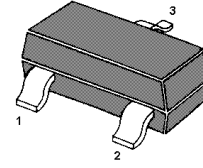


MMBTSB1197

PNP Silicon Epitaxial Planar Transistor

Low frequency transistor

The transistor is subdivided into two groups Q and R according to its DC current gain.



1.BASE 2.EMITTER 3.COLLECTOR
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	40	V
Collector Emitter Voltage	$-V_{CEO}$	32	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	800	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{Stg}	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE} = 3\text{ V}$, $-I_C = 100\text{ mA}$	Q h_{FE}	120	270	-
	R h_{FE}	180	390	-
Collector Cutoff Current at $-V_{CB} = 20\text{ V}$	$-I_{CBO}$	-	0.5	μA
Emitter Cutoff Current at $-V_{EB} = 4\text{ V}$	$-I_{EBO}$	-	0.5	μA
Collector Base Breakdown Voltage at $-I_C = 50\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	40	-	V
Collector Emitter Breakdown Voltage at $-I_C = 1\text{ mA}$	$-V_{(BR)CEO}$	32	-	V
Emitter Base Breakdown Voltage at $-I_E = 50\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	V
Collector Saturation Voltage at $-I_C = 500\text{ mA}$, $-I_B = 50\text{ mA}$	$-V_{CE(sat)}$	-	0.5	V
Output Capacitance at $-V_{CB} = 10\text{ V}$, $I_E = 0\text{ A}$, $f = 1\text{ MHz}$	C_{ob}	-	30	pF
Transition Frequency at $-V_{CE} = 5\text{ V}$, $I_E = 50\text{ mA}$, $f = 100\text{ MHz}$	f_T	50	-	MHz

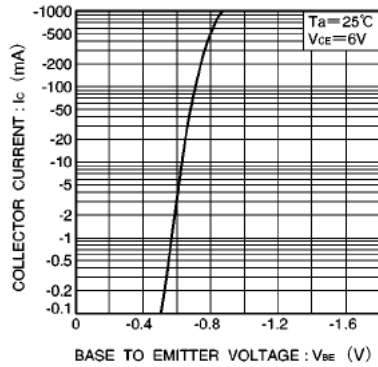


Fig.1 Grounded emitter propagation characteristics

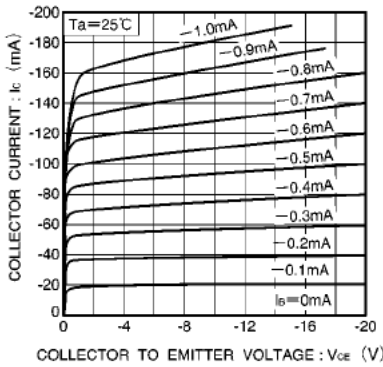


Fig.2 Grounded emitter output characteristics (I)

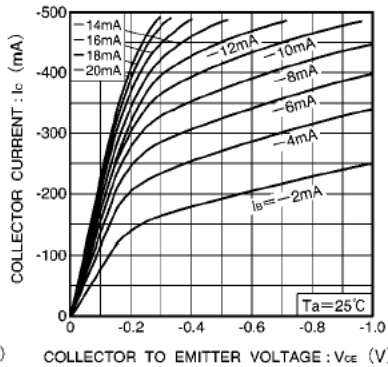


Fig.3 Grounded emitter output characteristics (II)

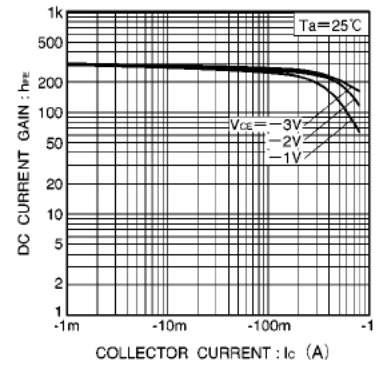


Fig.4 DC current gain vs. collector current

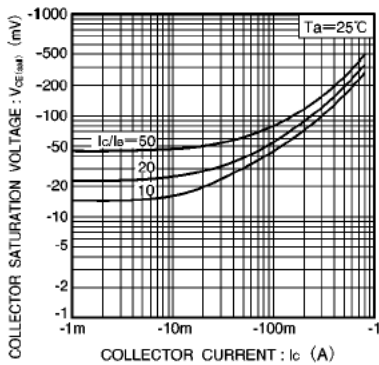


Fig.5 Collector-emitter saturation voltage vs. collector current

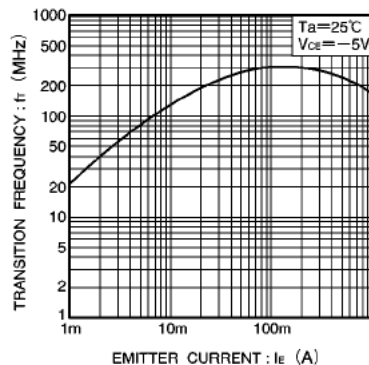


Fig.6 Gain bandwidth product vs. emitter current

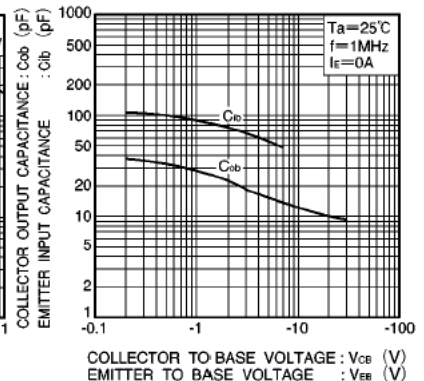


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage