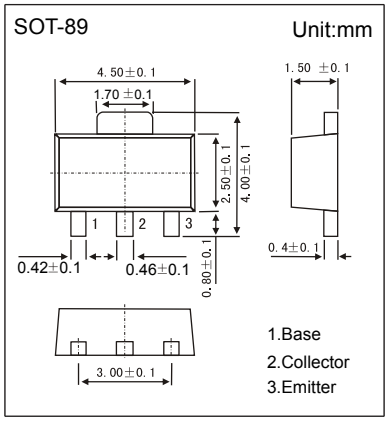
PNP Transistors

2SA1971



■ Features

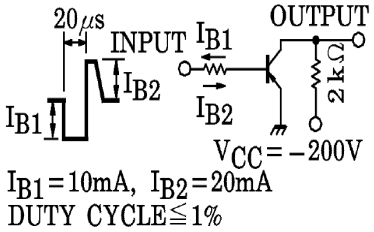
- Collector Current Capability I_C=-0.5A
- Collector Emitter Voltage V_{CEO}=-400V
- Marking: A*L

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-400	V
Collector - Emitter Voltage	V_{CEO}	-400	
Emitter - Base Voltage	V_{EBO}	-7	
Collector Current - Continuous	I_C	-0.5	A
Collector Current - Pulse	I_{CP}	-1	
Base Current	I_B	-0.25	
Collector Power Dissipation (Note.1)	P_C	500	mW
		1	W
Junction Temperature	T_J	150	℃
Storage Temperature range	T_{stg}	-55 to 150	

Note.1: mounted on ceramic substrate (250mm^{2}X0.8t)

■ 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	-400			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= -10 mA, I_B=0	-400			
Emitter - base breakdown voltage	V_{EBO}	I_E= -100 μ A, I_C=0	-7			
Collector-base cut-off current	I_{CBO}	V_{CB}= -400 V , I_E=0			-10	uA
Emitter cut-off current	I_{EBO}	V_{EB}= -7V , I_C=0			-1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-100 mA, I_B=-10mA			-1	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=-100 mA, I_B=-10mA			-0.9	
DC current gain	h_{FE}	V_{CE}= -5V, I_C= -20mA	140		450	
		V_{CE}=- 5V, I_C= -100mA	140		400	
Turn-on time	t_{on}			0.2		us
Turn-off time	t_{off}			2.3		
Fall time	t_f			0.2		
Collector output capacitance	C_{ob}	V_{CB}= -10V, I_E= 0,f=1MHz		18		pF
Transition frequency	f_T	V_{CE}= -5V, I_C= -50mA		35		MHz

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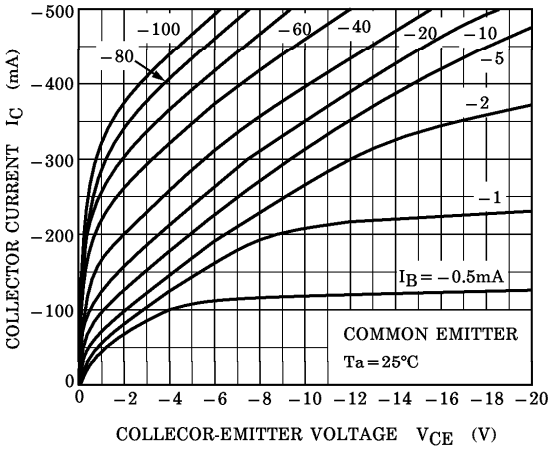
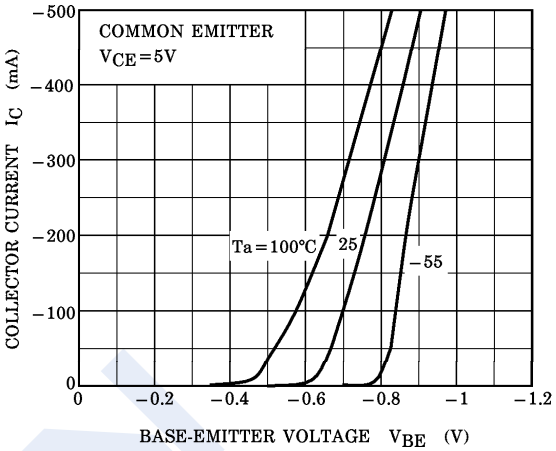
■ Typical Characterisitics

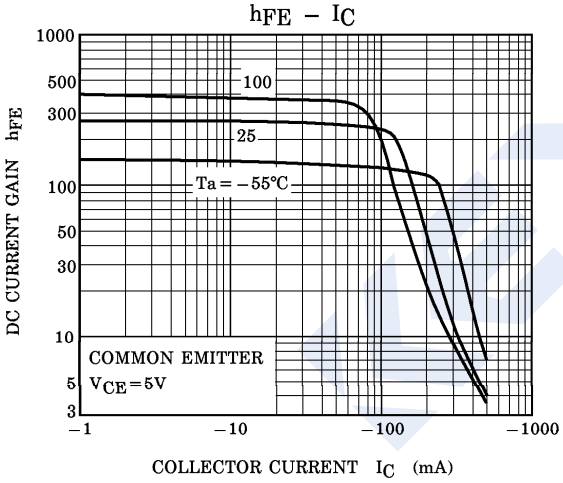
I_C – V_{CE}



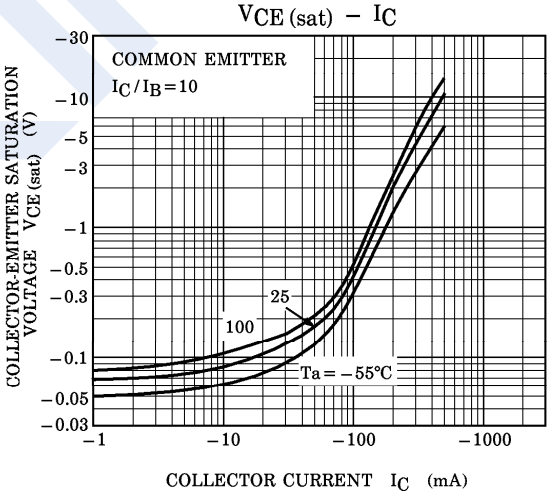
I_C – V_{BE}



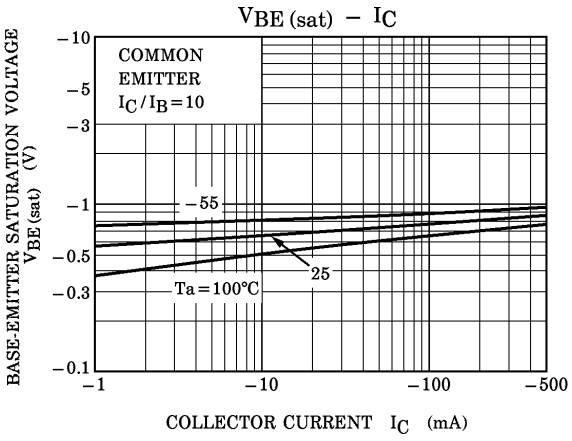
h_{FE} – I_C



$V_{CE\,(sat)}$ – I_C



$V_{BE\,(sat)}$ – I_C



SAFE OPERATING AREA