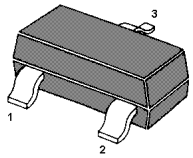
MMBT8050C / MMBT8050D

NPN Silicon Epitaxial Planar Transistor
for switching and amplifier applications.

As complementary type the PNP transistor
MMBT8550C and MMBT8550D are
recommended.



1. Base 2. Emitter 3. Collector

SOT-23 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

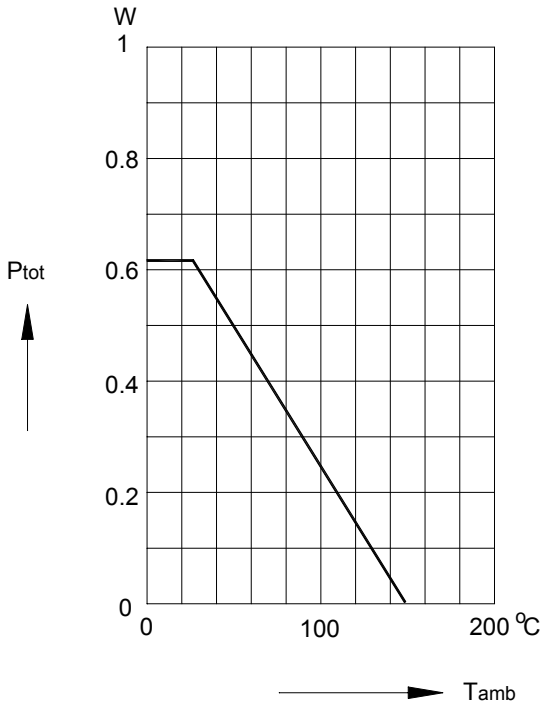
	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	25	V
Collector Base Voltage	V_{CBO}	40	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	-55 to +150	°C

Characteristics at T_a =25 °C

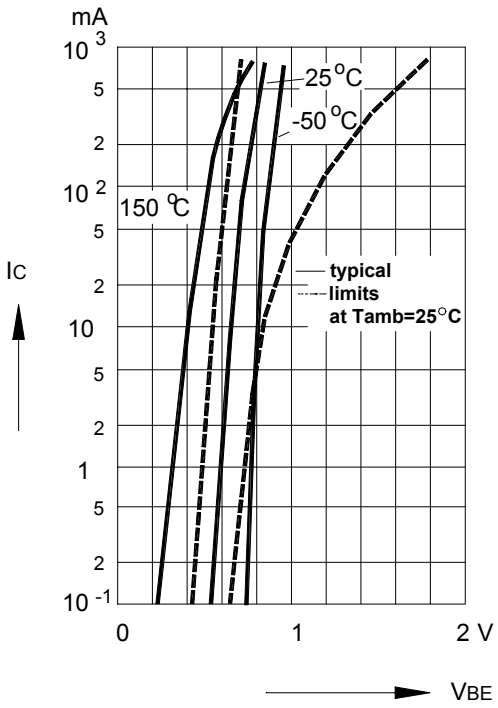
		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at V_{CE}=1V, I_C=100mA	MMBT8050C	h_{FE}	100	-	250	-
	MMBT8050D	h_{FE}	160	-	400	-
at V_{CE}=1V, I_C=500mA		h_{FE}	40	-	-	-
Collector Cutoff Current at V_{CB}=35V		I_{CBO}	-	-	100	nA
Collector Saturation Voltage at I_C=500mA, I_B=50mA		$V_{CE(sat)}$	-	-	0.5	V
Base Saturation Voltage at I_C=500mA, I_B=50mA		$V_{BE(sat)}$	-	-	1.2	V
Collector Emitter Breakdown Voltage at I_C=2mA		$V_{(BR)CEO}$	25	-	-	V
Collector Base Breakdown Voltage at I_C=10μA		$V_{(BR)CBO}$	40	-	-	V
Emitter Base Breakdown Voltage at I_E=100μA		$V_{(BR)EBO}$	6	-	-	V
Gain Bandwidth Product at V_{CE}=5V, I_C=10mA, f=50MHz		f_T	-	100	-	MHz
Collector Base Capacitance at V_{CB}=10V, f=1MHz		C_{CBO}	-	12	-	pF
Thermal Resistance Junction to Ambient		R_{thA}	-	-	200	K/W

Admissible power dissipation versus ambient temperature

Valid provided that leads are kept at ambient temperature at a distance of 2mm from case

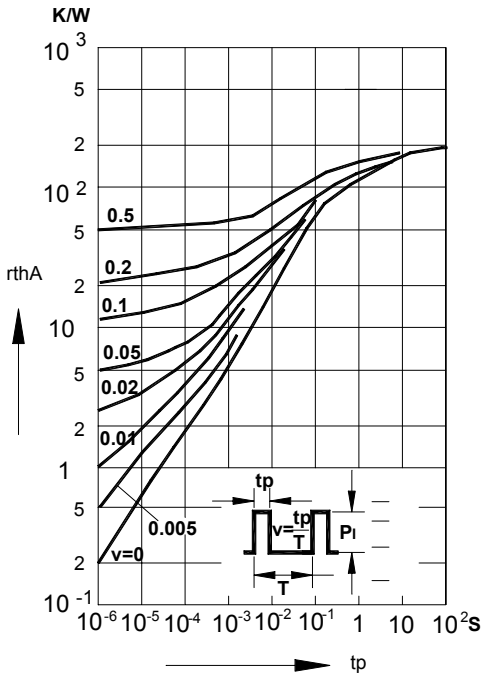


Collector current versus base emitter voltage

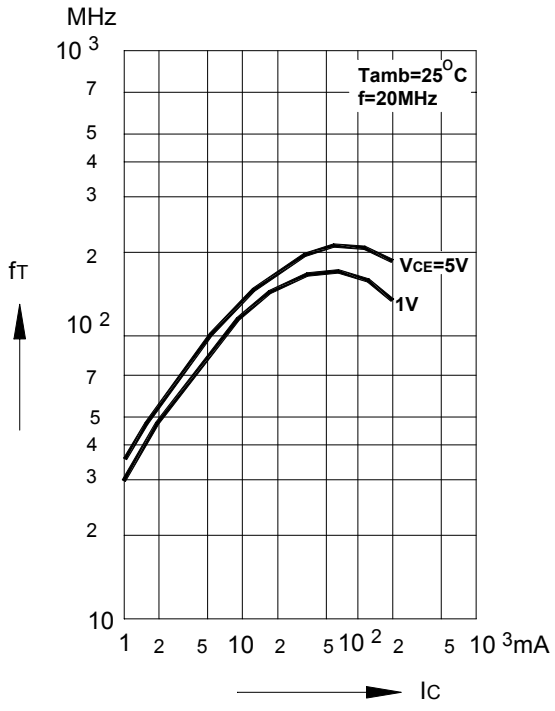


Pulse thermal resistance versus pulse duration

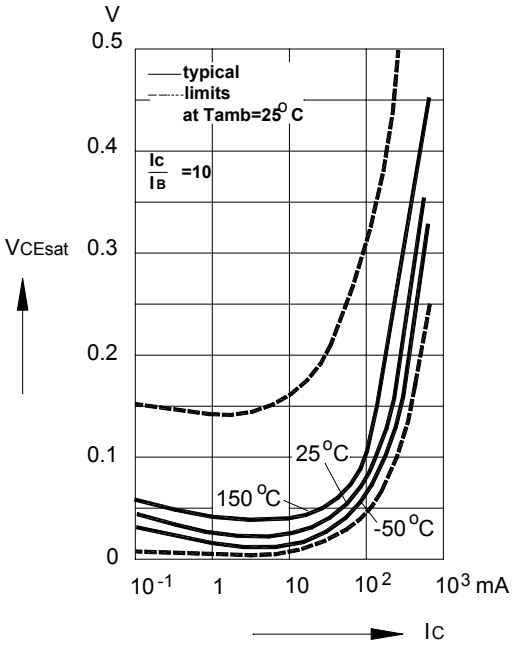
Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case



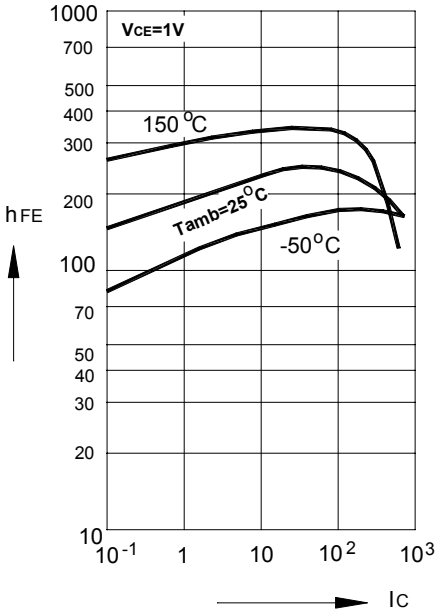
Gain bandwidth product versus collector current



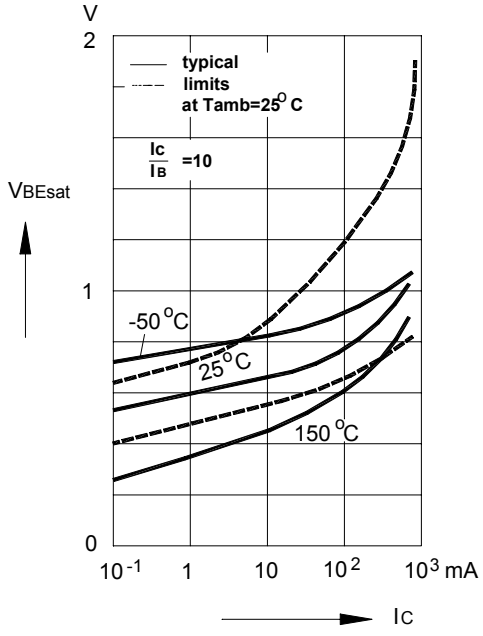
Collector saturation voltage versus collector current



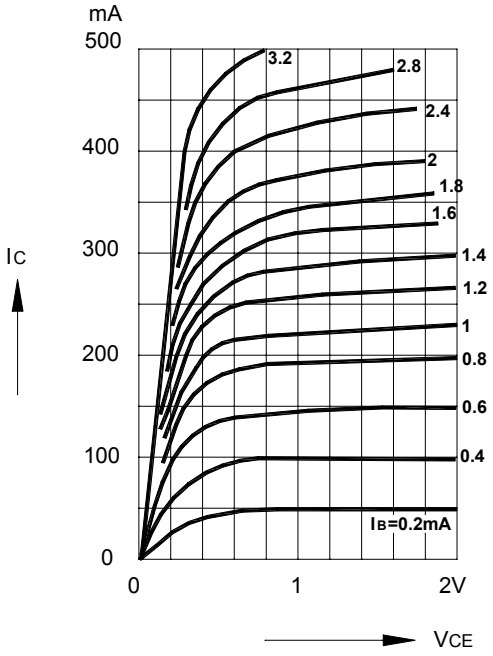
DC current gain versus collector current



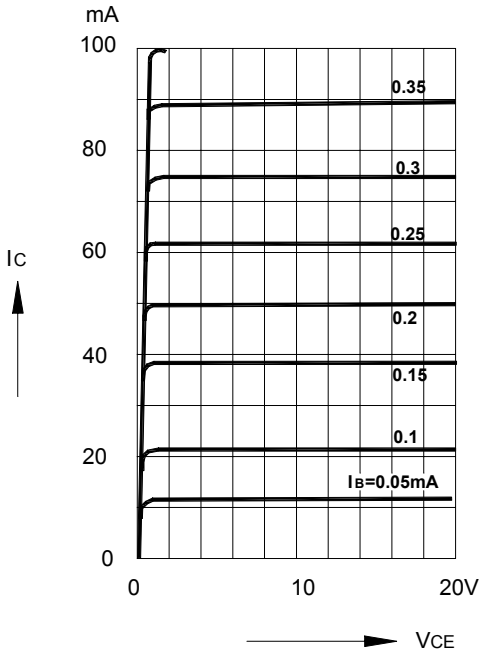
Base saturation voltage versus collector current



Common emitter collector characteristics



Common emitter collector characteristics



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