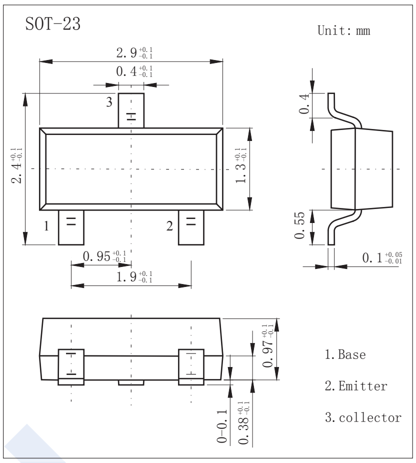
PNP Transistors

2SA1607



■ Features

- ● Fast switching speed.
- ● High gain-bandwidth product.
- ● Low saturation voltage.
- ● Complementary to 2SC4168

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-40	V
Collector-emitter voltage	V_{CEO}	-20	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-150	mA
Collector current (pulse)	I_{CP}	-300	mA
Base current	I_B	-30	mA
Collector dissipation	P_C	200	mW
Junction temperature	T_j	150	℃
Storage temperature	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	-40			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= -1 mA， $R_{BE}=\infty$	-20			
Emitter - base breakdown voltage	V_{EBO}	I_E= -100 μ A， I_C=0	-5			
Collector-base cut-off current	I_{CBO}	V_{CB}= -30 V , I_E=0			-100	nA
Emitter cut-off current	I_{EBO}	V_{EB}= -4V , I_C=0			-100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-10 mA, I_B=- 1mA		-0.07	-0.2	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=-10 mA, I_B=- 1mA		-0.75	-1	
DC current gain	h_{FE}	V_{CE}= -1V, I_C= -10mA	60		180	
Delay time	t_d	See specified Test Circuit		14	20	ns
Rise time	t_r			11	20	
Storage time	t_s			80	180	
Fall time	t_f			16	25	
Output capacitance	C_{ob}	V_{CE}= -10V,f=100MHz		2.9		pF
Transition frequency	f_T	V_{CE}= -10V, I_C= -1mA		400		MHz

■ Classification of hfe

Marking	YL3	YL4
Rank	3	4
hFE	60～120	90～180

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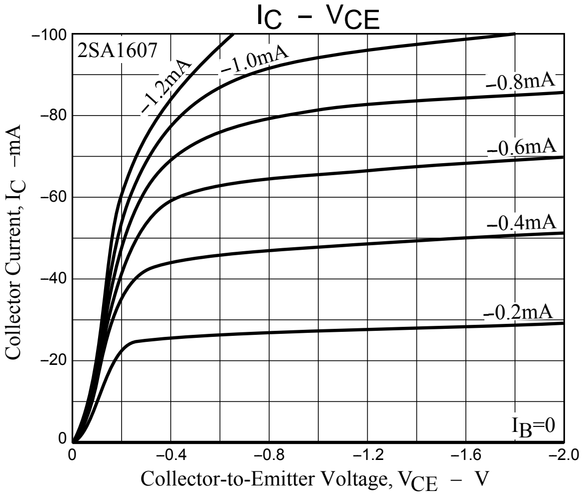
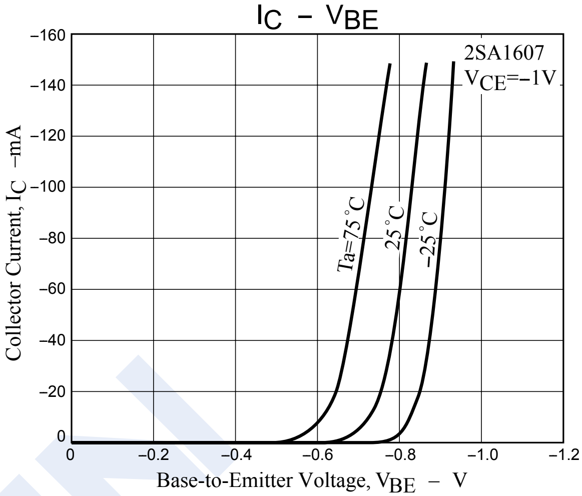
■ Typical Characterisitics

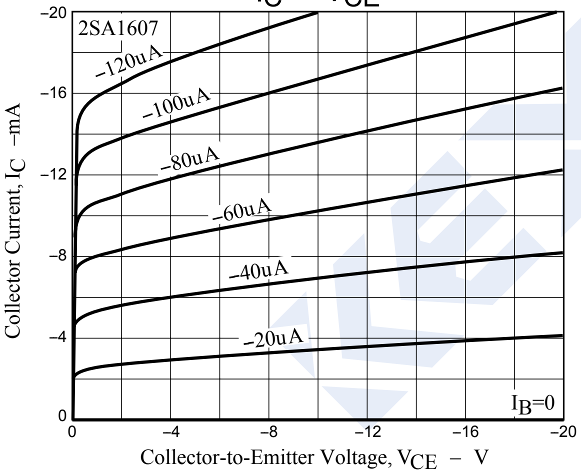
I_C – V_{CE}



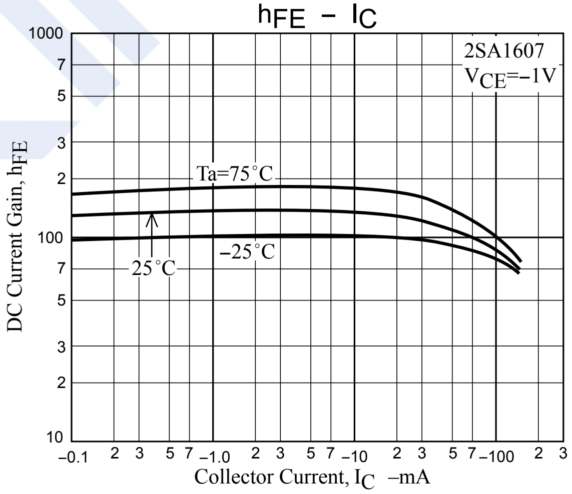
I_C – V_{BE}



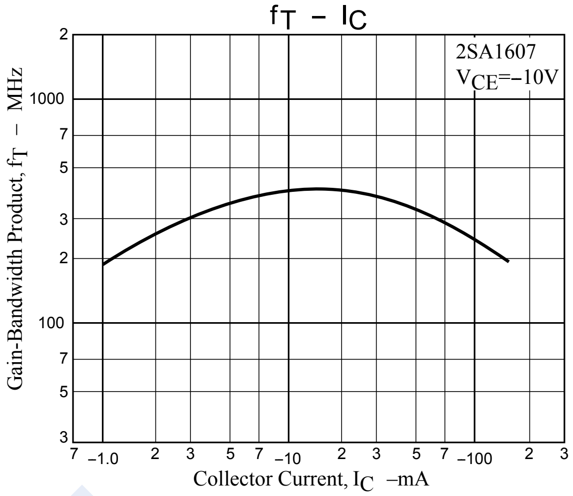
I_C – V_{CE}



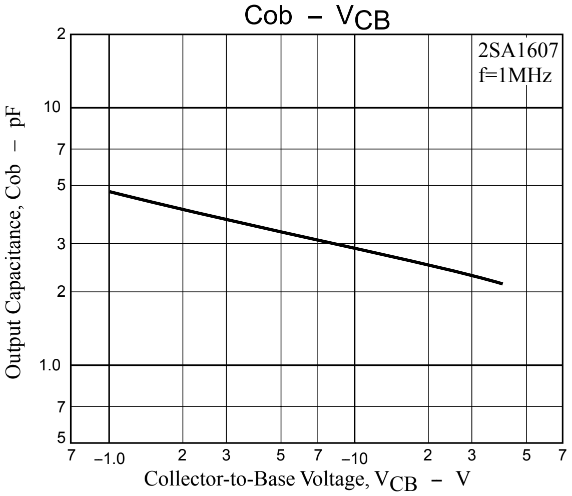
h_{FE} – I_C



f_T – I_C



Cob – V_{CB}



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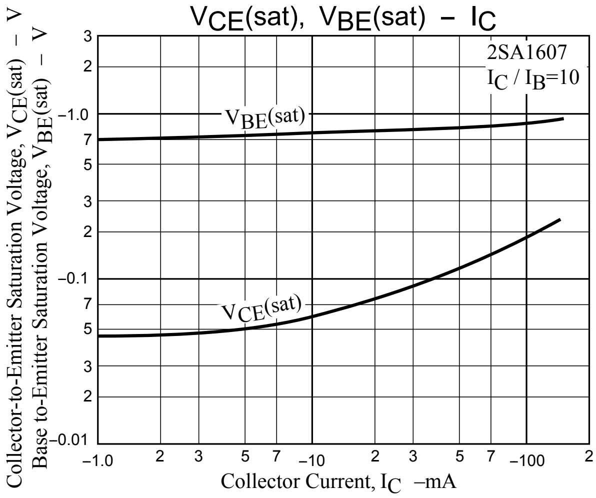
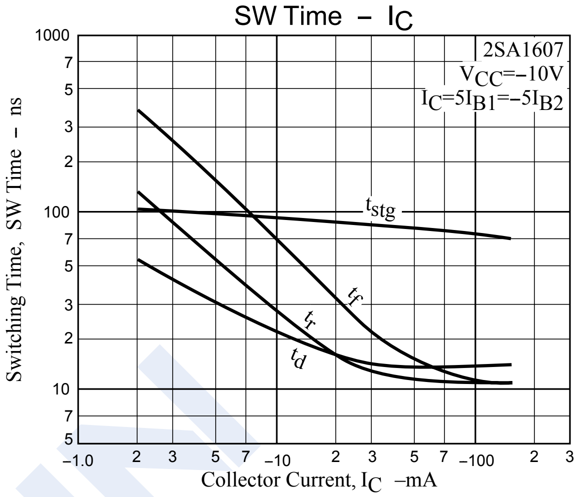
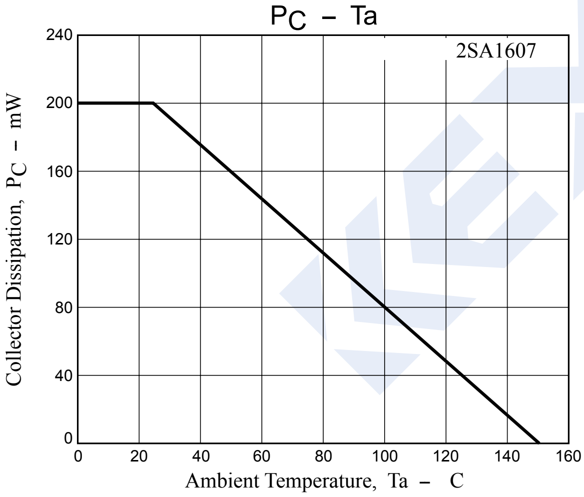
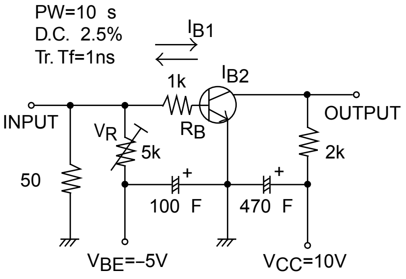
■ Typical Characterisitics







Switching Time Test Circuit



$5I_{B1}= -5I_{B2}= I_C$=50mA

For PNP, the polarity is reversed.