



# 2SB1122

## Bipolar Transistor -50V, -1A, Low VCE(sat) PNP Single PCP

ON Semiconductor®

<http://onsemi.com>

### Applications

- Voltage regulators relay drivers, lamp drivers, electrical equipment

### Features

- Adoption of FBET process
- Ultrasmall size making it easy to provide high-density hybrid IC's

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V <sub>CB0</sub>		-60	V
Collector to Emitter Voltage	V <sub>CE0</sub>		-50	V
Emitter to Base Voltage	V <sub>EB0</sub>		-5	V
Collector Current	I <sub>C</sub>		-1	A
Collector Current (Pulse)	I <sub>CP</sub>		-2	A

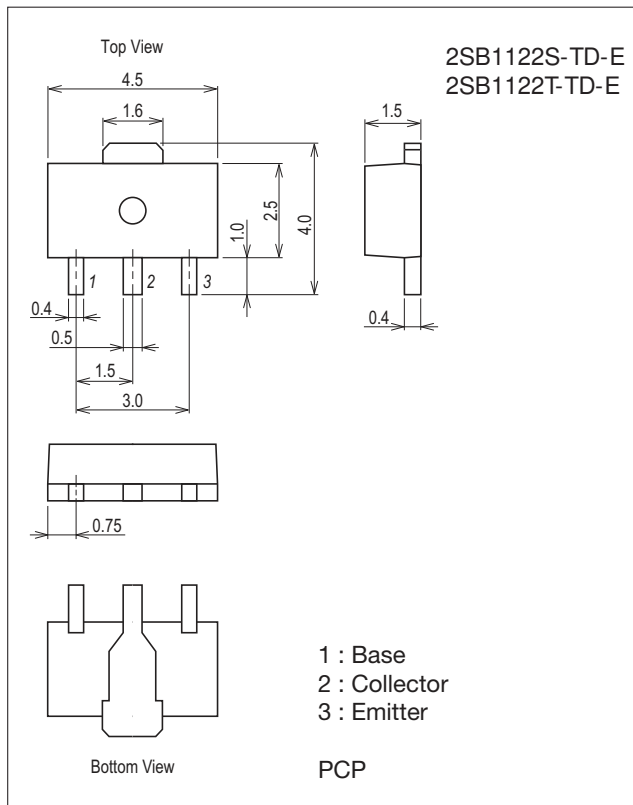
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Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### Package Dimensions

unit : mm (typ)

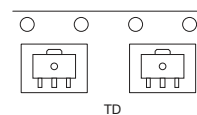
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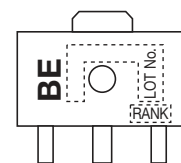
### Product & Package Information

- Package : PCP
- JEITA, JEDEC : SC-62, SOT-89, TO-243
- Minimum Packing Quantity : 1,000 pcs./reel

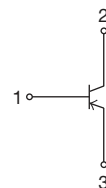
### Packing Type: TD



### Marking



### Electrical Connection



# 2SB1122

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Parameter	Symbol	Conditions	Ratings	Unit
Collector Dissipation	PC	When mounted on ceramic substrate (250mm <sup>2</sup> ×0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

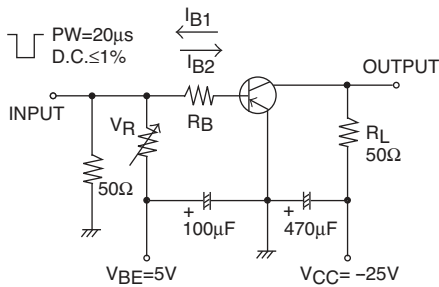
## Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> =-50V, I <sub>E</sub> =0A			-100	nA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> =-4V, I <sub>C</sub> =0A			-100	nA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-100mA	140*		400*	
	h <sub>FE2</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-1A	30			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-50mA		150		MHz
Output Capacitance	Cob	V <sub>CB</sub> =-10V, f=1MHz		12		pF
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA	-180		-500	mV
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA	-0.9		-1.2	V
Collector to Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-10μA, I <sub>E</sub> =0A	-60			V
Collector to Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-1mA, R <sub>BE</sub> =∞	-50			V
Emitter to Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-10μA, I <sub>C</sub> =0A	-5			V
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit.		40		ns
Storage Time	t <sub>stg</sub>			300		ns
Fall Time	t <sub>f</sub>			30		ns

\* : 2SB1122 is classified by 100mA h<sub>FE</sub> as follows :

Rank	S	T
h <sub>FE</sub>	140 to 280	200 to 400

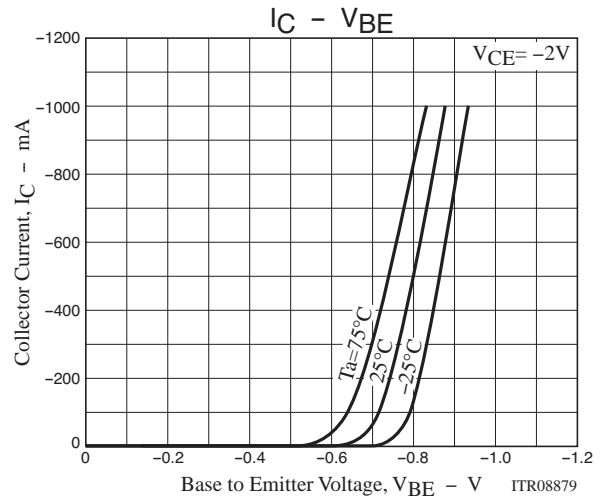
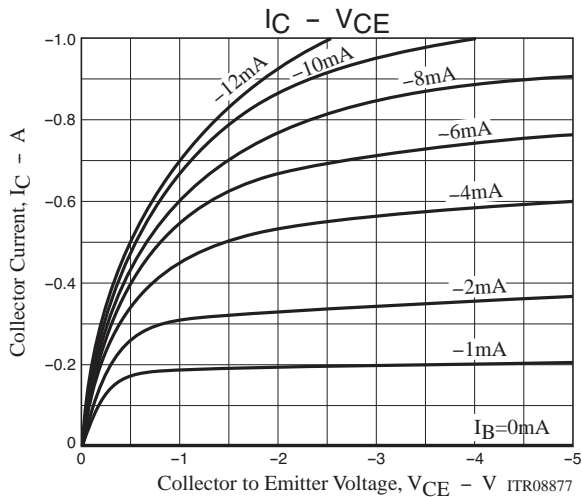
## Switching Time Test Circuit

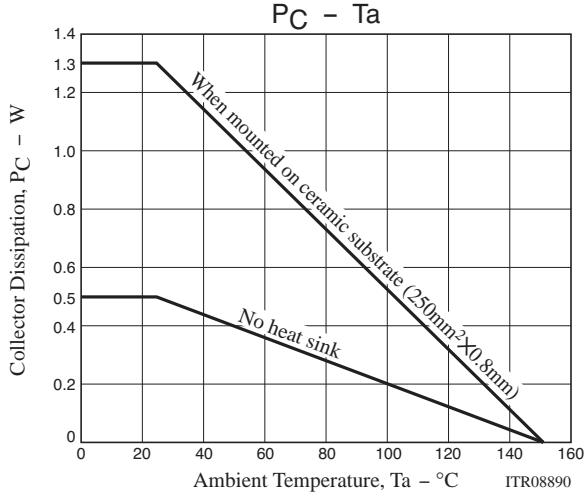
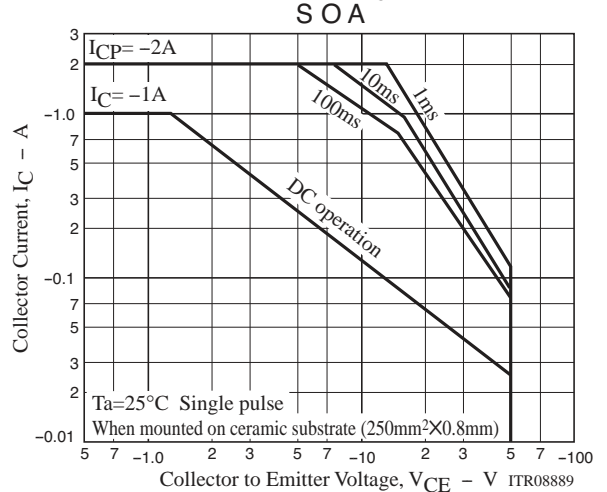
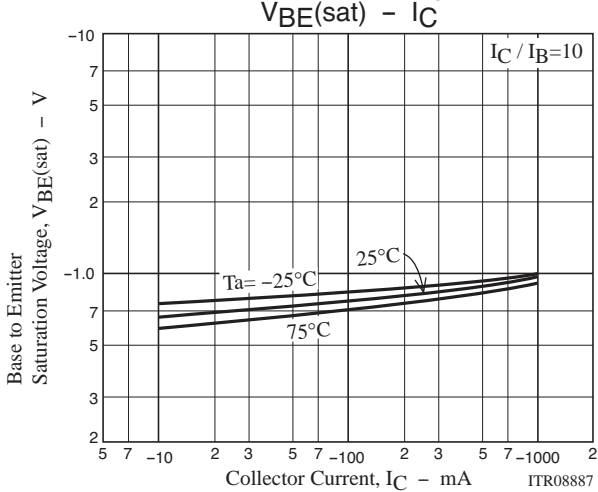
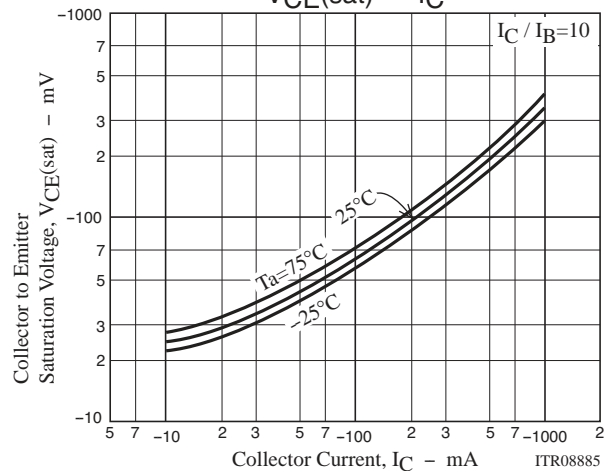
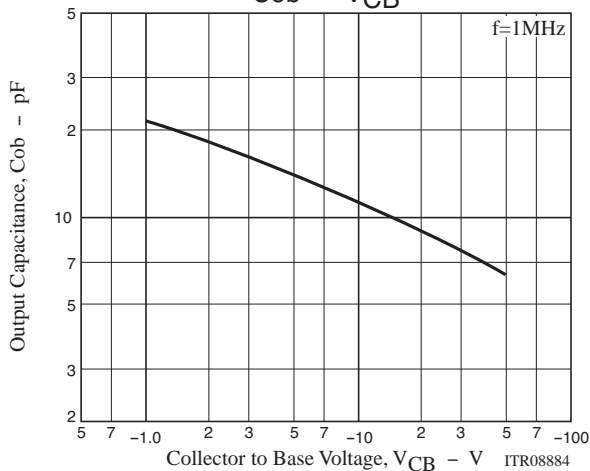
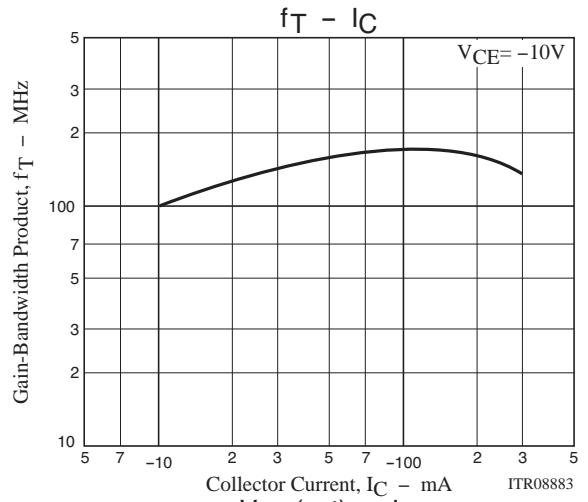
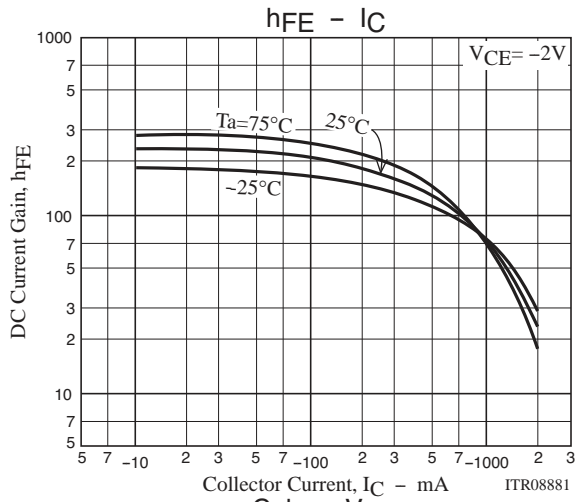


$$I_C = 10I_{B1} = -10I_{B2} = -500\text{mA}$$

## Ordering Information

Device	Package	Shipping	memo
2SB1122S-TD-E	PCP	1,000pcs./reel	Pb Free
2SB1122T-TD-E	PCP	1,000pcs./reel	

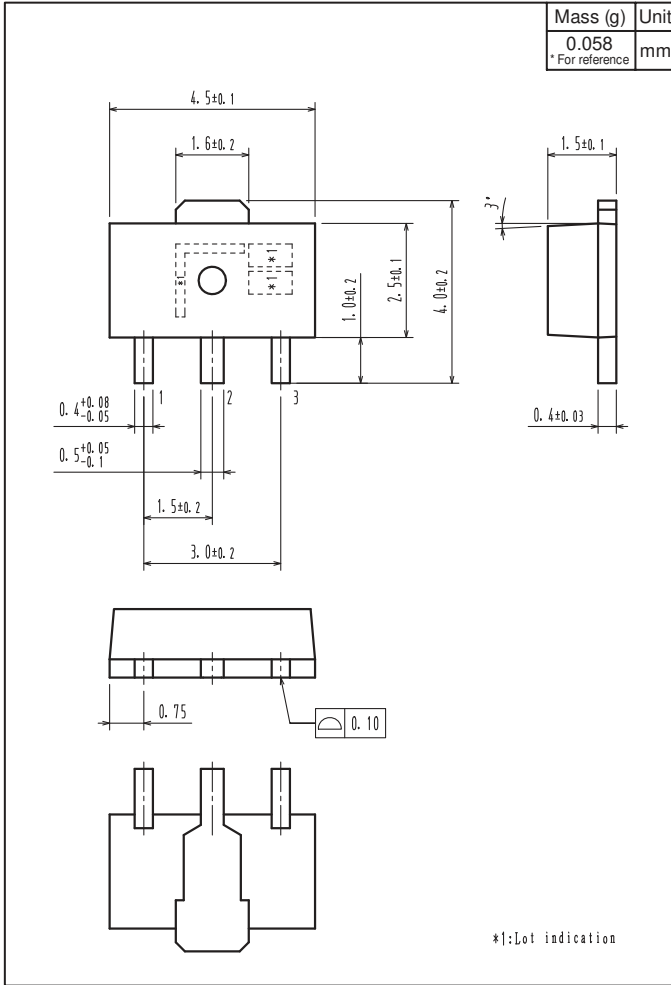




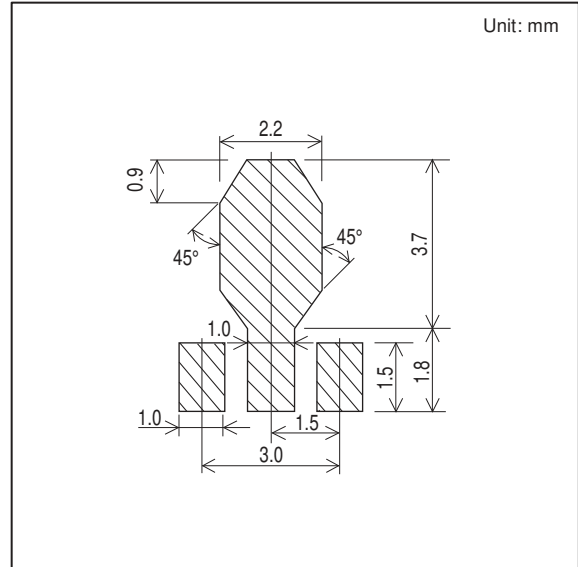
# 2SB1122

## Outline Drawing

2SB1122S-TD-E, 2SB1122T-TD-E



## Land Pattern Example



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