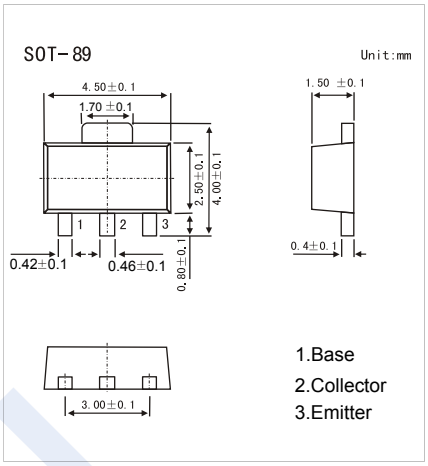
NPN Transistors

2SD1618-HF



■ Features

- Low collector-to-emitter saturation voltage.
- Very small size making it easy to provide highdensity, small-sized hybrid IC's.
- Complementary to 2SB1118-HF
- 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}	20	V
Collector - Emitter Voltage	V_{CEO}	15	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	0.7	A
Collector Current - Pulse	I_{CP}	1.5	
Collector Power Dissipation (Note.1)	P_C	0.5	W
		1.3	
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1:Mounted on ceramic board (250mm^2×0.8mm)

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 uA, I_E= 0	20			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA, R_{BE}= ∞	15			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 uA, 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=0.5 mA		10	25	mV
		I_C=100 mA, I_B=10 mA		30	80	
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=100 mA, I_B=10 mA		0.8	1.2	V
DC current gain	h_{FE}	V_{CE}= 2V, I_C= 50 mA	140		560	
		V_{CE}= 2V, I_C= 500 mA	60			
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	2SD1618-S-HF	2SD1618-T-HF	2SD1618-U-HF
Range	140-280	200-400	280-560
Marking	DA S* F	DA T* F	DA U* F

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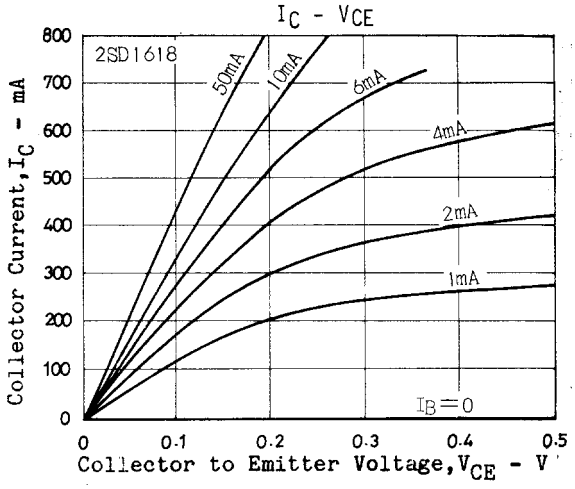
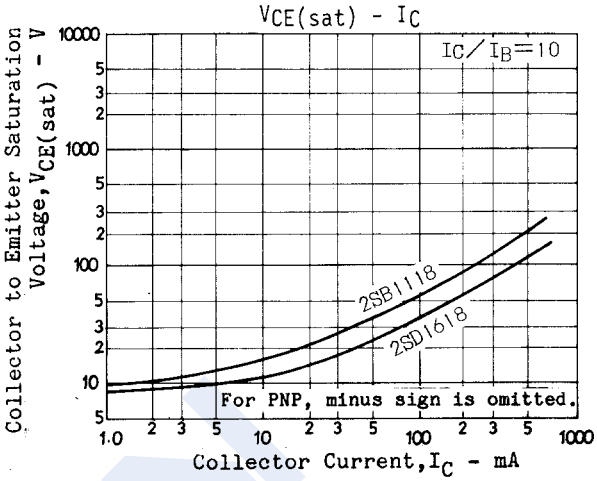
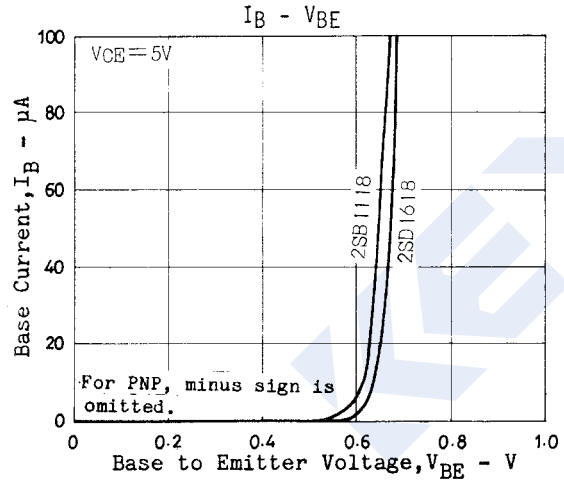
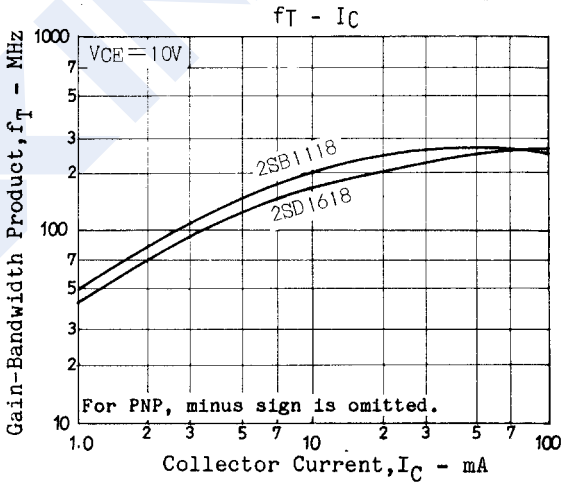
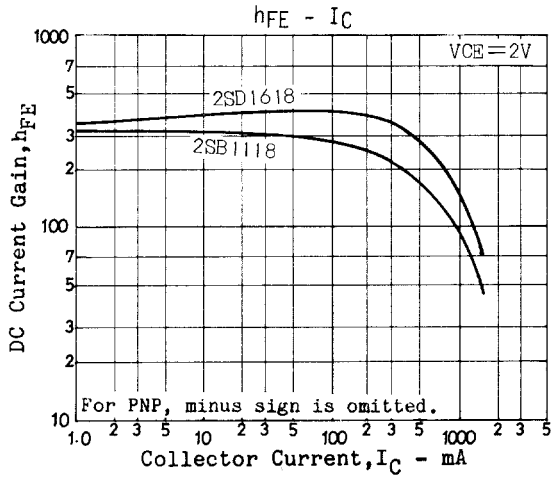
■ Typical Characterisitics

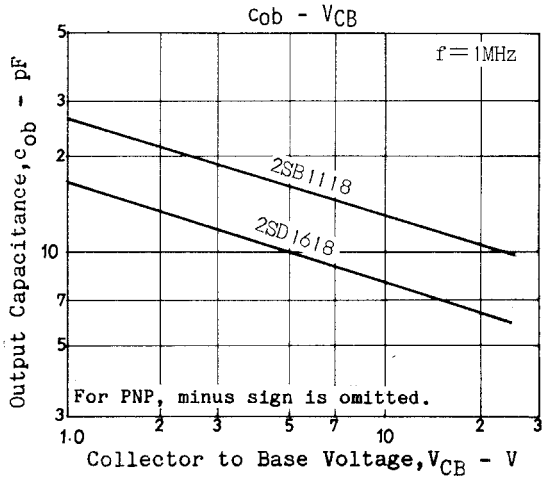












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■ Typical Characterisitics