



2SB1122

Bipolar Transistor -50V, -1A, Low $V_{CE(sat)}$ 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 $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V_{CB0}		-60	V
Collector to Emitter Voltage	V_{CE0}		-50	V
Emitter to Base Voltage	V_{EB0}		-5	V
Collector Current	I_C		-1	A
Collector Current (Pulse)	I_{CP}		-2	A

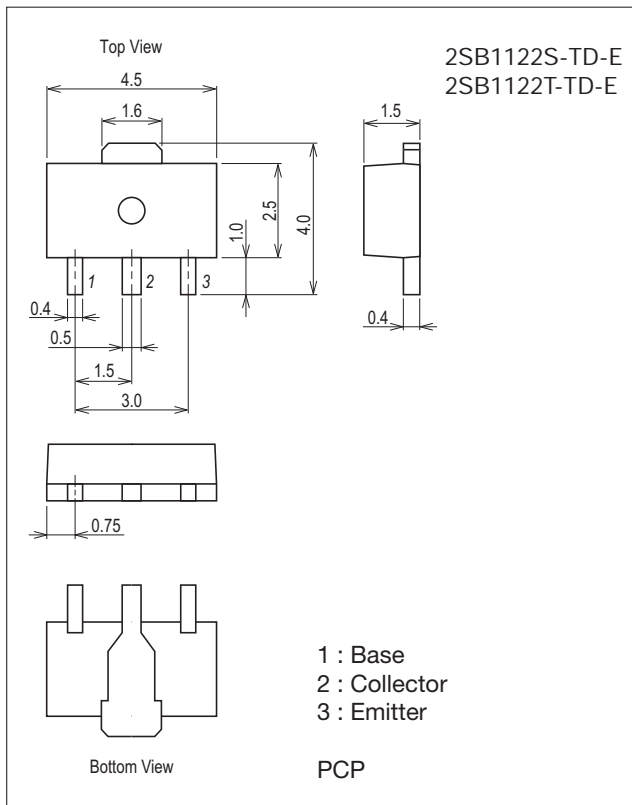
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Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions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

Package Dimensions

unit : mm (typ)

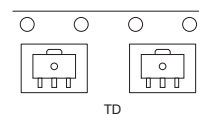
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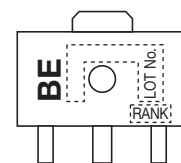
Product & Package Information

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

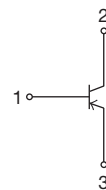
Packing Type: TD



Marking



Electrical Connection



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Parameter	Symbol	Conditions	Ratings	Unit
Collector Dissipation	P_C	When mounted on ceramic substrate (250mm ² ×0.8mm)	1.3	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

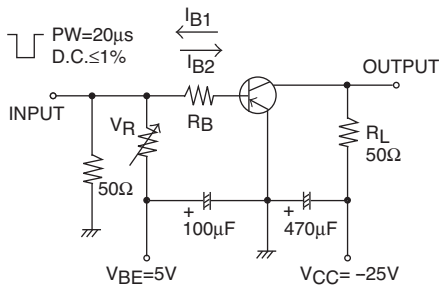
Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-50\text{V}, I_E=0\text{A}$			-100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4\text{V}, I_C=0\text{A}$			-100	nA
DC Current Gain	h_{FE1}	$V_{CE}=-2\text{V}, I_C=-100\text{mA}$	140*		400*	
	h_{FE2}	$V_{CE}=-2\text{V}, I_C=-1\text{A}$	30			
Gain-Bandwidth Product	f_T	$V_{CE}=-10\text{V}, I_C=-50\text{mA}$		150		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, f=1\text{MHz}$		12		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$		-180	-500	mV
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$		-0.9	-1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0\text{A}$	-60			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, R_{BE}=\infty$	-50			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0\text{A}$	-5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		40		ns
Storage Time	t_{stg}			300		ns
Fall Time	t_f			30		ns

* : 2SB1122 is classified by 100mA h_{FE} as follows :

Rank	S	T
h_{FE}	140 to 280	200 to 400

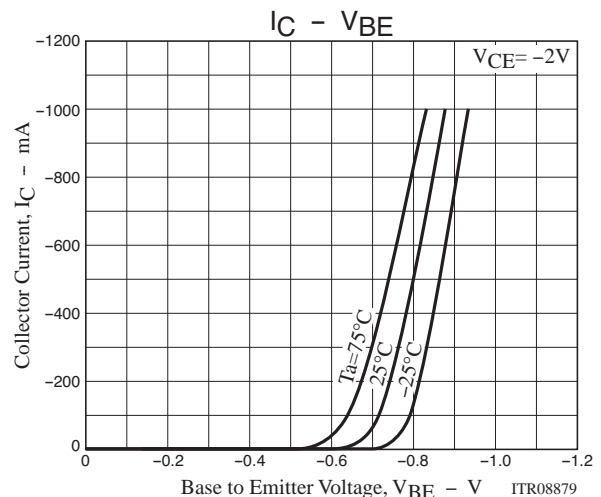
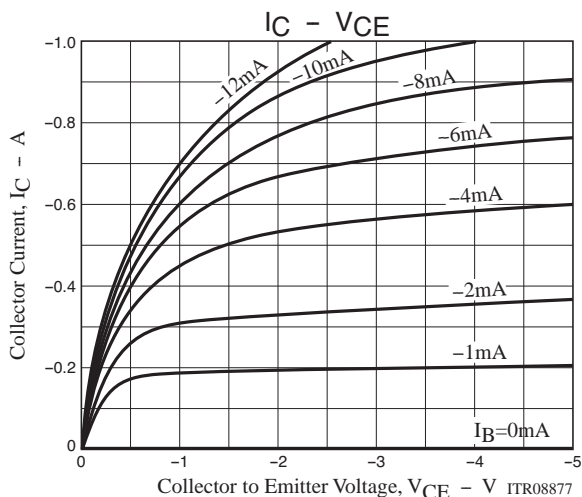
Switching Time Test Circuit

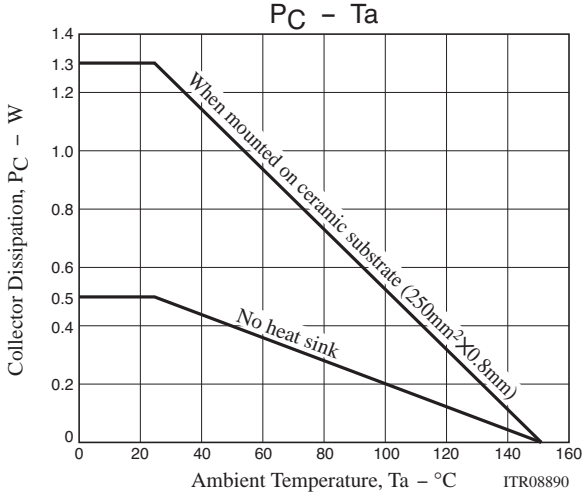
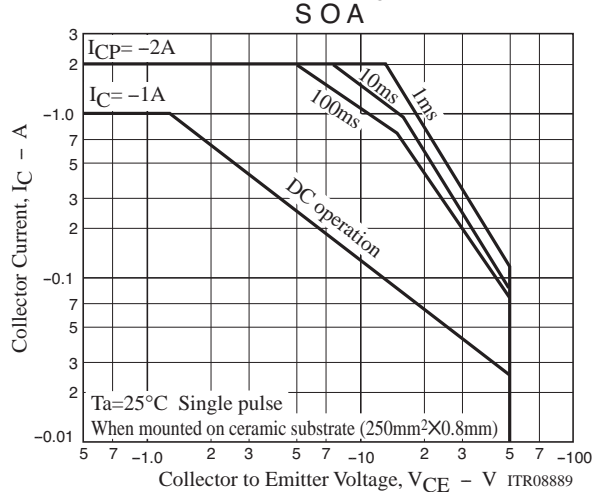
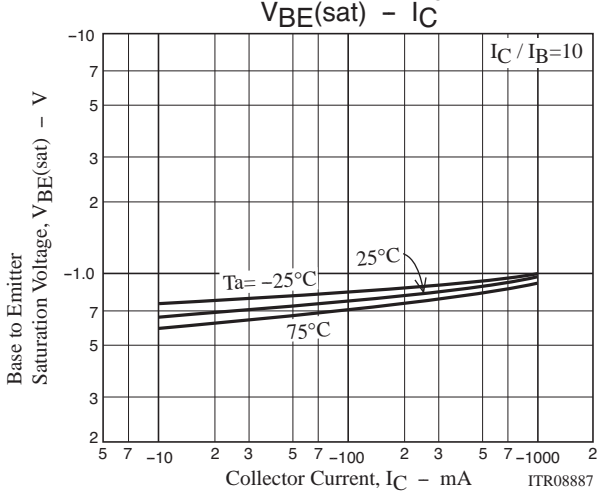
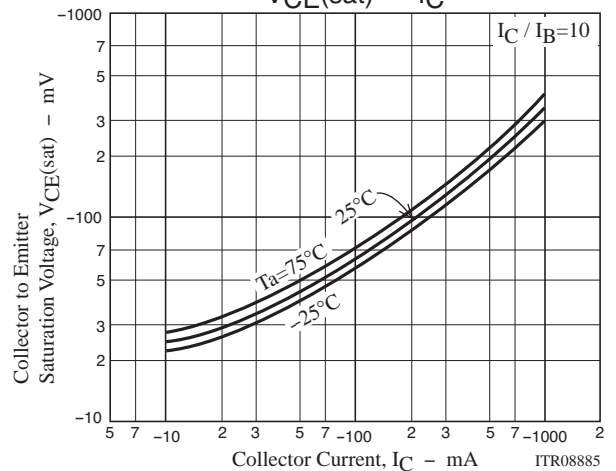
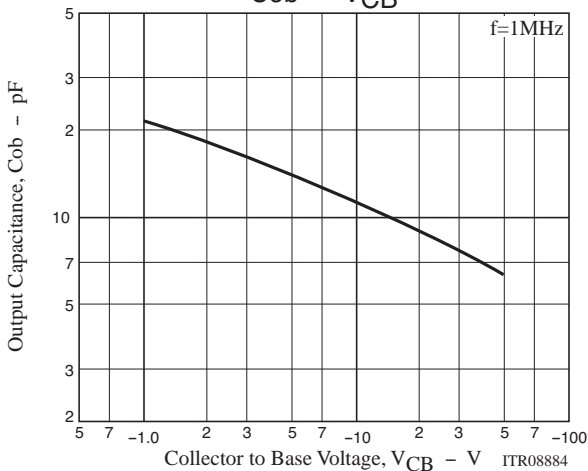
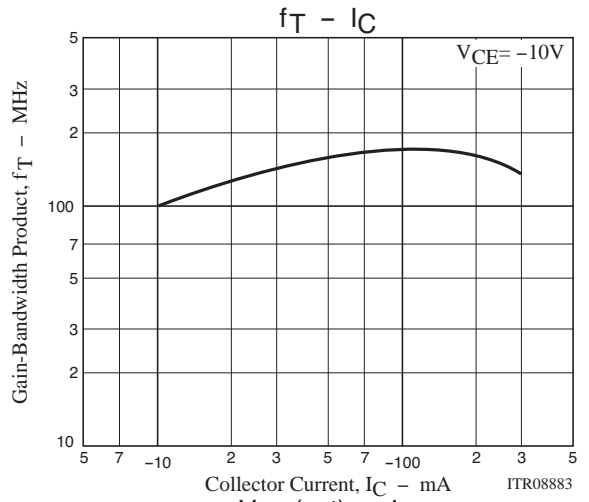
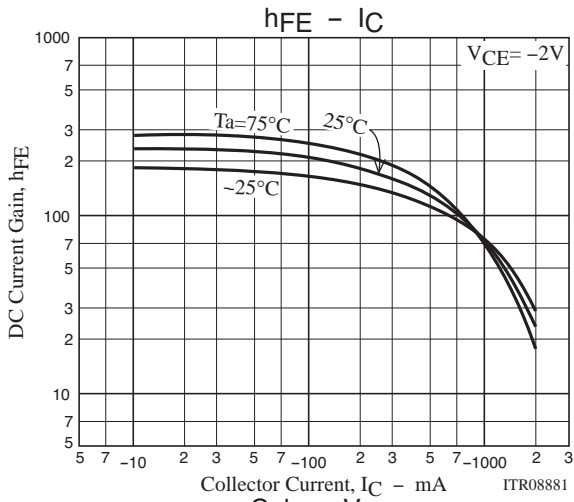


$$I_C = 10I_{B1} = -10I_{B2} = -500\text{mA}$$

Ordering Information

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

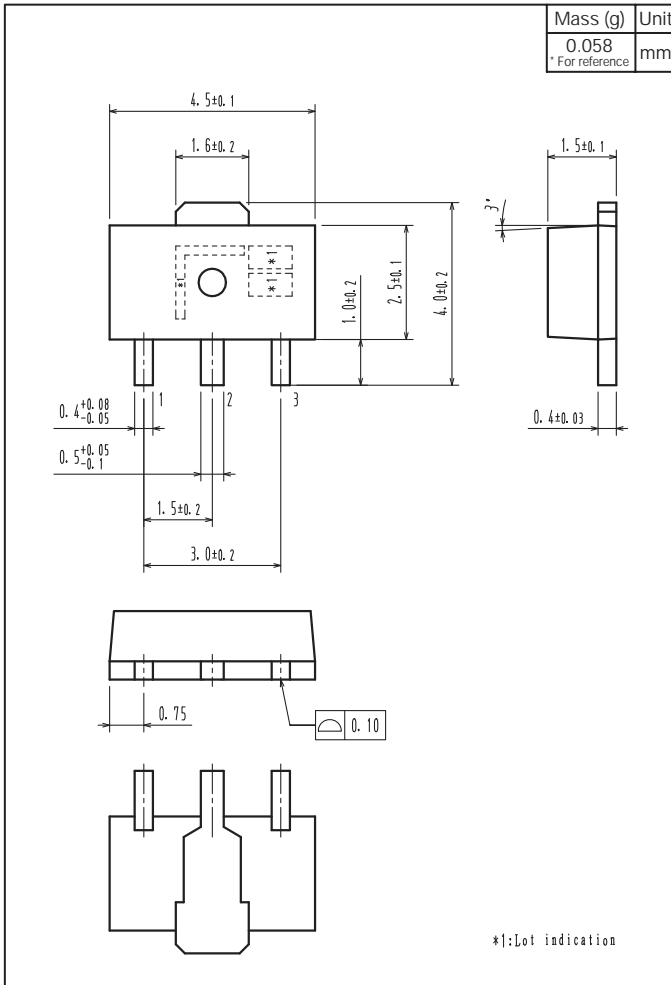




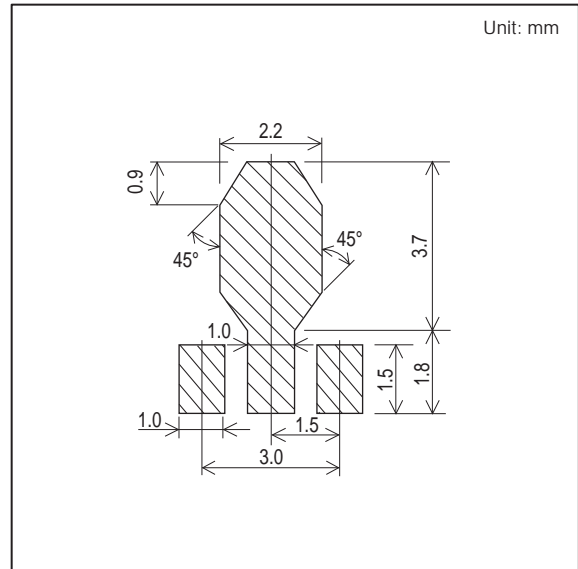
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Outline Drawing

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



Land Pattern Example



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