



# 2SA2202

## Bipolar Transistor -100V, -2A, Low VCE(sat) PNP Single PCP

ON Semiconductor®

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### Applicaitons

- DC / DC converters, relay drivers, lamp drivers, motor drivers, flash

### Features

- Adoption of FBET, MBIT processes
- Low collector to emitter saturation voltage
- High allowable power dissipation
- Large current capacity
- High-speed switching

### Specifications

Absolute Maximum Ratings at Ta=25°C

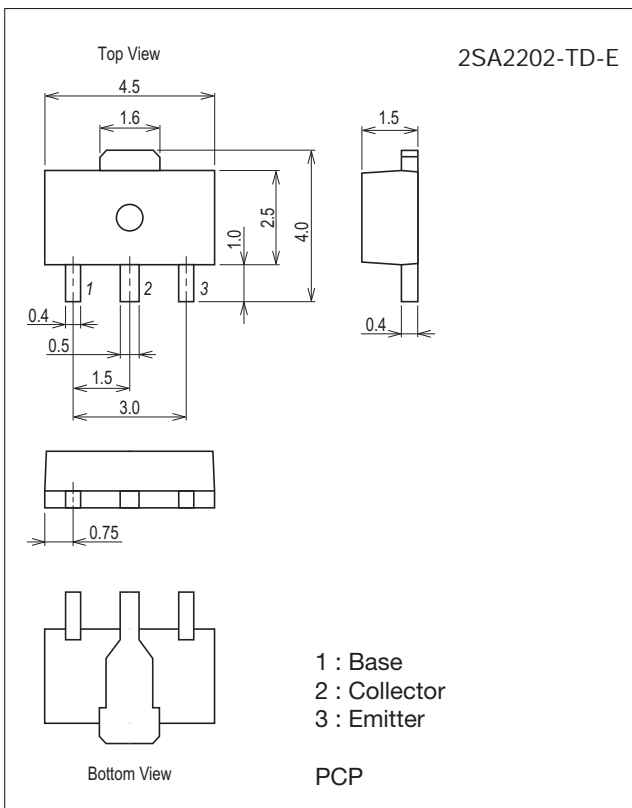
Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V <sub>CB0</sub>		-100	V
Collector to Emitter Voltage	V <sub>CES</sub>		-100	V
	V <sub>CEO</sub>		-100	V
Emitter to Base Voltage	V <sub>EBO</sub>		-7	V
Collector Current	I <sub>C</sub>		-2	A
Collector Current (Pulse)	I <sub>CP</sub>		-3	A

Continued on next page.

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

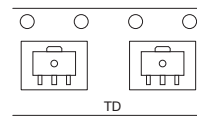
unit : mm (typ)  
7007B-004



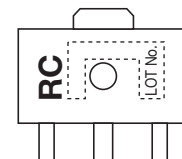
### Product & Package Information

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

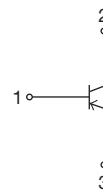
### Packing Type: TD



### Marking



### Electrical Connection



# 2SA2202

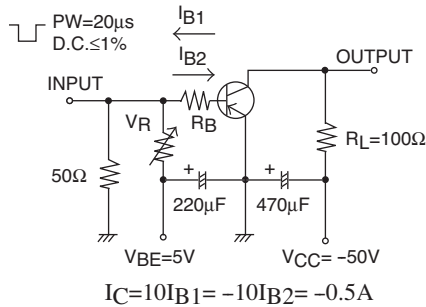
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Parameter	Symbol	Conditions	Ratings	Unit
Base Current	$I_B$		-400	mA
Collector Dissipation	$P_C$	When mounted on ceramic substrate (250mm <sup>2</sup> ×0.8mm)	1.3	W
		$T_C=25^\circ\text{C}$	3.5	W
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

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

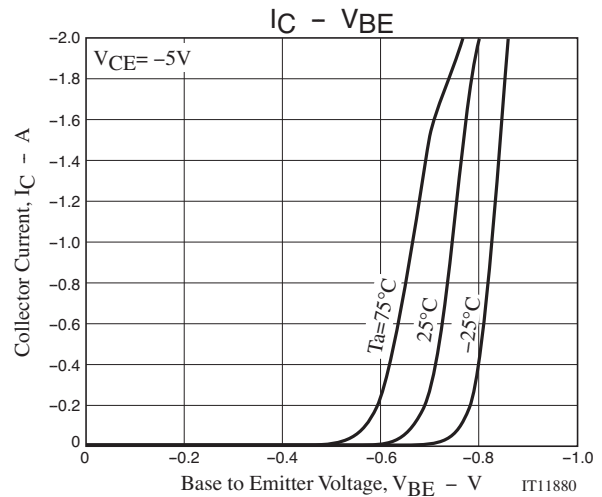
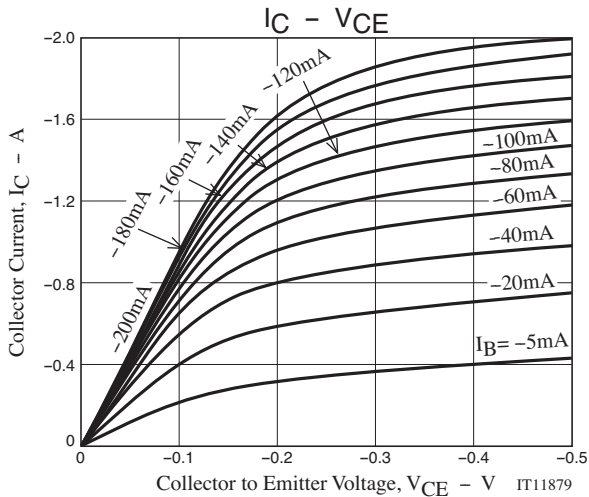
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=-80\text{V}, I_E=0\text{A}$			-1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=-4\text{V}, I_C=0\text{A}$			-1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=-5\text{V}, I_C=-100\text{mA}$	200		400	
Gain-Bandwidth Product	$f_T$	$V_{CE}=-10\text{V}, I_C=-500\text{mA}$		300		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, f=1\text{MHz}$		23		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-1\text{A}, I_B=-100\text{mA}$		-120	-240	mV
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1\text{A}, I_B=-100\text{mA}$		-0.85	-1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0\text{A}$	-100			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C=-100\mu\text{A}, R_{BE}=0\Omega$	-100			V
	$V_{(BR)CEO}$	$I_C=-1\text{mA}, R_{BE}=\infty$	-100			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0\text{A}$	-7			V
Turn-ON Time	$t_{on}$			40		ns
Storage Time	$t_{stg}$	See specified Test Circuit.		600		ns
Fall Time	$t_f$			30		ns

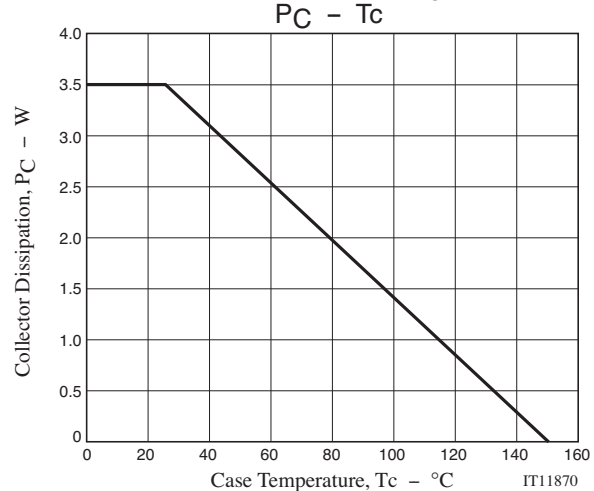
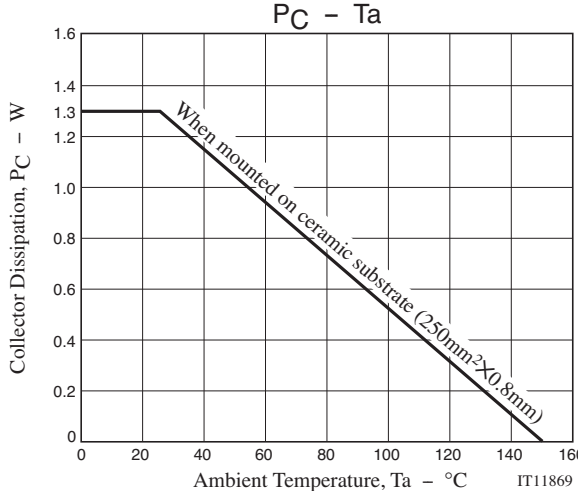
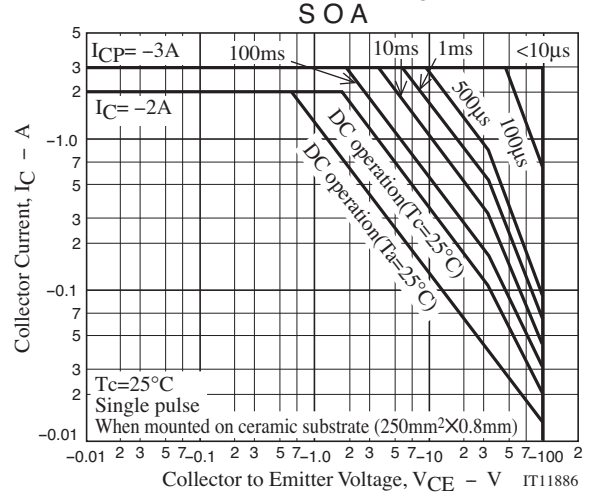
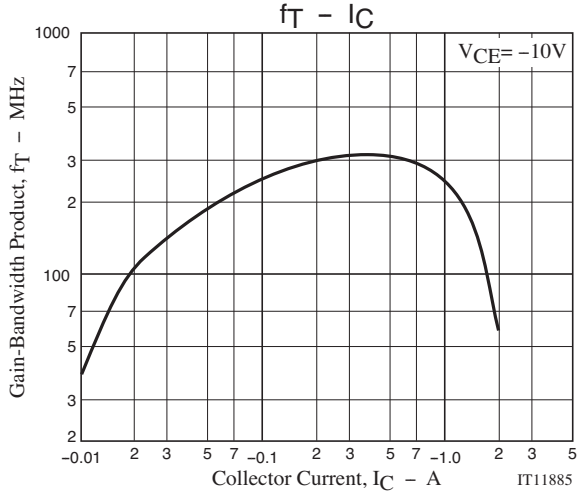
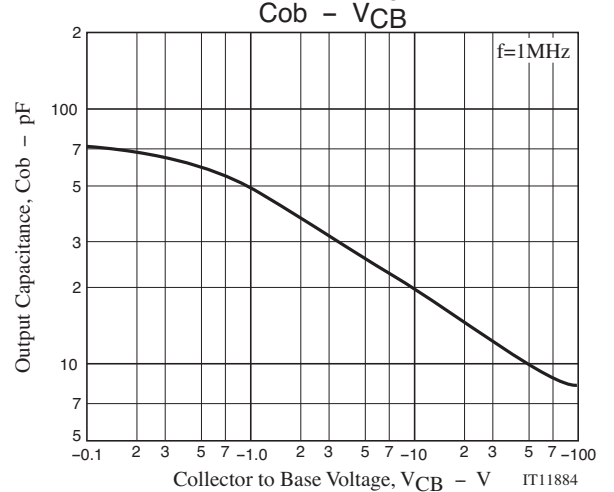
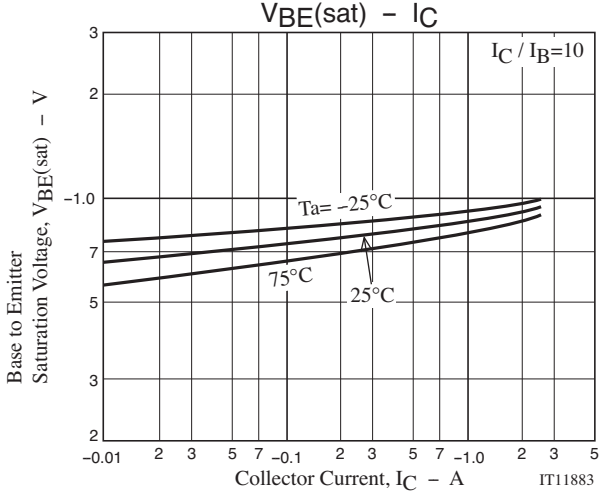
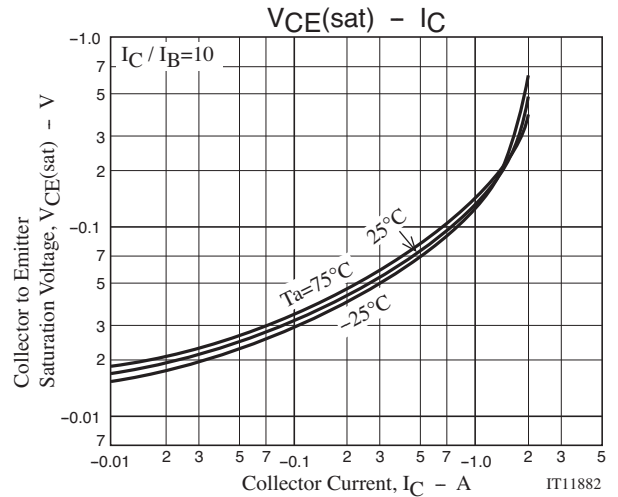
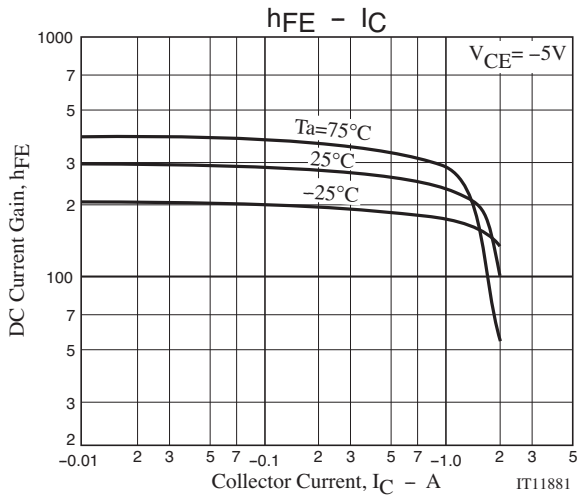
## Switching Time Test Circuit



## Ordering Information

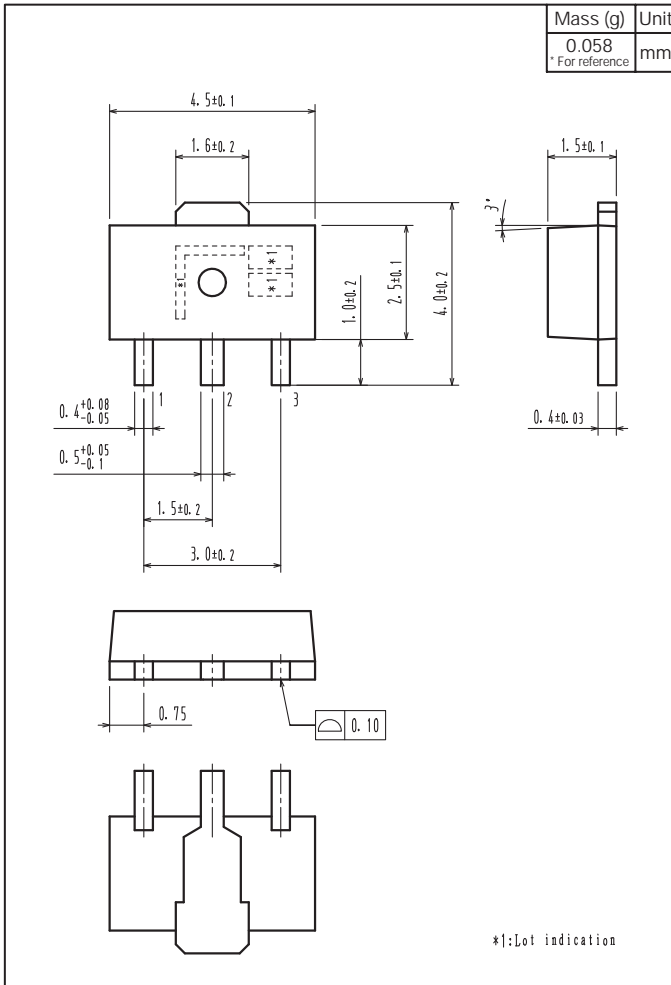
Device	Package	Shipping	memo
2SA2202-TD-E	PCP	1,000pcs./reel	Pb Free



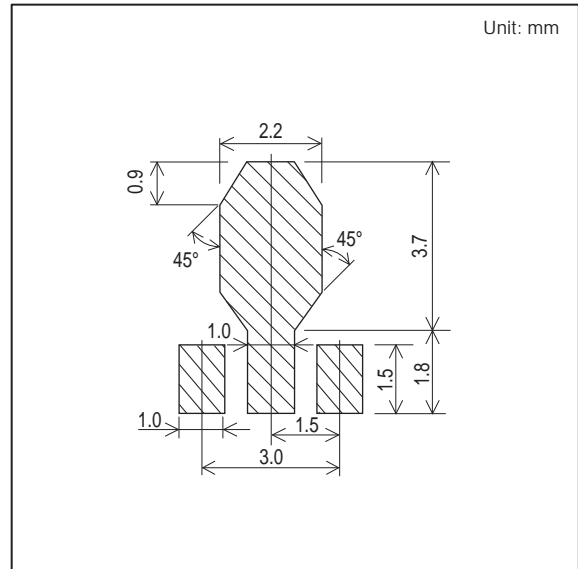


Outline Drawing

2SA2202-TD-E



Land Pattern Example



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