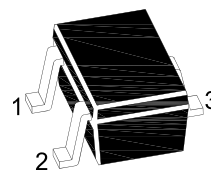


MMBT8050E

NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications



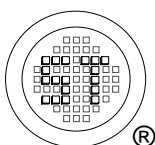
1.Base 2.Emitter 3.Collector
SOT-523 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	25	V
Collector Base Voltage	V_{CBO}	40	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Power Dissipation	P_{tot}	150	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.	Typ.	Max.	Unit	
DC Current Gain at $V_{CE} = 1\text{ V}$, $I_C = 100\text{ mA}$	MMBT8050CE	h_{FE}	100	-	250	-
	MMBT8050DE	h_{FE}	160	-	400	-
		h_{FE}	40	-	-	-
at $V_{CE} = 1\text{ V}$, $I_C = 500\text{ mA}$						
Collector Cutoff Current at $V_{CB} = 35\text{ V}$	I_{CBO}	-	-	100	nA	
Collector Emitter Breakdown Voltage at $I_C = 2\text{ mA}$	$V_{(BR)CEO}$	25	-	-	V	
Collector Base Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	40	-	-	V	
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	6	-	-	V	
Collector Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$	$V_{CE(sat)}$	-	-	0.5	V	
Base Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$	$V_{BE(sat)}$	-	-	1.2	V	
Gain Bandwidth Product at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$, $f = 50\text{ MHz}$	f_T	-	100	-	MHz	
Collector Base Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{CBO}	-	12	-	pF	

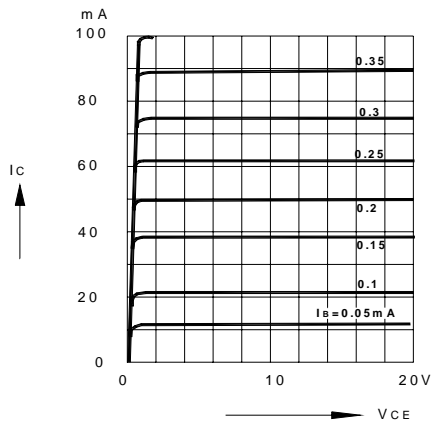


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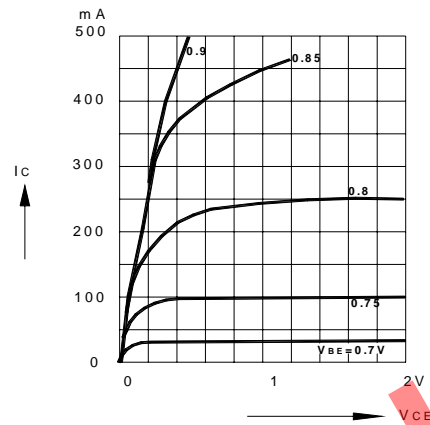


MMBT8050E

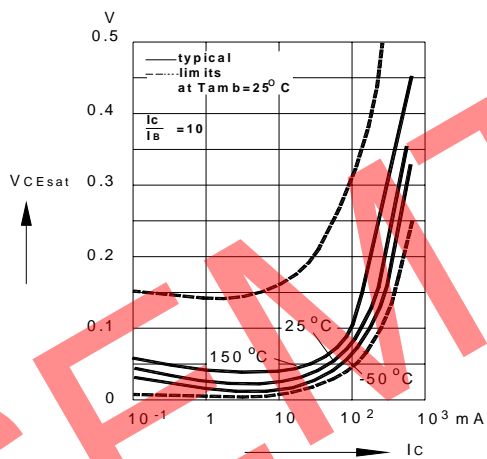
Common emitter collector characteristics



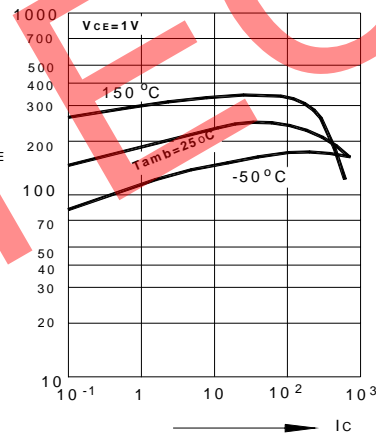
Common emitter collector characteristics



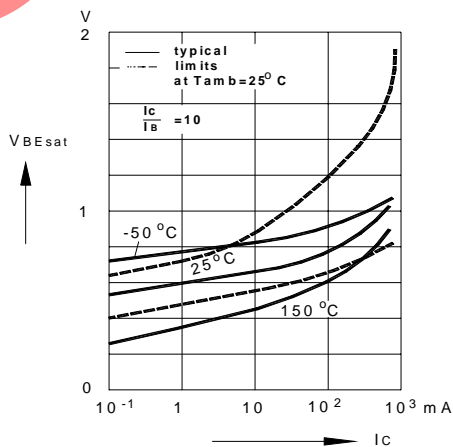
Collector saturation voltage versus collector current



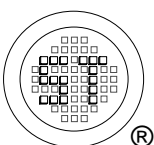
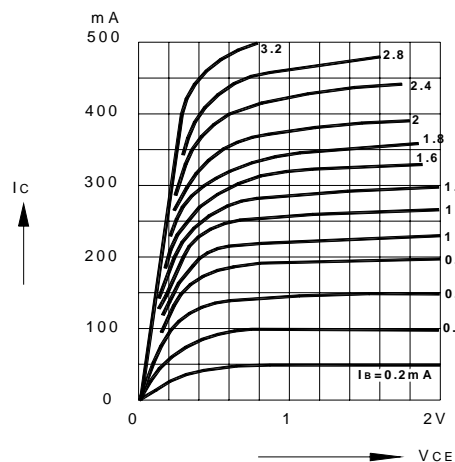
DC current gain versus collector current



Base saturation voltage versus collector current



Common emitter collector characteristics



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