



2SB1118/2SD1618

Low-Voltage High-Current Amplifier, Muting Applications

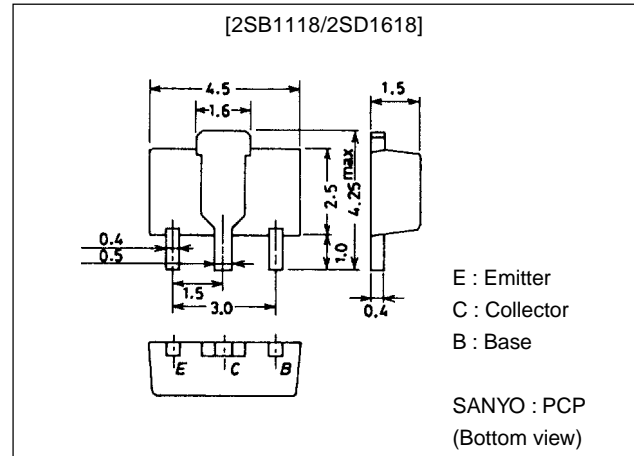
Features

- 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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-)20	V
Collector-to-Emitter Voltage	V_{CEO}		(-)15	V
Emitter-to-Base Voltage	V_{EBO}		(-)5	V
Collector Current	I_C		(-)0.7	A
Collector Current (Pulse)	I_{CP}		(-)1.5	A
Collector Dissipation	P_C		500	mW
		Mounted on ceramic board (250mm ² ×0.8mm)	1.3	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)15\text{V}, I_E = 0$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)0.1	μA
DC Current Gain	h_{FE1}	$V_{CE} = (-)2\text{V}, I_C = (-)50\text{mA}$	140*		560*	
	h_{FE2}	$V_{CE} = (-)2\text{V}, I_C = (-)500\text{mA}$	60			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$		250		MHz

* ; The 2SB1118/2SD1618 are classified by 50mA h_{FE} as follows :

Marking 2SB1118 : BA

2SD1618 : DA

 h_{FE} rank : S, T, U

140	S	280	200	T	400	280	U	560
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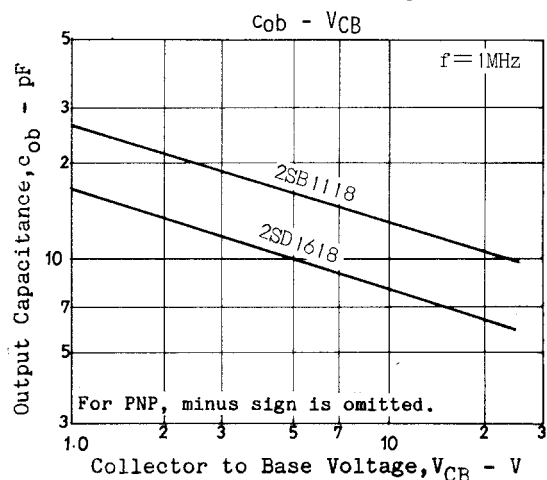
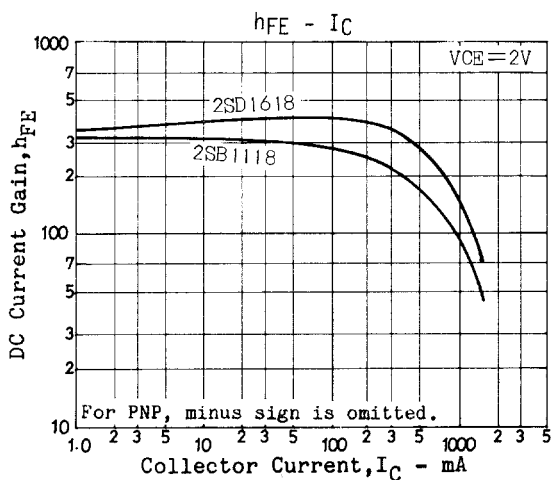
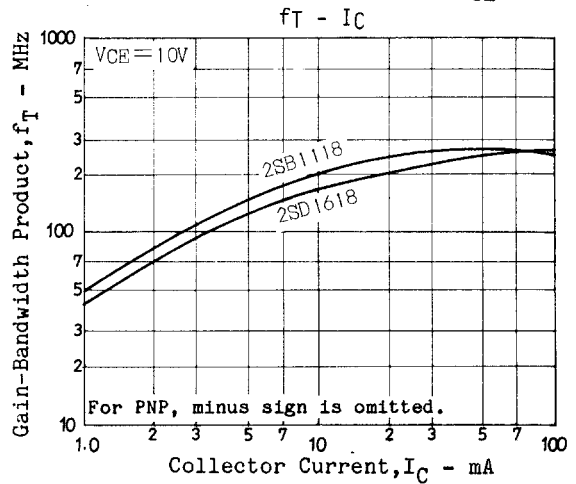
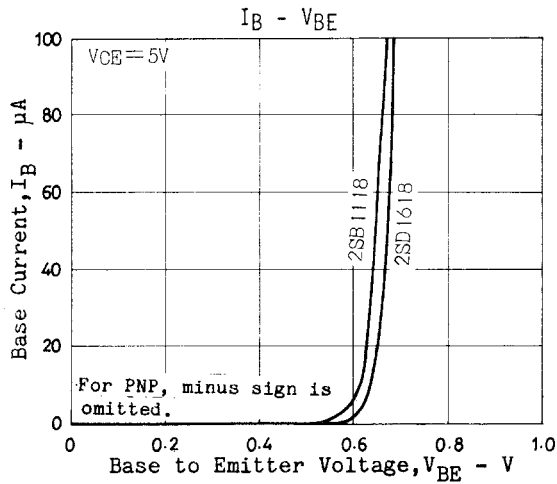
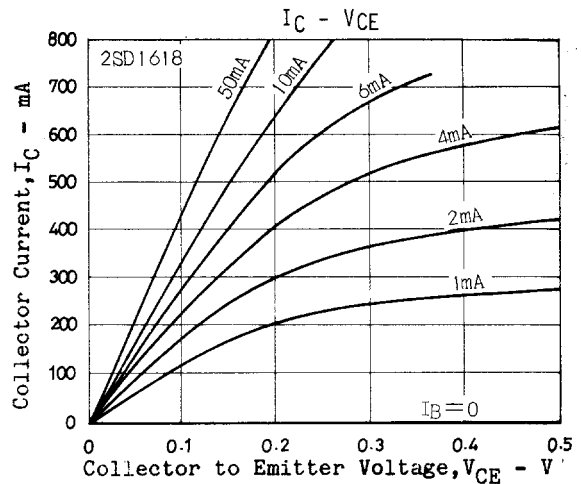
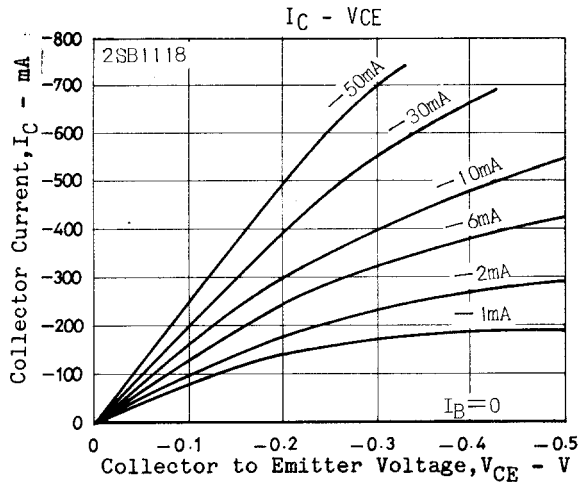
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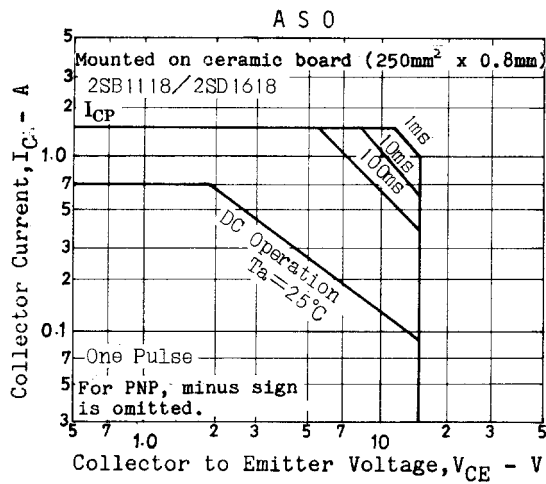
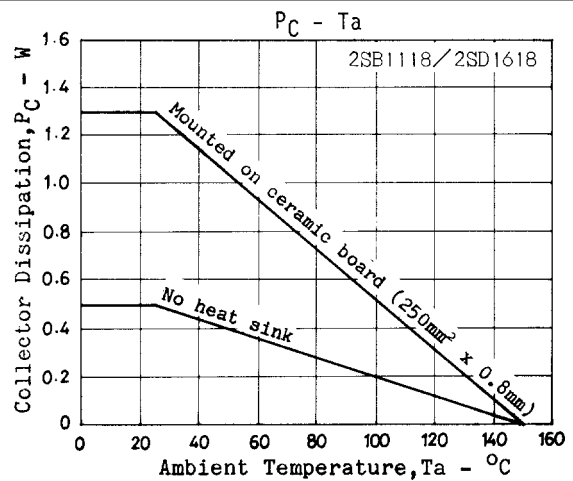
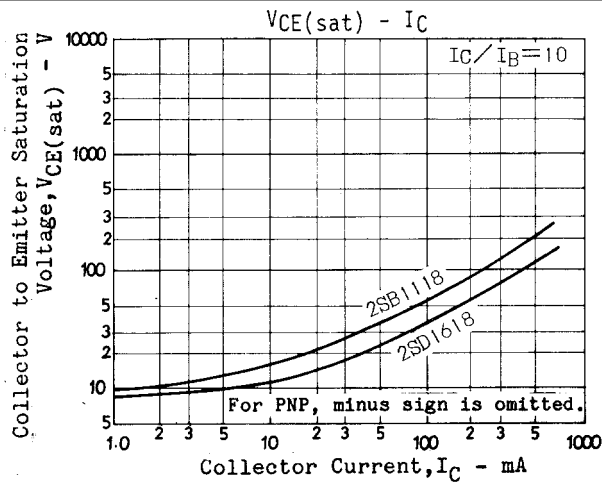
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=(-)5mA, I_B=(-)0.5mA$		10	25	mV
				(-15)	(-35)	mV
	$V_{CE(sat)2}$	$I_C=(-)100mA, I_B=(-)10mA$		30	80	mV
				(-60)	(-120)	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)100mA, I_B=(-)10mA$		(-0.8)	(-1.2)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$		(-20)		V
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



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