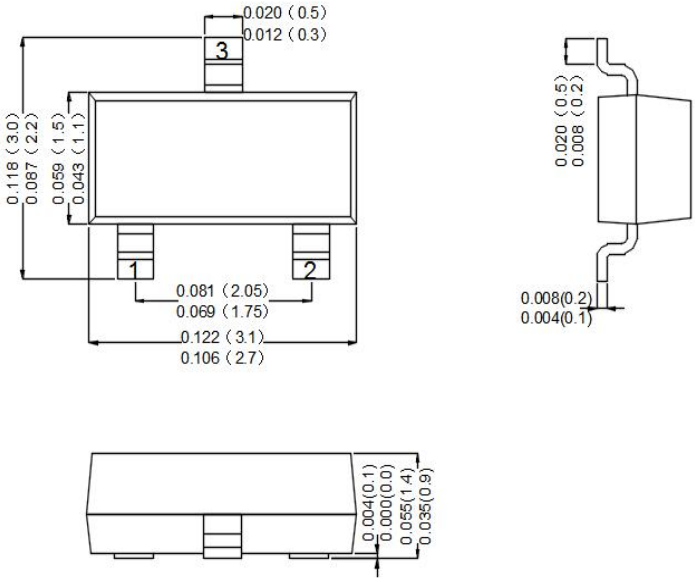
MMBTSB1690

PNP Silicon Epitaxial Planar Transistor

Features

SOT-23

- For low frequency amplifier and driver applications



Dimensions in inches and (millimeters)

Mechanical Data

- Case:Molded Plastic,SOT-23
- Epoxy:UL 94V-0 rate flame retardant
- Terminals:Plated Leads Solderable perMIL-STD-750,Method-2026.
- Marking: marked on body
- Mounting Position : Any.
- Equivalent Circuit:

Maximum Ratings Maximum Ratings (Rating at 25℃ ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	15	V
Collector Emitter Voltage	$-V_{CEO}$	12	V
Emitter Base Voltage	$-V_{EBO}$	6	V
Collector Current	$-I_C$	2	A
	$-I_{CP}$	4 [1)]	A
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_s	-55 to +150	°C

1) Single pulse, Pw = 1 ms.

Electrical Characteristics (Rating at 25℃ ambient temperature unless otherwise specified.)

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 2 V, $-I_C$ = 200 mA	h_{FE}	270	-	680	-
Collector Base Breakdown Voltage at $-I_C$ = 10 µA	$-V_{(BR)CBO}$	15	-	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 1 mA	$-V_{(BR)CEO}$	12	-	-	V
Emitter Base Breakdown Voltage at $-I_E$= 10 µA	$-V_{(BR)EBO}$	6	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 1 A, $-I_B$ = 50 mA	$-V_{CEsat}$	-	-	0.18	V
Collector Cutoff Current at $-V_{CB}$ = 15 V	$-I_{CBO}$	-	-	100	nA
Emitter Cutoff Current at $-V_{EB}$ = 6 V	$-I_{EBO}$	-	-	100	nA
Transition Frequency at $-V_{CE}$ = 2 V, I_E = 200 mA, f = 100 MHz	f_T	-	360	-	MHz
Collector Output Capacitance at $-V_{CB}$ = 10 V, I_E = 0 mA, f = 1 MHz	C_{ob}	-	15	-	pF

Rating And Characteristic Curves

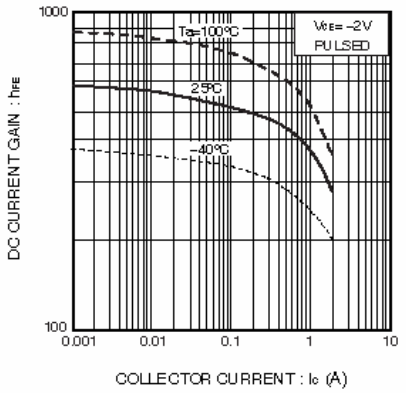


Fig.1 DC current gain vs. collector current

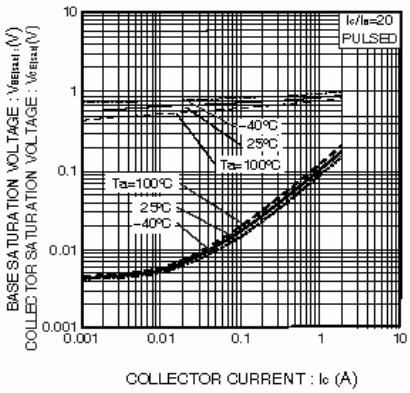


Fig.2 Collector-emitter saturation voltage base-emitter saturation voltage vs.collector current

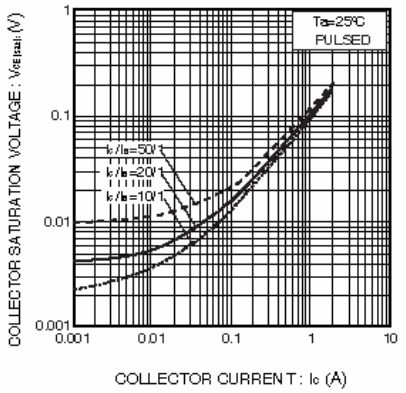


Fig.3 Collector-emitter saturation voltage vs. collector current

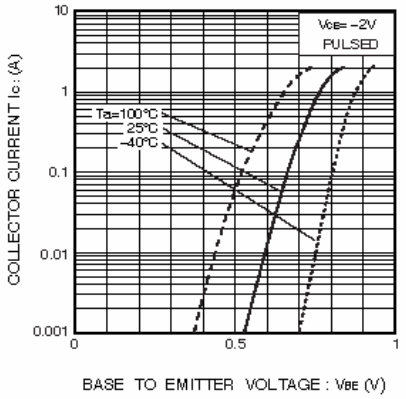


Fig.4 Grounded emitter propagation characteristics

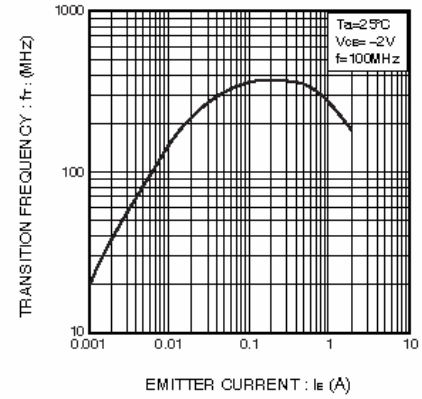


Fig.5 Gain bandwidth product vs. emitter current

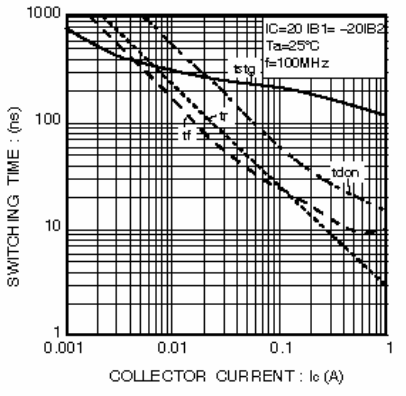


Fig.6 Switching time

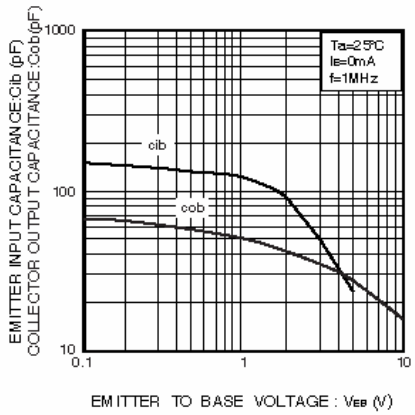


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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