



## 2SB1125/2SD1625

### Driver Applications

#### Applications

- Motor drivers, printer hammer drivers, relay drivers, voltage regulator control.

#### Features

- High DC current gain.
- Large current capacity and wide ASO.
- Very small size making it easy to provide high-density, small-sized hybrid IC'.

( ) : 2SB1125

#### Specifications

##### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		(-)80	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)50	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)10	V
Collector Current	$I_C$		(-)0.7	A
Collector Current (Pulse)	$I_{CP}$		(-)2	A
Collector Dissipation	$P_C$		500	mW
		Mounted on ceramic board (250mm <sup>2</sup> ×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	$I_{CB0}$	$V_{CB} = (-)40\text{V}, I_E = 0$			(-)100	nA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)8\text{V}, I_C = 0$			(-)100	nA
DC Current Gain	$h_{FE1}$	$V_{CE} = (-)2\text{V}, I_C = (-)50\text{mA}$	5000			
		$V_{CE} = (-)2\text{V}, I_C = (-)500\text{mA}$	4000			
	$h_{FE2}$	$V_{CE} = (-)2\text{V}, I_C = (-)500\text{mA}$	(3000)			
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)5\text{V}, I_C = (-)50\text{mA}$		200		MHz
				(170)		MHz

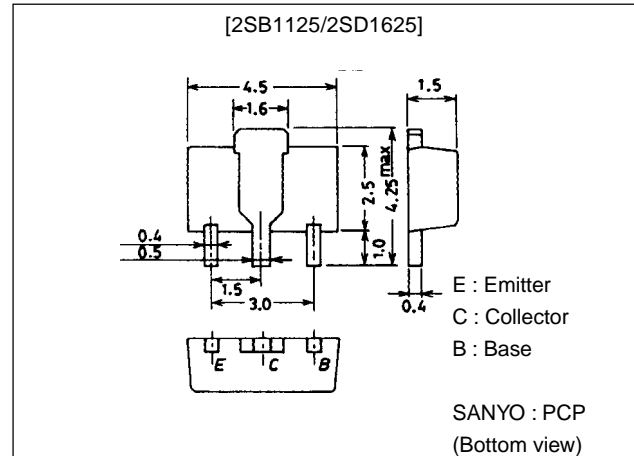
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#### Package Dimensions

unit:mm

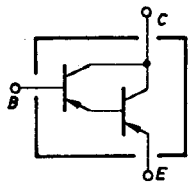
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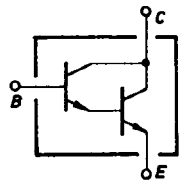
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	$C_{ob}$	$V_{CB}=(-)10V, f=1MHz$		9		pF
				(18)		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)100mA, I_B=(-)0.1mA$		(-0.8)	(-1.2)	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)100mA, I_B=(-)0.1mA$		(-1.3)	(-2.0)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-80)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-50)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-10)			V

## Electrical Connection

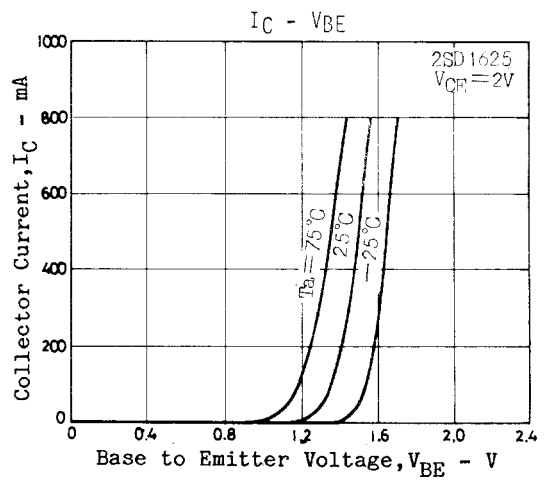
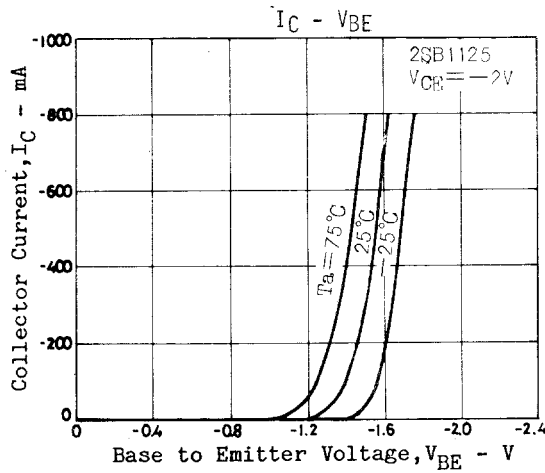
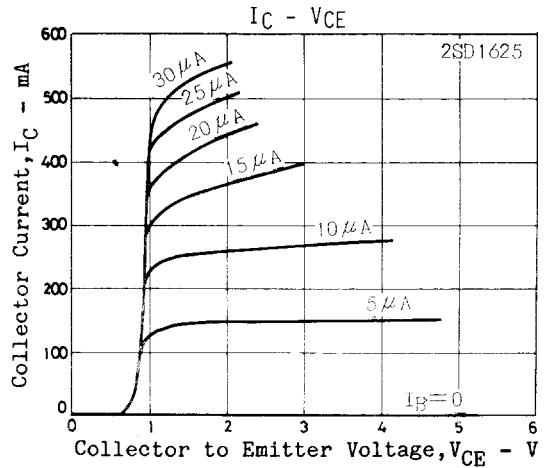
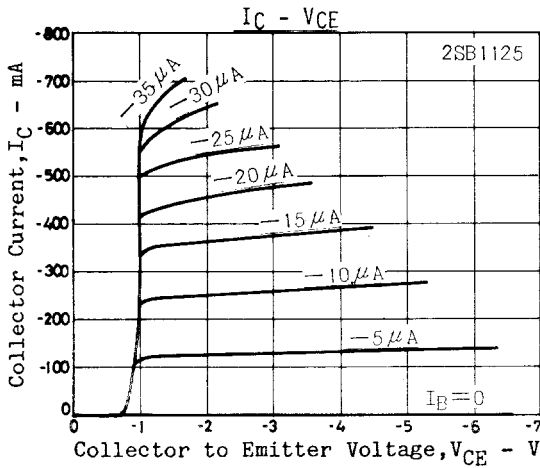


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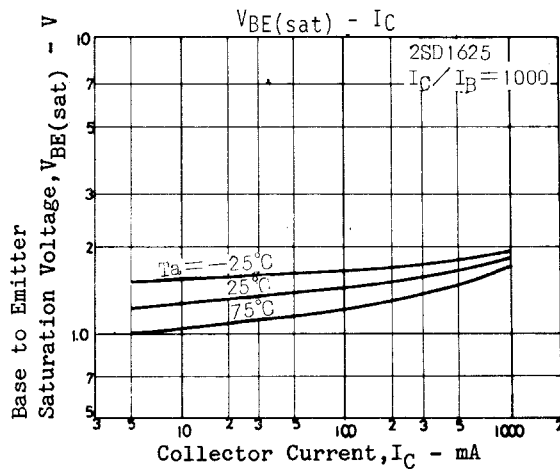
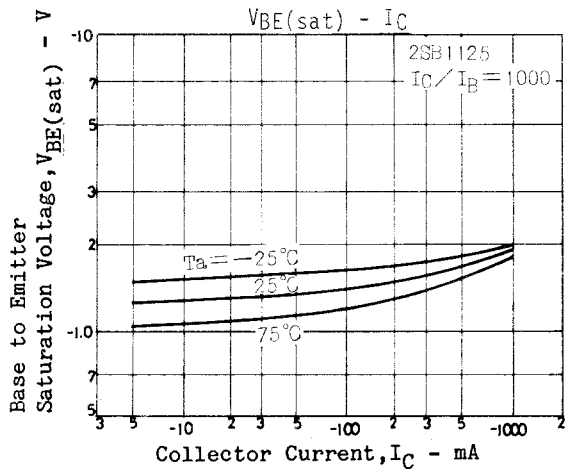
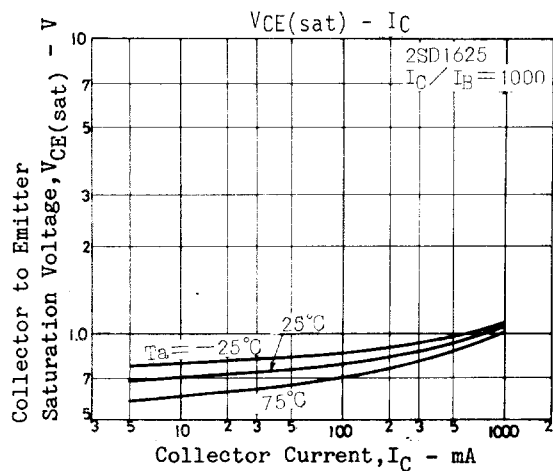
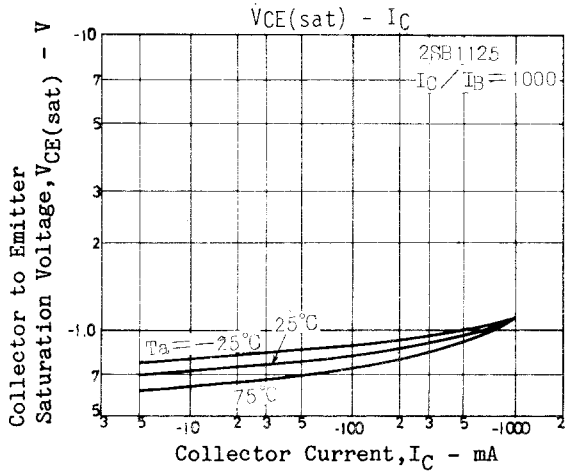
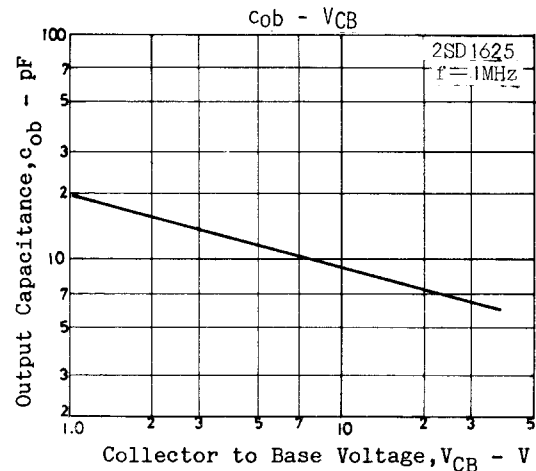
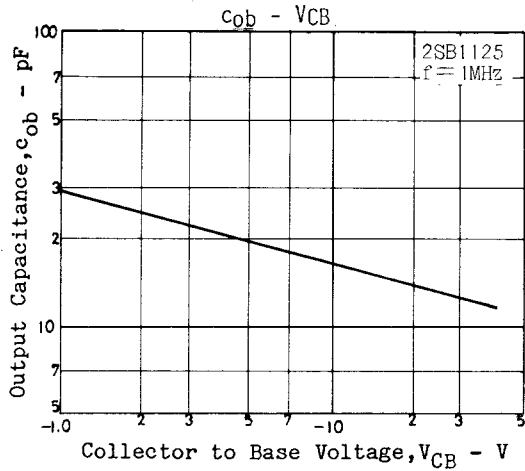
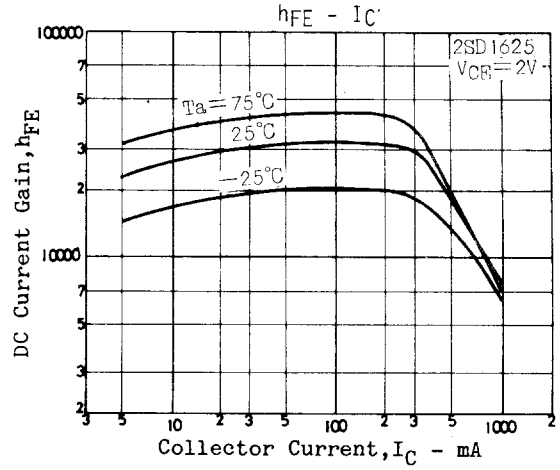
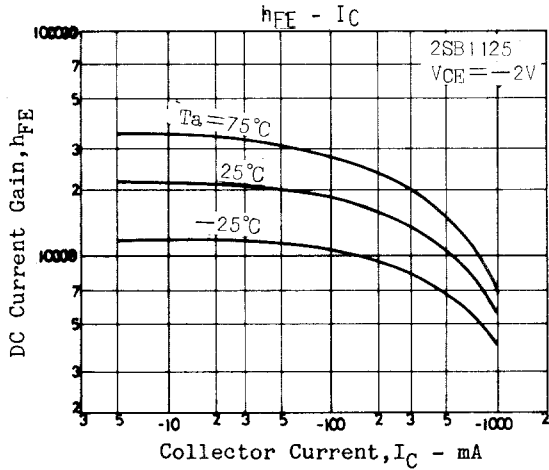


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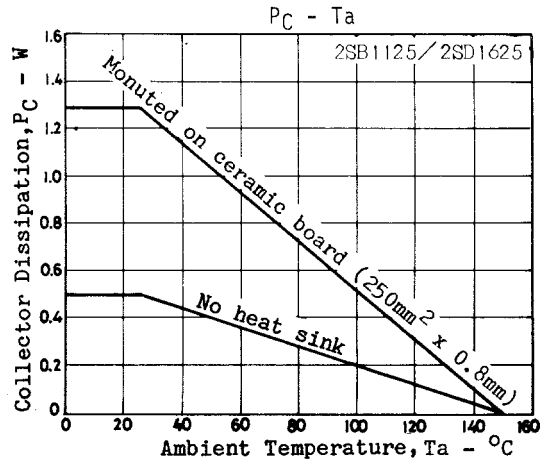
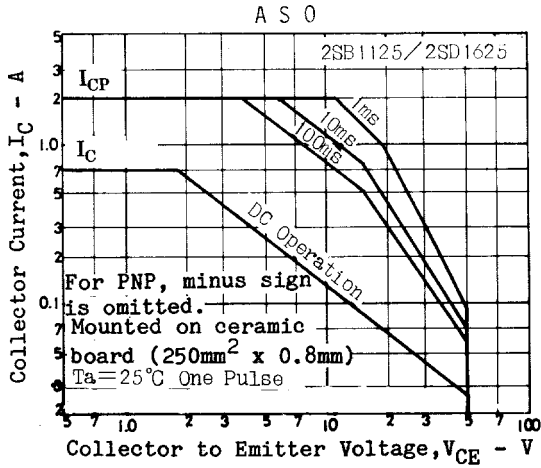
**Marking** 2SB1125: BH  
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