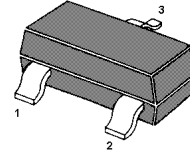


MMBT5B1690

PNP Silicon Epitaxial Planar Transistors

for low frequency amplifier and driver applications



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	$-V_{CBO}$	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	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

¹⁾ Single pulse, $P_w = 1$ ms.

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

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 $-I_C = 1$ 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

TOP DYNAMIC



Dated : 13/01/2012

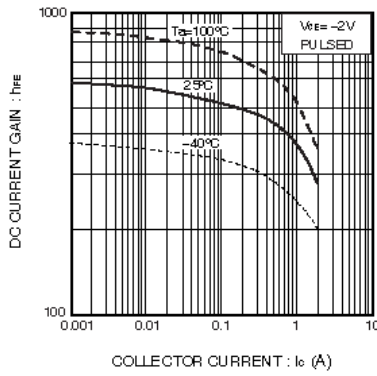


Fig. 1 DC current gain vs. collector current

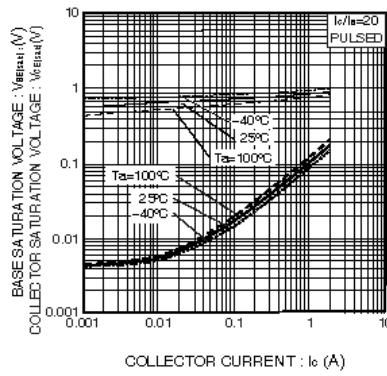


Fig. 2 Collector-emitter saturation voltage vs. collector current

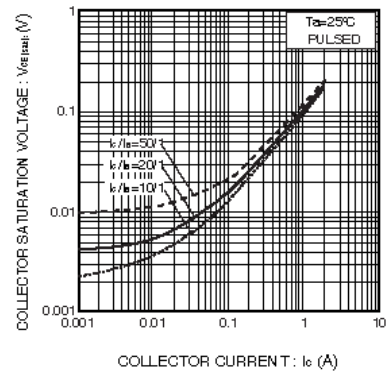


Fig. 3 Collector-emitter saturation voltage vs. collector current

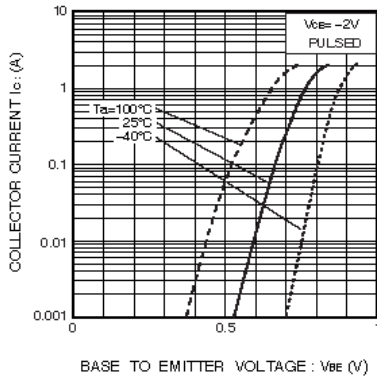


Fig. 4 Grounded emitter propagation characteristics

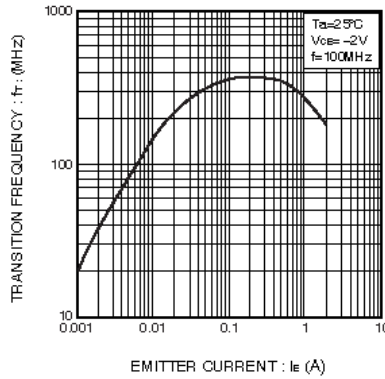


Fig. 5 Gain bandwidth product vs. emitter current

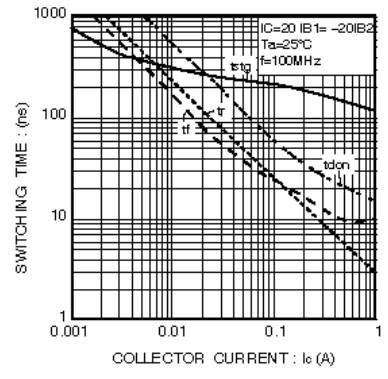


Fig. 6 Switching time

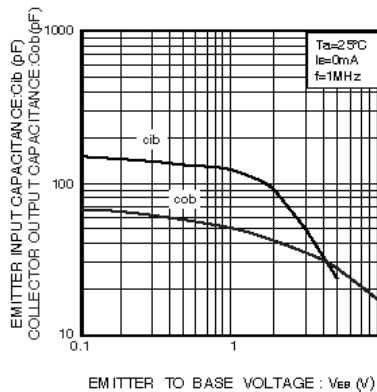


Fig. 7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage