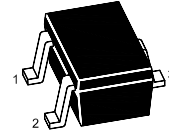


MMBT5B1689W

PNP Silicon Epitaxial Planar Transistors

for low frequency amplifier and driver applications



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

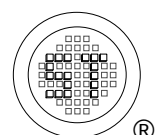
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{\text{CBO}}$	15	V
Collector Emitter Voltage	$-V_{\text{CEO}}$	12	V
Emitter Base Voltage	$-V_{\text{EBO}}$	6	V
Collector Current	$-I_{\text{C}}$	1.5	A
	$-I_{\text{CP}}$	3 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, $P_w = 1 \text{ ms}$.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{\text{CE}} = 2 \text{ V}$, $-I_{\text{C}} = 200 \text{ mA}$	h_{FE}	270	-	680	-
Collector Base Breakdown Voltage at $-I_{\text{C}} = 10 \mu\text{A}$	$-V_{(\text{BR})\text{CBO}}$	15	-	-	V
Collector Emitter Breakdown Voltage at $-I_{\text{C}} = 1 \text{ mA}$	$-V_{(\text{BR})\text{CEO}}$	12	-	-	V
Emitter Base Breakdown Voltage at $-I_{\text{E}} = 10 \mu\text{A}$	$-V_{(\text{BR})\text{EBO}}$	6	-	-	V
Collector Emitter Saturation Voltage at $-I_{\text{C}} = 500 \text{ mA}$, $-I_{\text{B}} = 25 \text{ mA}$	$-V_{\text{CEsat}}$	-	-	0.2	V
Collector Cutoff Current at $-V_{\text{CB}} = 15 \text{ V}$	$-I_{\text{CBO}}$	-	-	100	nA
Emitter Cutoff Current at $-V_{\text{EB}} = 6 \text{ V}$	$-I_{\text{EBO}}$	-	-	100	nA
Transition Frequency at $-V_{\text{CE}} = 2 \text{ V}$, $I_{\text{E}} = 100 \text{ mA}$, $f = 100 \text{ MHz}$	f_{T}	-	135	-	MHz
Collector Output Capacitance at $-V_{\text{CB}} = 10 \text{ V}$, $f = 1 \text{ MHz}$	C_{ob}	-	12	-	pF



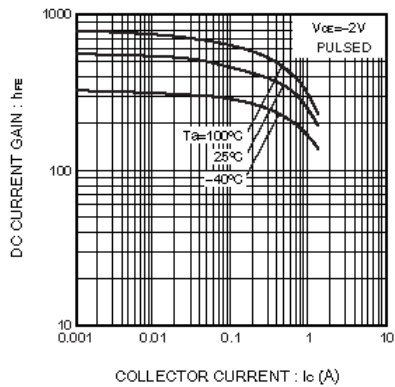


Fig.1 DC current gain vs. collector current

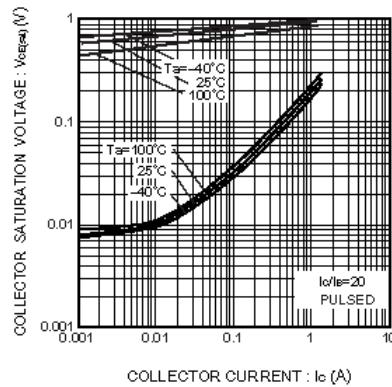


Fig.2 Collector-emitter saturation voltage vs. collector current
Fig.3 Base-emitter saturation voltage vs. collector current

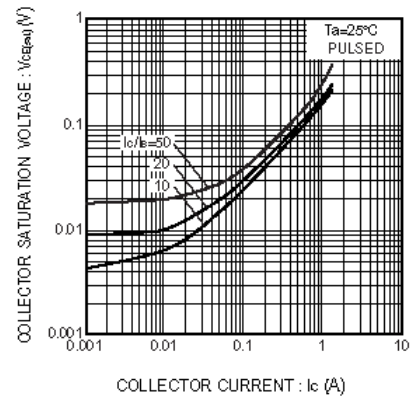


Fig.4 Collector-emitter saturation voltage vs. collector current

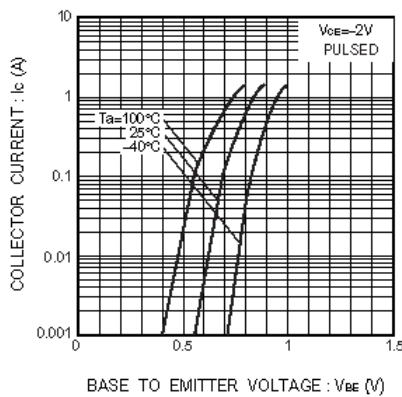


Fig.5 Grounded emitter propagation characteristics

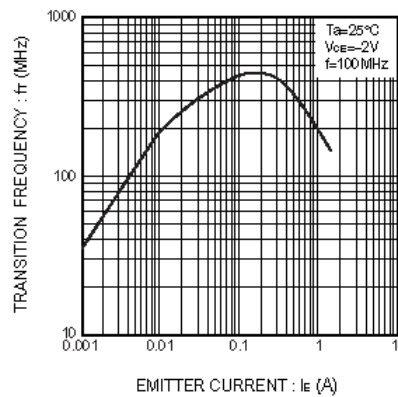


Fig.6 Gain bandwidth product vs. emitter current

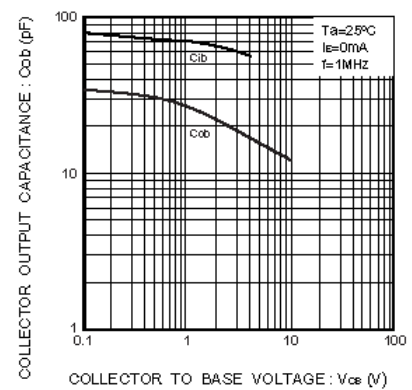
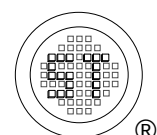
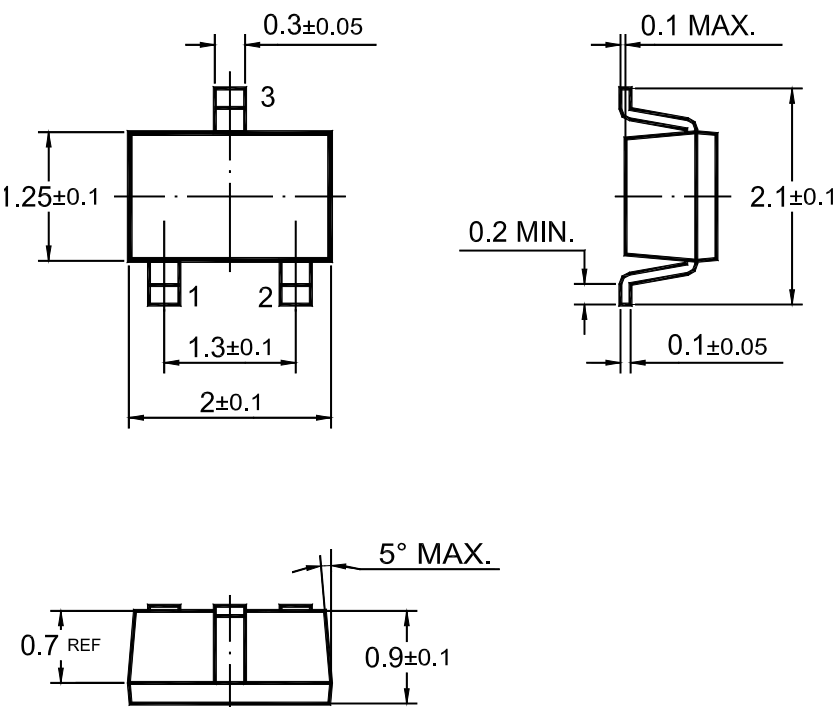


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

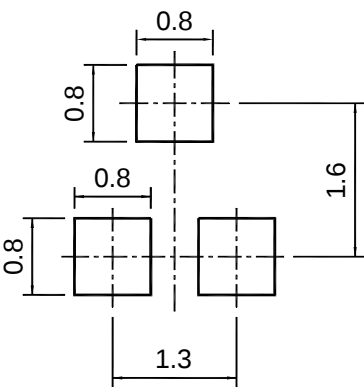


PACKAGE OUTLINE(Dimensions in mm)

SOT-323



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-323	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

