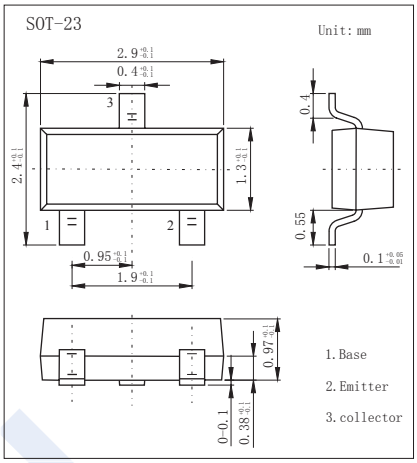
NPN Transistors

2SD1048



■ Features

- Large current capacity (I_C=0.7A) and low-saturation voltage.
- Complimentary to 2SB815

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	20	V
Collector - Emitter Voltage	V_{CEO}	15	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	700	mA
Collector Current - Pulse	I_{CP}	1.5	A
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_J	125	℃
Storage Temperature Range	T_{stg}	-55 to 125	

■ 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	20			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA, I_B= 0	15			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	5			
Collector-base cut-off current	I_{CBO}	V_{CB}= 15 V , I_E= 0			0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 4V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=5 mA, I_B=0.5mA		10	25	mV
		I_C=100 mA, I_B=10mA		30	80	
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=100 mA, I_B=10mA			1.2	V
DC current gain	$h_{FE(1)}$	V_{CE}= 2V, I_C= 50mA	200		900	
	$h_{FE(2)}$	V_{CE}= 2V, I_C= 500mA	80			
Collector output capacitance	C_{ob}	V_{CB}= 10V, I_E=0,f=1MHz		8		pF
Transition frequency	f_T	V_{CE}= 10V, I_C= 50mA		250		MHz

■ Classification of $h_{fe(1)}$

Type	2SD1048-X6	2SD1048-X7	2SD1048-X8
Range	200-400	300-600	450-900
Marking	X6	X7	X8

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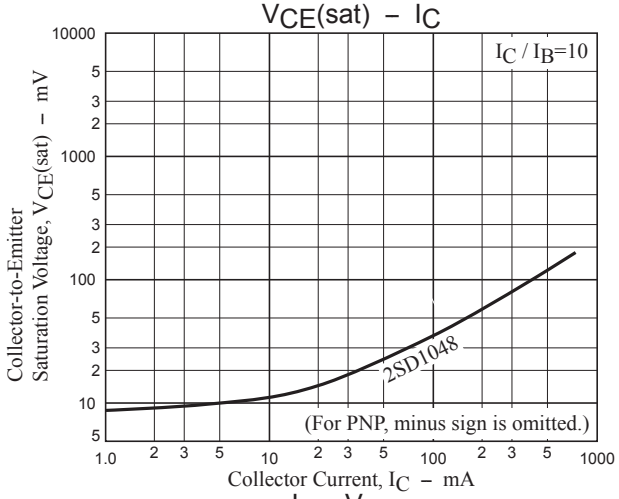
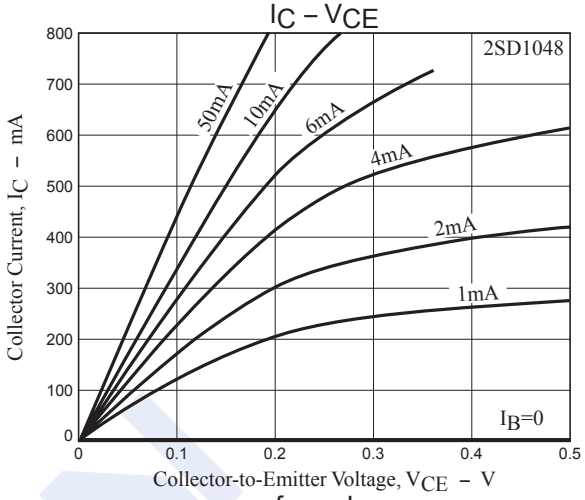
■ Typical Characterisitics

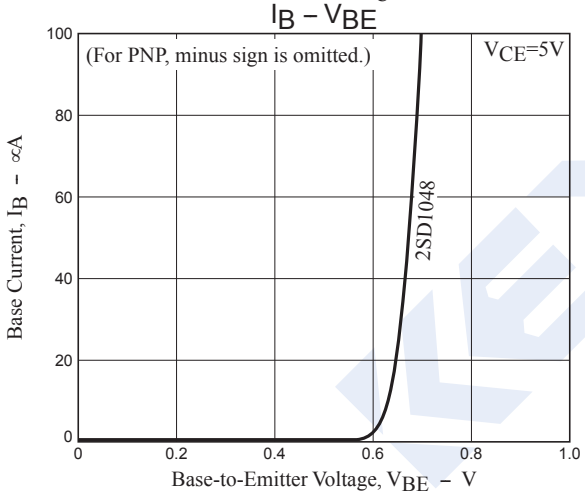
$V_{CE(sat)}$ – I_C



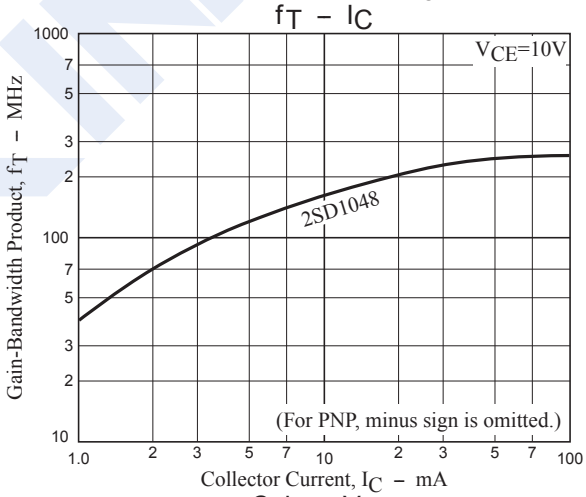
I_C – V_{CE}



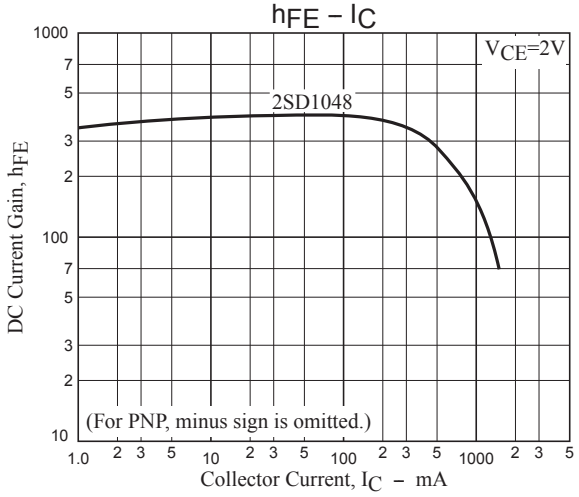
I_B – V_{BE}



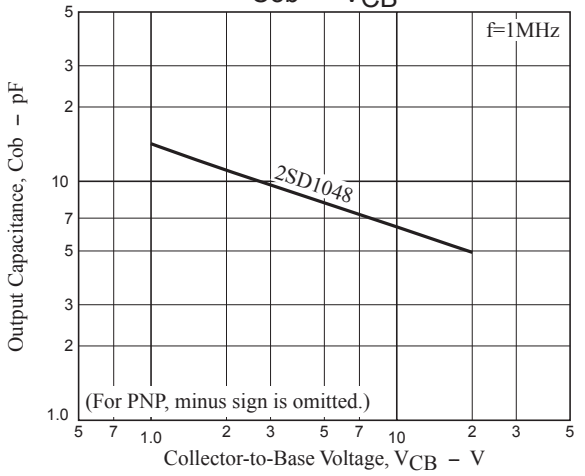
f_T – I_C



h_{FE} – I_C



Cob – V_{CB}



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■ Typical Characterisitics