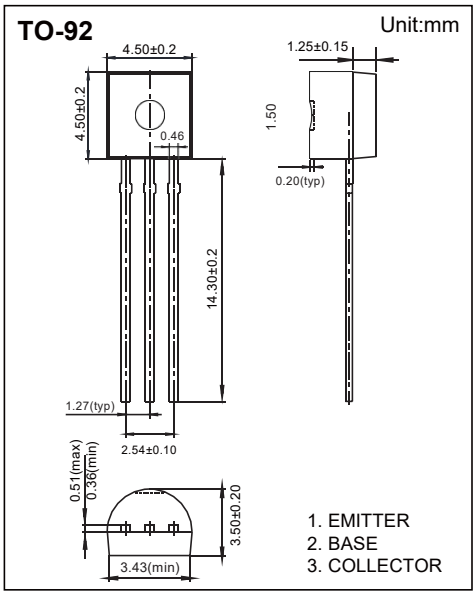
NPN Transistors

S8050



■ Features

- Collector current: I_C=0.5A
- Complementary to S8550

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	40	V
Collector - Emitter Voltage	V_{CEO}	25	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	0.5	A
Collector Power Dissipation	P_C	625	mW
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collecto- base breakdown voltage	V_{CBO}	I_C= 100 μA, I_E=0	40			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 0.1 mA, I_B=0	25			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μA, I_C=0	5			
Collector cut-off current	I_{CBO}	V_{CB}= 40 V , I_E=0			0.1	μA
Collector cut-off current	I_{CEO}	V_{CE}= 20 V , I_B=0			1	
Emitter cut-off current	I_{EBO}	V_{EB}= 5V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500 mA, I_B= 50mA			0.6	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=500 mA, I_B= 50mA			1.2	
DC current gain	$h_{FE(1)}$	V_{CE}= 1V, I_C= 50mA	85		400	
	$h_{FE(2)}$	V_{CE}= 1V, I_C= 500mA	50			
Transition frequency	f_T	V_{CE}= 6V, I_C= 20mA,f=30MHz	150			MHz

■ Classification of hFE(1)

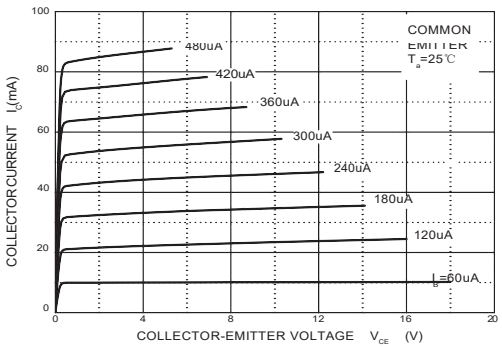
Rank	B	C	D	D3
Range	85-160	120-200	160-300	300-400

NPN Transistors

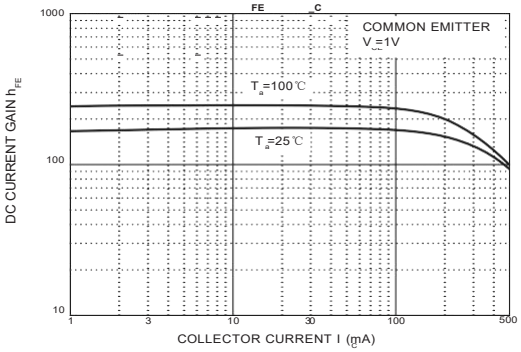
S8050

■ Typical Characterisitics

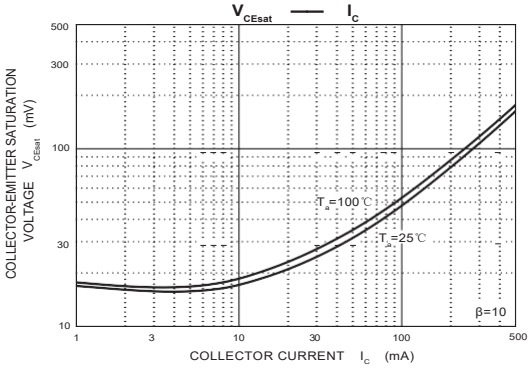
Static Characteristic



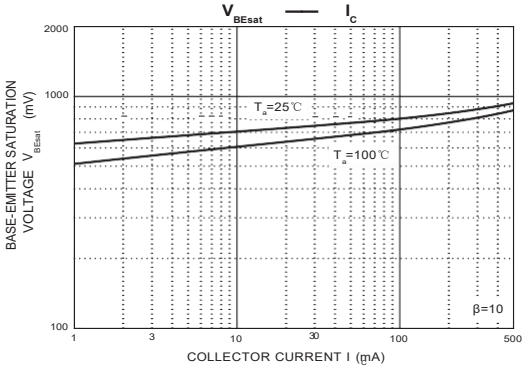
h_FE — I_C



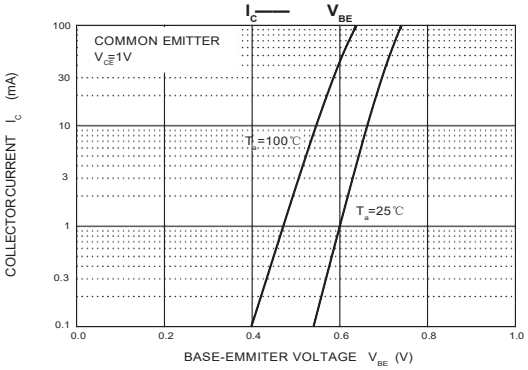
V_CEsat — I_C



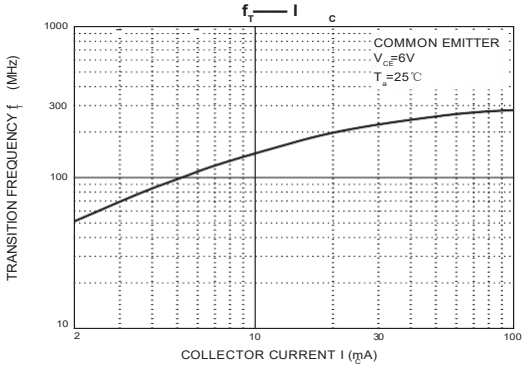
V_BEsat — I_C



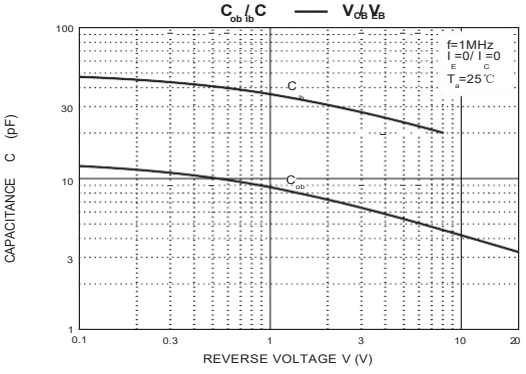
I_C — V_BE



f_T — I_C



C_ob / C_ib — V_CB / V_EB



P_C — T_a