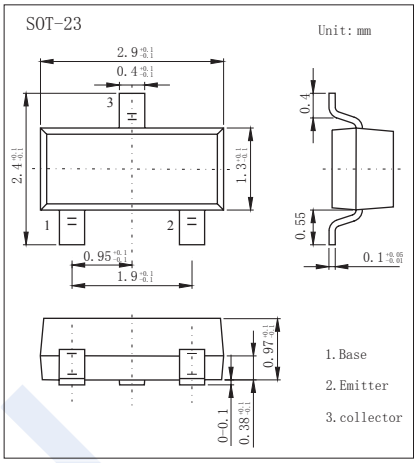
PNP Transistors

2SB970-HF



■ Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- For low-voltage output amplification
- Pb−Free Package May be Available. The G−Suffix Denotes a Pb−Free Lead Finish

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-15	V
Collector - Emitter Voltage	V_{CEO}	-10	
Emitter - Base Voltage	V_{EBO}	-7	
Collector Current - Continuous	I_C	-500	mA
Collector Current - Pulse	I_{CP}	-1	A
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_J	150	℃
Storage Temperature range	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= -100 μA, I_E=0	-15			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= -1 mA, I_B=0	-10			
Emitter - base breakdown voltage	V_{EBO}	I_E= -100 μ A, I_C=0	-7			
Collector-base cut-off current	I_{CBO}	V_{CB}= - 10V , I_E=0			-0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= -6V , I_C=0			-0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-400 mA, I_B=-8mA		-0.16	-0.3	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=-400 mA, I_B=-8mA		-0.8	-1.2	
DC current gain	h_{FE}	V_{CE}= -2V, I_C= -500mA	130		350	
		V_{CE}= -2V, I_C= -1A	60			
Collector output capacitance	C_{ob}	V_{CB}= -10V, I_E= 0,f=1MHz		22		pF
Transition frequency	f_T	V_{CE}= -10V, I_E= 50mA, f=200MHz		130		MHz

■ Classification of $h_{fe(1)}$

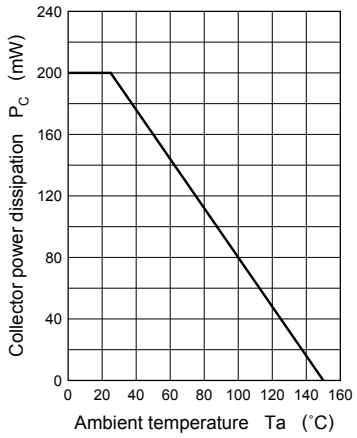
Type	2SB970-R-HF	2SB970-S-HF
Range	130-220	180-350
Marking	1RR F	1RS F

PNP Transistors

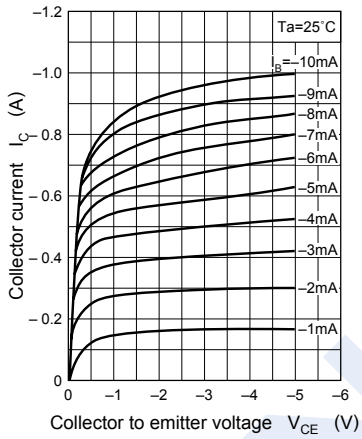
2SB970-HF

■ Typical Characterisitics

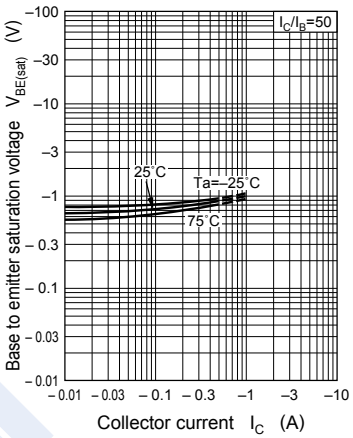
P_C — Ta



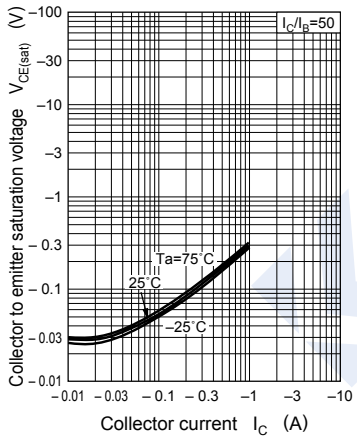
I_C — V_{CE}



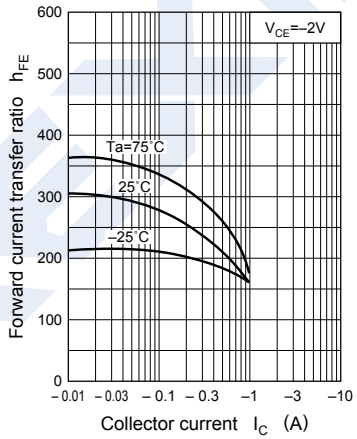
$V_{BE(sat)}$ — I_C



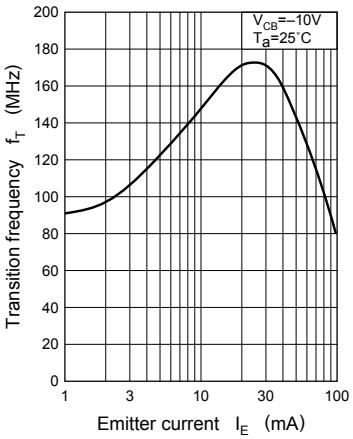
$V_{CE(sat)}$ — I_C



h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}

