



# 2SB1118/2SD1618

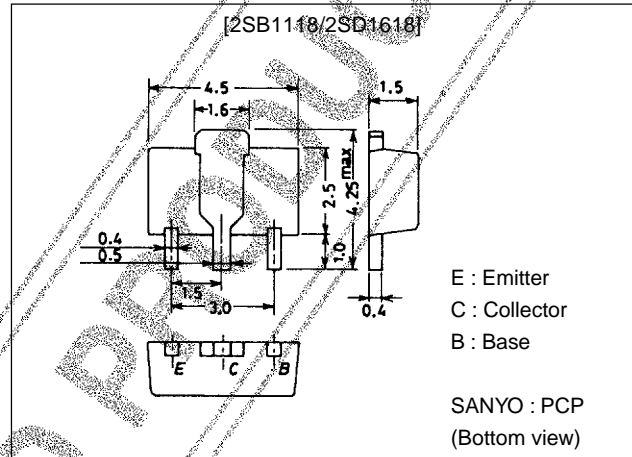
## Low-Voltage High-Current Amplifier, Muting Applications

### Features

- Low collector-to-emitter saturation voltage.
- Very small size making it easy to provide high-density, small-sized hybrid IC's.

### Package Dimensions

unit:mm  
2038



( ) : 2SB1118

### Specifications

#### Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>		(-)20	V
Collector-to-Emitter Voltage	V <sub>CE0</sub>		(-)15	V
Emitter-to-Base Voltage	V <sub>EB0</sub>		(-)5	V
Collector Current	I <sub>C</sub>		(-)0.7	A
Collector Current (Pulse)	I <sub>CP</sub>		(-)1.5	A
Collector Dissipation	P <sub>C</sub>	Mounted on ceramic board (250mm <sup>2</sup> ×0.8mm)	500	mW
			1.3	W
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

#### Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =(-)15V, I <sub>E</sub> =0			(-)0.1	μA
Emitter Cutoff Current	I <sub>EB0</sub>	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0			(-)0.1	μA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)50mA	140*		560*	
	h <sub>FE2</sub>	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)500mA	60			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =(-)10V, I <sub>C</sub> =(-)50mA		250		MHz

\* ; The 2SB1118/2SD1618 are classified by 50mA h<sub>FE</sub> as follows :

Marking 2SB1118 : BA  
2SD1618 : DA  
h<sub>FE</sub> rank : S, T, U

140	S	280	280	T	400	280	U	560
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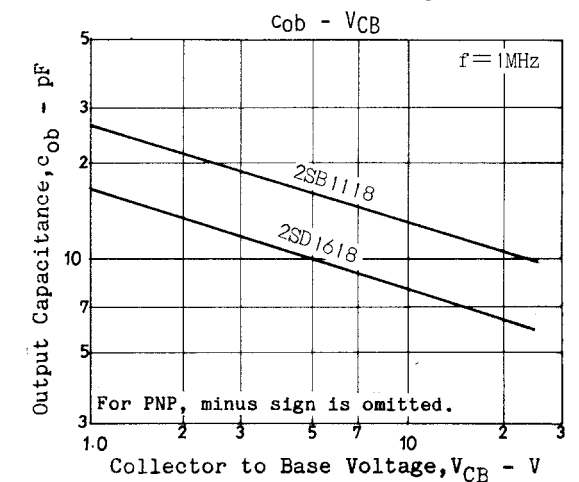
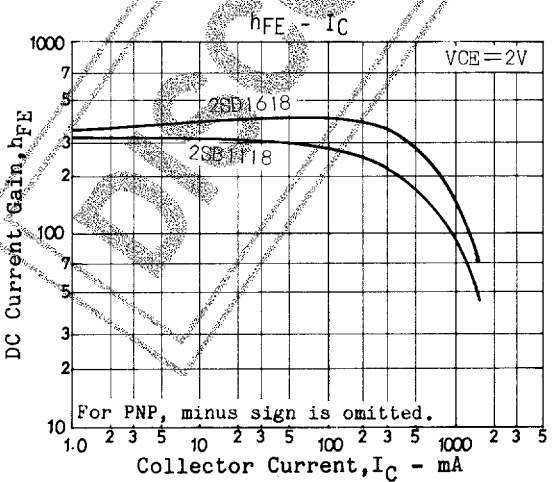
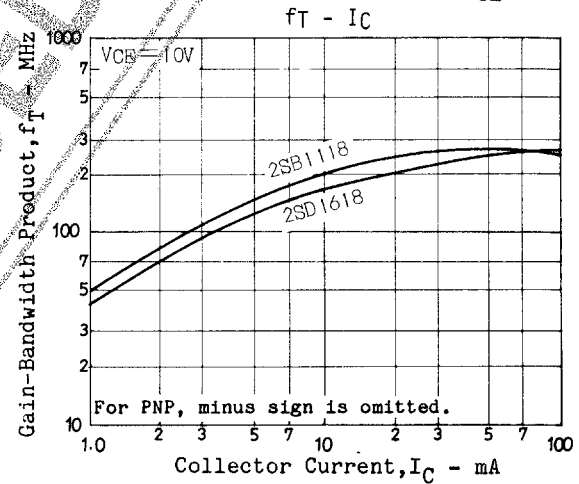
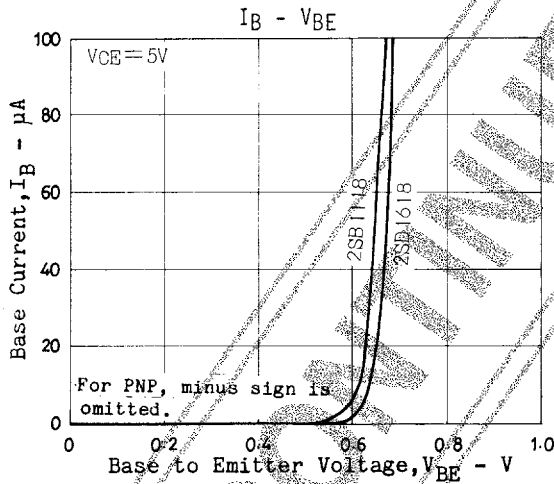
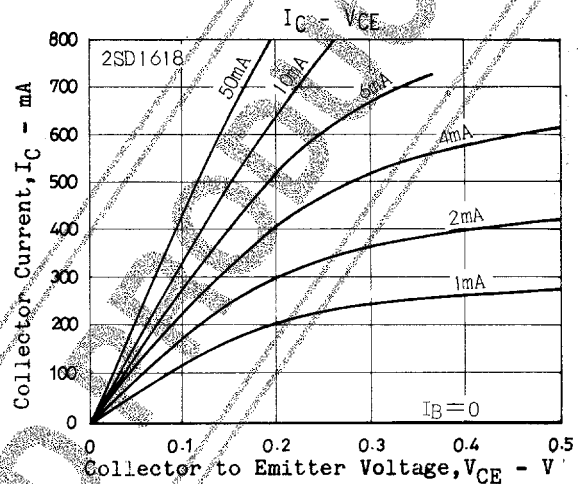
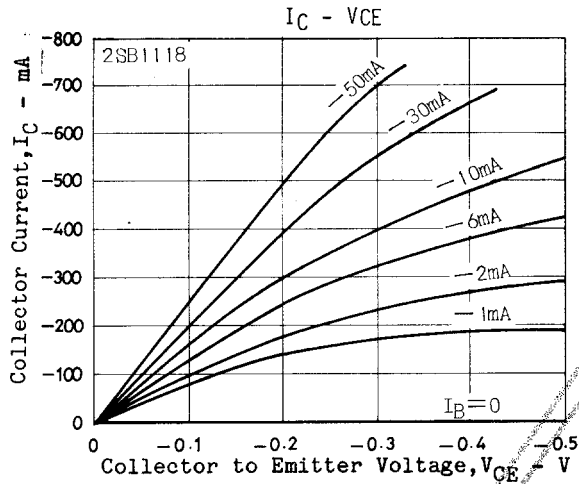
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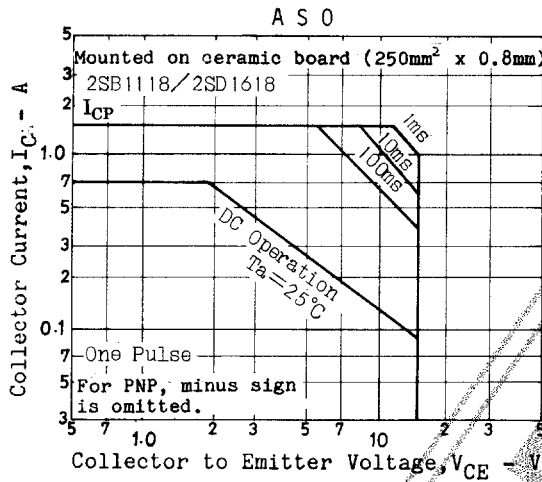
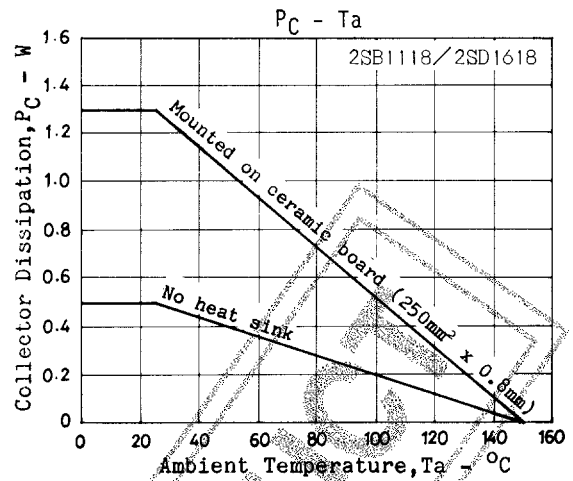
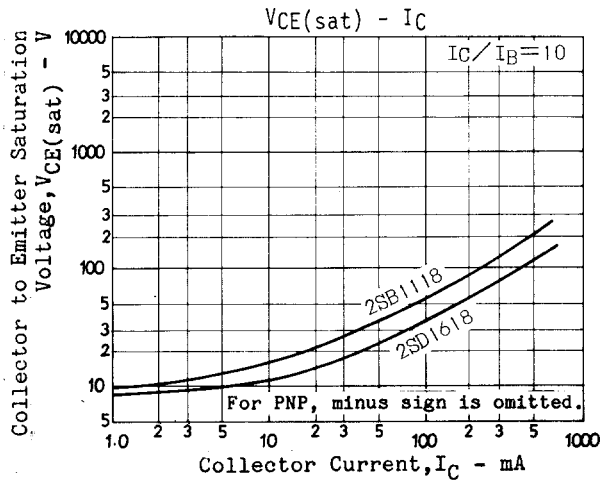
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=(-)5mA, I_B=(-)0.5mA$		10	25	mV
	$V_{CE(sat)2}$	$I_C=(-)100mA, I_B=(-)10mA$		(-15)	(-35)	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)100mA, I_B=(-)10mA$		30	80	mV
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$		(-60)	(-120)	mV
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$		(-15)		V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$		(-5)		V
Output Capacitance	$C_{ob}$	$V_{CB}(-)10V, f=1MHz$		8		pF
				(13)		pF



## 2SB1118/2SD1618



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