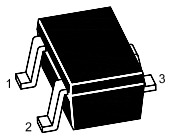
MMBTSB1689W

PNP Silicon Epitaxial Planar Transistors

for low frequency amplifier and driver applications



1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

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	$-I_C$	1.5	A
	$-I_{CP}$	3 [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.

Characteristics at T_{amb} = 25 °C

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 $-I_C$ = 500 mA, $-I_B$ = 25 mA	$-V_{CEsat}$	-	-	0.2	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	-	400	-	MHz
Collector Output Capacitance at $-V_{CB}$ = 10 V, f = 1 MHz	C_{ob}	-	12	-	pF

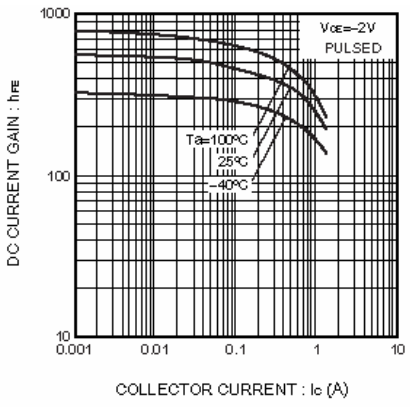


Fig.1 DC current gain vs. collector current

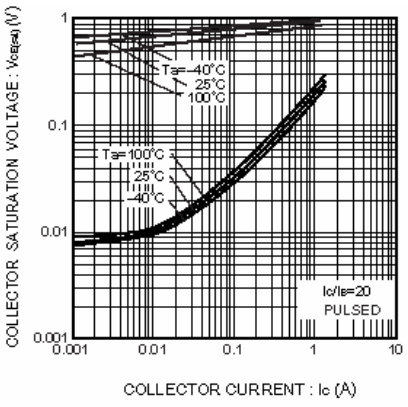


Fig.2 Collector-emitter saturation voltage vs.collector current

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

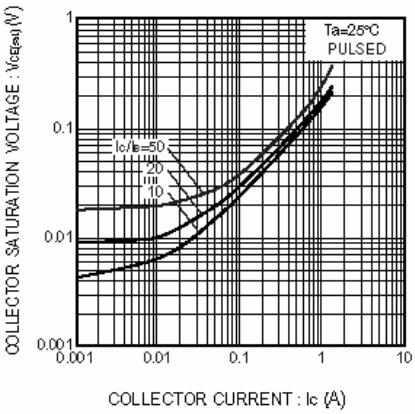


Fig.4 Collector-emitter saturation voltage vs. collector current

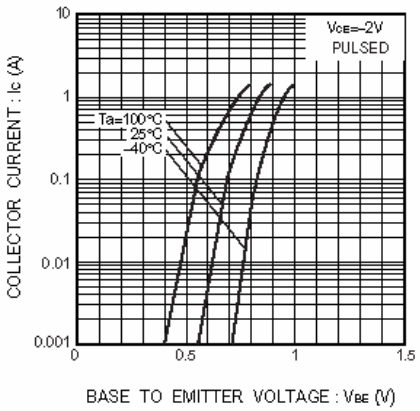


Fig.5 Grounded emitter propagation characteristics

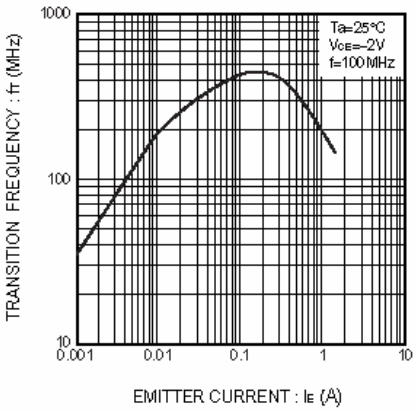


Fig.6 Gain bandwidth product vs. emitter current

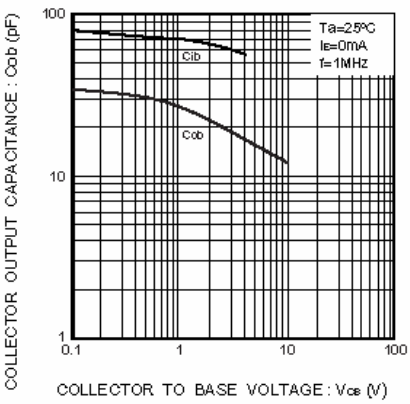


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs.emitter-base voltage