}$, $I_B = 100\text{ mA}$	V_{CEsat}	- -	0.3 0.5	V
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



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002
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Certificate No. 7116



ISO 9001:2000
Certificate No. 0508098

Dated : 10/09/2008

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

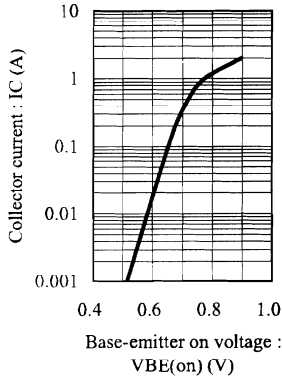


Fig.2 hFE - IC
at VCE= 5V, Ta= 25C

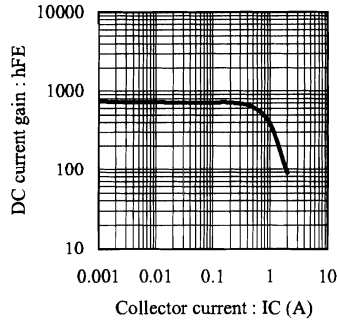


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

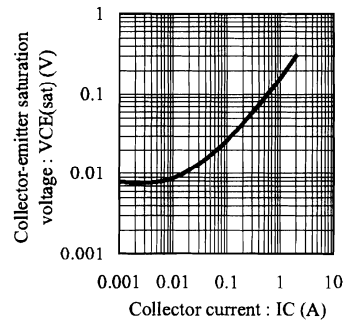


Fig.5 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

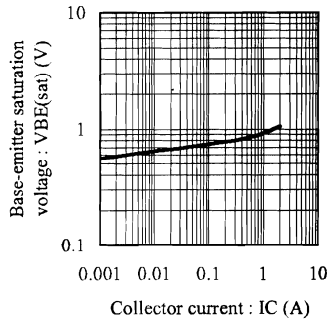


Fig.6 fT - IE
at VCE= 10V, Ta= 25C

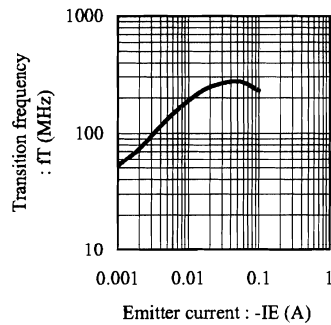


Fig.7 Cob - VCB
at f= 1MHz, Ta= 25C

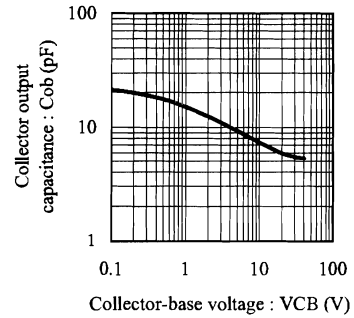
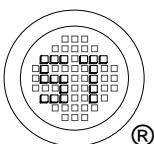
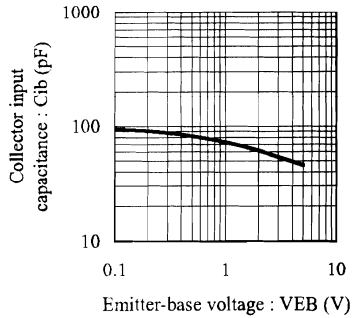


Fig.8 Cib - VEB
at f= 1MHz, Ta= 25C



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