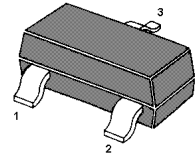


MMBT8105

PNP Silicon Epitaxial Planar Transistor

for medium power amplification and switching



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	$-V_{CBO}$	80	V
Collector Emitter Voltage	$-V_{CEO}$	60	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	1	A
Peak Collector Current	$-I_{CM}$	2	A
Power Dissipation	P_{tot}	600	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 $-V_{CE} = 5\text{ V}$, $-I_C = 1\text{ mA}$	h_{FE}	100	-	-
at $-V_{CE} = 5\text{ V}$, $-I_C = 500\text{ mA}$	h_{FE}	100	300	-
at $-V_{CE} = 5\text{ V}$, $-I_C = 1\text{ A}$	h_{FE}	80	-	-
at $-V_{CE} = 5\text{ V}$, $-I_C = 2\text{ A}$	h_{FE}	30	-	-
Collector Base Cutoff Current at $-V_{CB} = 60\text{ V}$	$-I_{CBO}$	-	100	nA
Collector Emitter Cutoff Current at $-V_{CE} = 60\text{ V}$	$-I_{CES}$	-	100	nA
Emitter Base Cutoff Current at $-V_{EB} = 4\text{ V}$	$-I_{EBO}$	-	100	nA
Collector Base Breakdown Voltage at $-I_C = 100\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	80	-	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	$-V_{(BR)CEO}$	60	-	V
Emitter Base Breakdown Voltage at $-I_E = 100\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage at $-I_C = 500\text{ mA}$, $-I_B = 50\text{ mA}$ at $-I_C = 1\text{ A}$, $-I_B = 100\text{ mA}$	$-V_{CE(sat)}$	- -	0.3 0.6	V
Base Emitter Saturation Voltage at $-I_C = 1\text{ A}$, $-I_B = 100\text{ mA}$	$-V_{BE(sat)}$	-	1.2	V
Base Emitter On Voltage at $-V_{CE} = 5\text{ V}$, $-I_C = 1\text{ A}$	$-V_{BE(on)}$	-	1	V
Transition Frequency at $-V_{CE} = 10\text{ V}$, $-I_C = 50\text{ mA}$, $f = 100\text{ MHz}$	f_T	80	-	MHz
Collector Output Capacitance at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	20	pF

TOP DYNAMIC

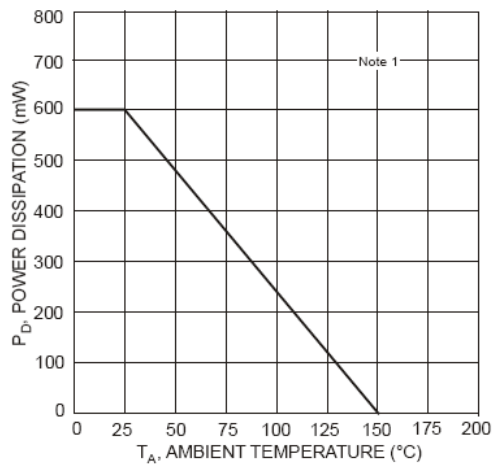


Fig. 1, Max Power Dissipation vs. Ambient Temperature

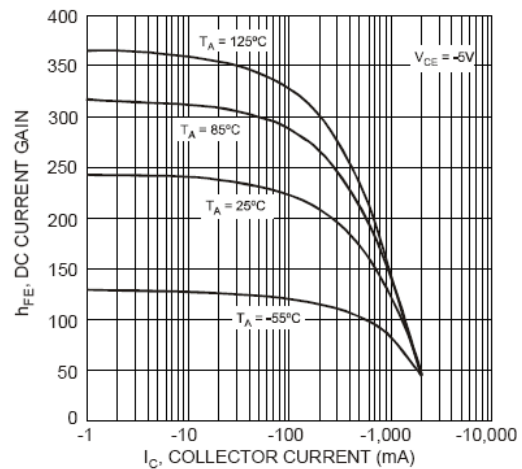


Fig. 2, DC Current Gain vs. Collector Current

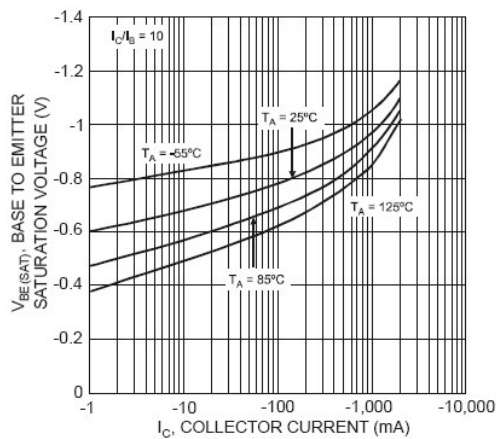


Fig. 3, Base-Emitter Saturation Voltage vs. Collector Current

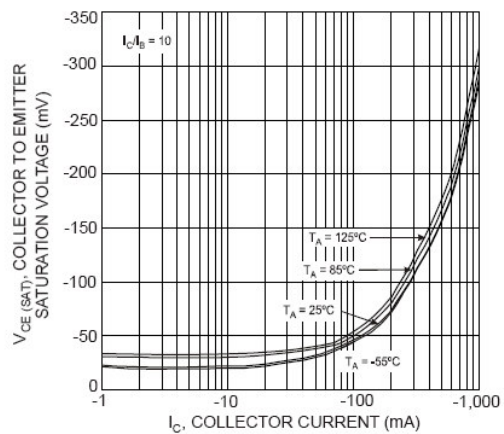


Fig. 4, Collector-Emmitter Saturation Voltage vs. Collector Current

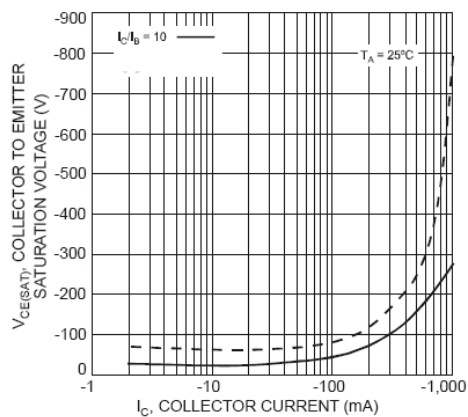


Fig. 5, Collector-Emmitter Saturation Voltage vs. Collector Current

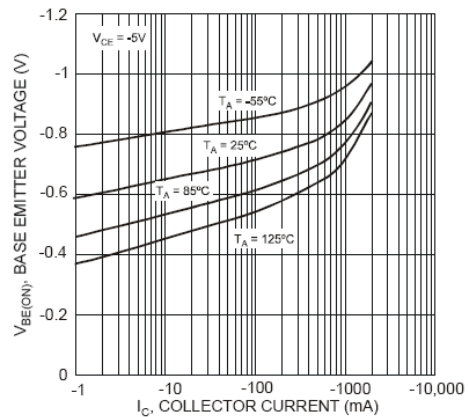


Fig. 6, Base-Emitter Voltage vs. Collector Current