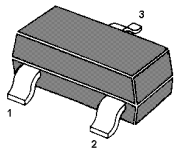
MMBT5551

NPN Silicon Epitaxial Planar Transistors

for high voltage amplifier applications.



1. Base 2. Emitter 3. Collector

SOT-23 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	180	V
Collector Emitter Voltage	V_{CEO}	160	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Power Dissipation	P_{tot}	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Characteristics at T_{amb}=25 °C

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 1 mA at V_{CE} = 5 V, I_C = 10 mA at V_{CE} = 5 V, I_C = 50 mA	 h_{FE} h_{FE} h_{FE}	 80 80 30	 - 250 -	 - - -
Collector Base Cutoff Current at V_{CB} = 120 V	I_{CBO}	-	50	nA
Emitter Base Cutoff Current at V_{EB} = 4 V	I_{EBO}	-	50	nA
Collector Base Breakdown Voltage at I_C = 100 µA	$V_{(BR)CBO}$	180	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA	$V_{(BR)CEO}$	160	-	V
Emitter Base Breakdown Voltage at I_E = 10 µA	$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage at I_C = 10 mA, I_B = 1 mA at I_C = 50 mA, I_B = 5 mA	$V_{CE(sat)}$	 - -	 0.15 0.2	V
Base Emitter Saturation Voltage at I_C = 10 mA, I_B = 1 mA at I_C = 50 mA, I_B = 5 mA	$V_{BE(sat)}$	 - -	 1 1	V
Gain Bandwidth Product at V_{CE} = 10 V, I_C = 10 mA, f = 100 MHz	f_T	100	300	MHz
Collector Base Capacitance at V_{CB} = 10 V, f = 1 MHz	C_{cbo}	-	6	pF

Fig. 1 h_{FE} - I_C

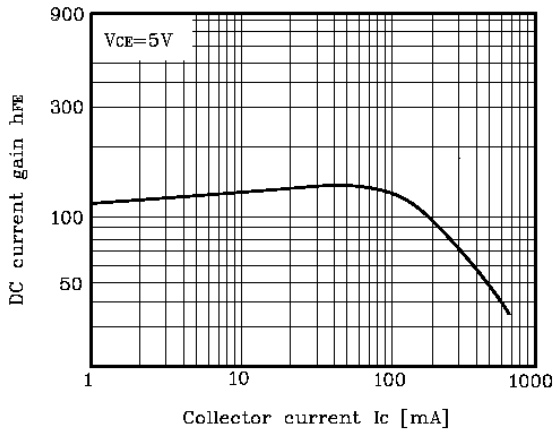


Fig. 2 I_C - V_{BE}

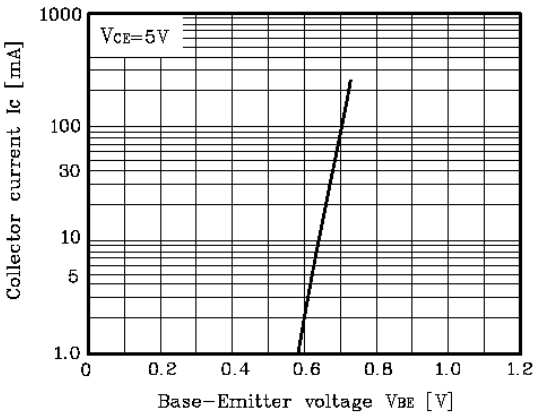


Fig. 3 f_T - I_C

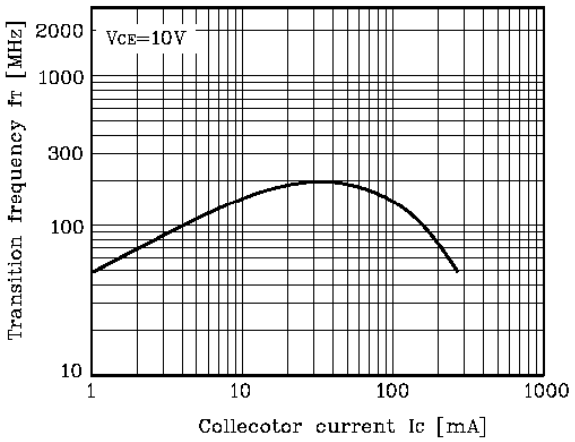


Fig. 4 $V_{CE(sat)}$, $V_{BE(sat)}$- I_C

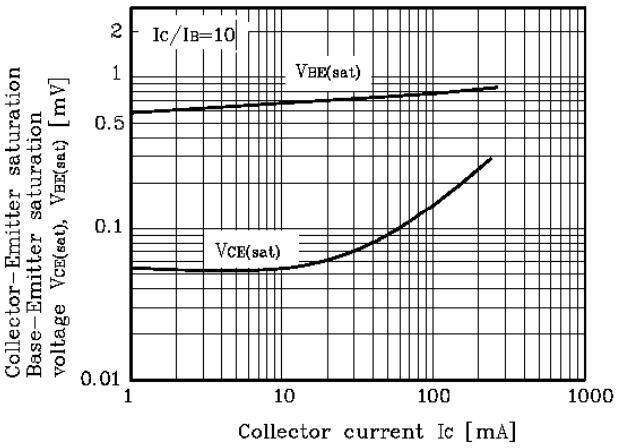


Fig. 5 C_{ob} - V_{CB}

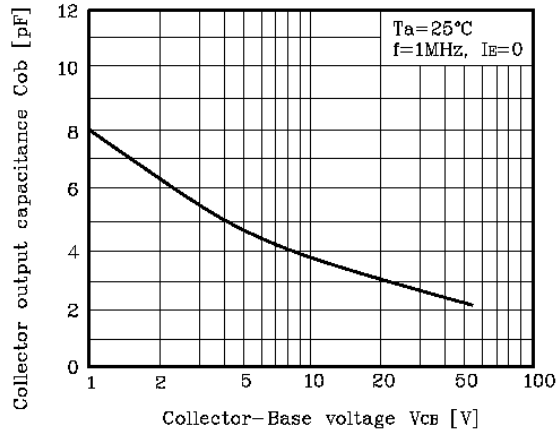


Fig. 6 Power Derating Curve