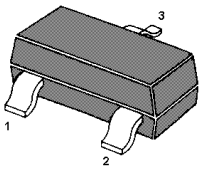
MMBT8050 (2A)

NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications. Especially suitable for AF-driver stages and low power output stages.

The transistor is subdivided into two groups C and D according to its DC current gain.



1.BASE 2.EMITTER 3.COLLECTOR

TO-236 Plastic Package

Absolute Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CEO}	25	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	2	A
Power Dissipation	P_{tot}	350	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{Stg}	- 55 to + 150	℃

Characteristics at T_a = 25℃

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain					
at V_{CE} = 1 V, I_C = 5 mA		h_{FE}	45	-	-
at V_{CE} = 1 V, I_C = 100 mA	MMBT8050C	h_{FE}	100	250	-
	MMBT8050D	h_{FE}	160	300	-
at V_{CE} = 1 V, I_C = 1.5 A		h_{FE}	40	-	-
Collector Base Cutoff Current at V_{CB} = 35 V		I_{CBO}	-	100	nA
Emitter Base Cutoff Current at V_{EB} = 6 V		I_{EBO}	-	100	nA
Collector Base Breakdown Voltage at I_C = 100 µA		$V_{(BR)CBO}$	40	-	V
Collector Emitter Breakdown Voltage at I_C = 2 mA		$V_{(BR)CEO}$	25	-	V
Emitter Base Breakdown Voltage at I_E = 100 µA		$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage at I_C = 1.5 A, I_B = 100 mA		$V_{CE(sat)}$	-	0.5	V
Base Emitter Saturation Voltage at I_C = 1.5 A, I_B = 100 mA		$V_{BE(sat)}$	-	1.2	V
Base Emitter Voltage at V_{CE} = 1 V, I_C = 10 mA		$V_{BE(on)}$	-	1	V
Transition Frequency at V_{CE} = 10 V, I_C = 50 mA		f_T	100	-	MHz

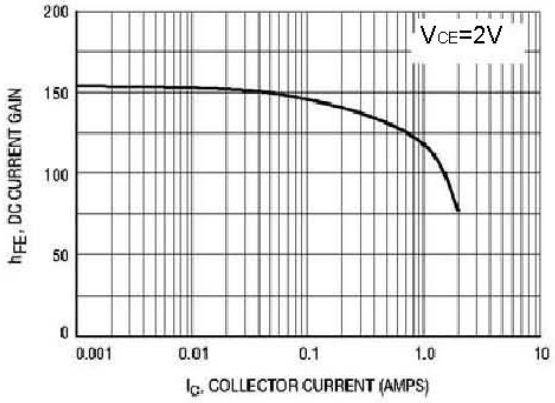


Figure 1. DC Current Gain versus Collector Current

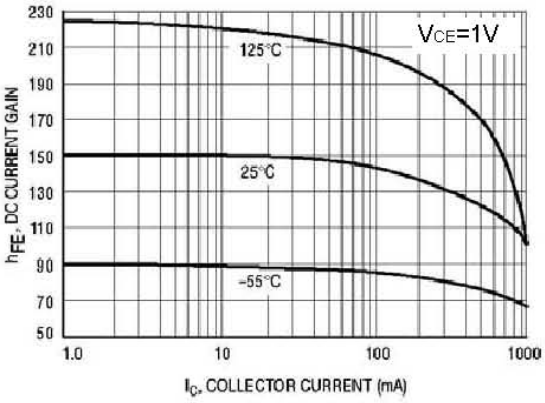


Figure 2. DC Current Gain versus Collector Current

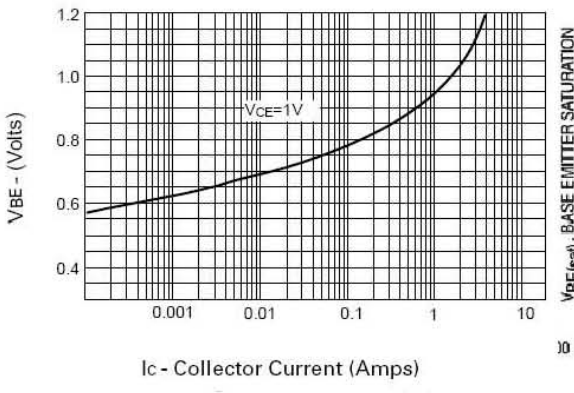


Figure 3. "On" Voltages

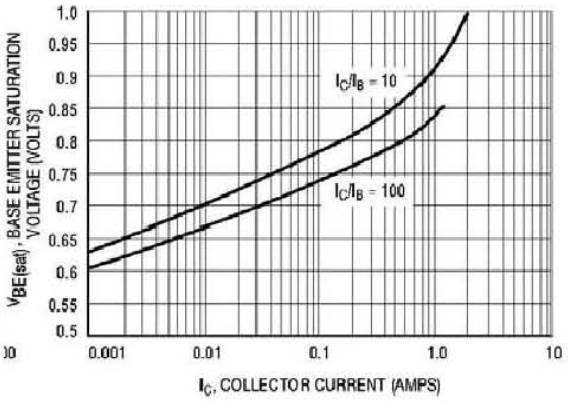


Figure 4. Base Emitter Saturation Voltage versus Collector Current

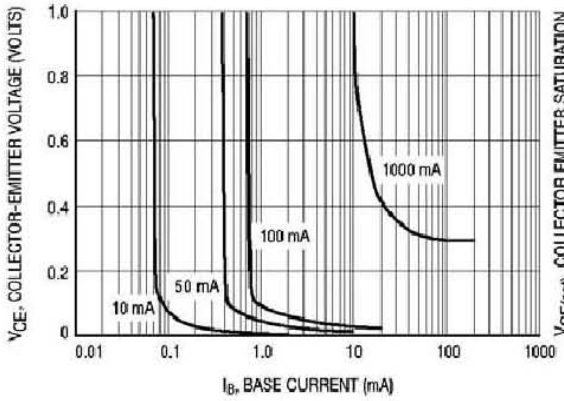


Figure 5. Collector Emitter Saturation Voltage versus Collector Current

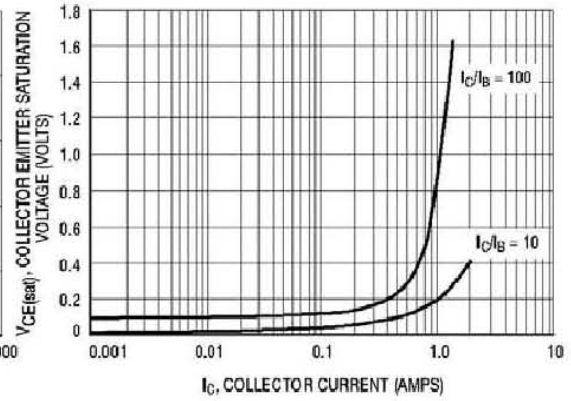


Figure 6. Collector Emitter Saturation Voltage versus Collector Current