



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## 2SB1121 / ~~2SD1621~~ — PNP / ~~NPN~~ Epitaxial Planar Silicon Transistors High-Current Driver Applications

### Applications

- Voltage regulators, relay drivers, lamp drivers, electrical equipment.

### Features

- Adoption of FBET, MBIT processes.
- Low collector-to-emitter saturation voltage.
- Large current capacity and wide ASO.
- Fast switching speed.
- Ultrasmall size making it easy to provide high-density, small-sized hybrid IC's.

### Specifications ( ) : 2SB1121

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		(-)30	V
Collector-to-Emitter Voltage	VCEO		(-)25	V
Emitter-to-Base Voltage	VEBO		(-)6	V
Collector Current	IC		(-)2	A
Collector Current (Pulse)	ICP		(-)5	A
Collector Dissipation	PC		500	mW
		Mounted on a ceramic board (250mm <sup>2</sup> ×0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Marking 2SB1121 : BD

~~2SD1621 : DD~~

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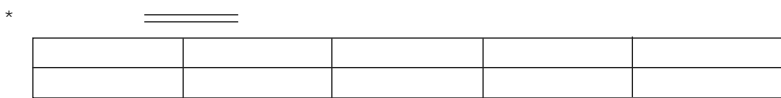
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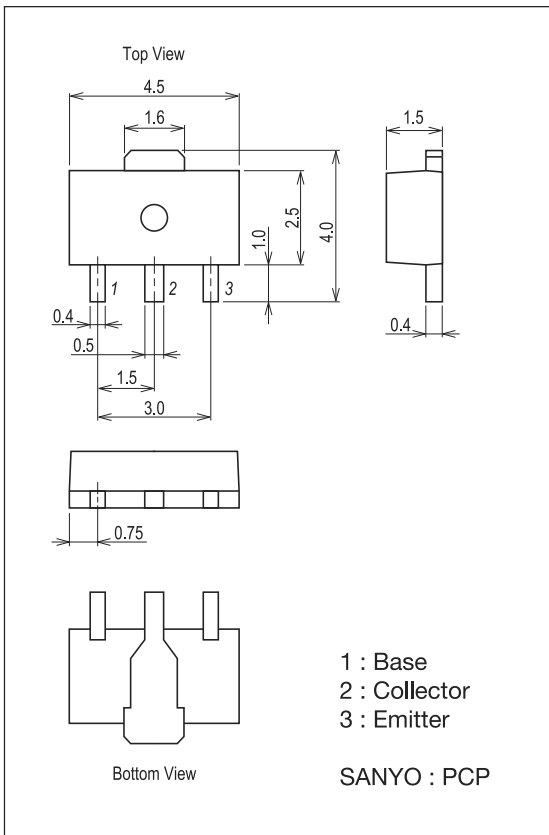
<http://semicon.sanyo.com/en/network>

Electrical Characteristics

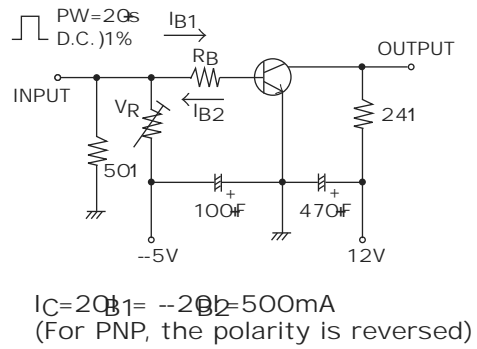
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)20V, I_E = 0A$			$(-)0.1$	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)4V, I_C = 0A$			$(-)0.1$	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE} = (-)2V, I_C = (-)100mA$	100*		560*	
	$h_{FE2}$	$V_{CE} = (-)2V, I_C = (-)1.5A$	65			
Gain-Bandwidth Product	$T_f$	$V_{CE} = (-)10V, I_C = (-)50mA$		150		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = (-)10V, f = 1MHz$		(32)19		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)1.5A, I_B = (-)75mA$		$(-0.35)$	$(-0.6)$	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)1.5A, I_B = (-)75mA$		$(-)0.85$	$(-)1.2$	V
Collector-to-Base Breakdown Voltage	$(BR)C_{BO}$	$I_C = (-)10A, I_E = 0A$	$(-)30$			V
Collector-to-Emitter Breakdown Voltage	$(BR)C_{EO}$	$I_C = (-)1mA, I_E = 1mA$	$(-)25$			V
Emitter-to-Base Breakdown Voltage	$(BR)E_{BO}$	$I_E = (-)10A, I_C = 0A$	$(-)6$			V
Turn-ON Time	$t_{on}$	See specified Test Circuit.		$(60)$ 60		ns
Storage Time	$t_{stg}$	See specified Test Circuit.		$(350)$ 550		ns
Fall Time	$t_f$	See specified Test Circuit.		$(25)$ 25		ns



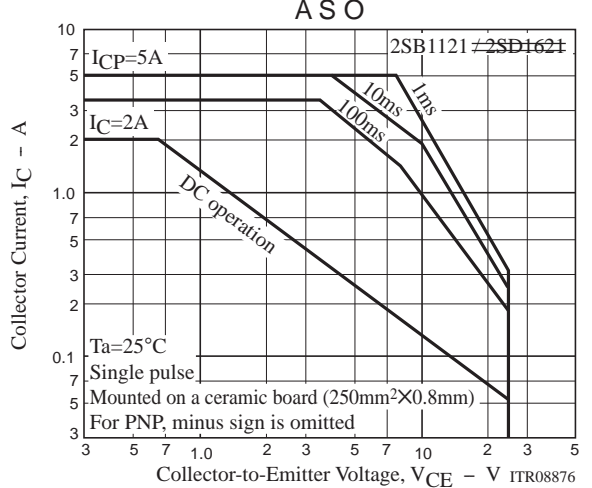
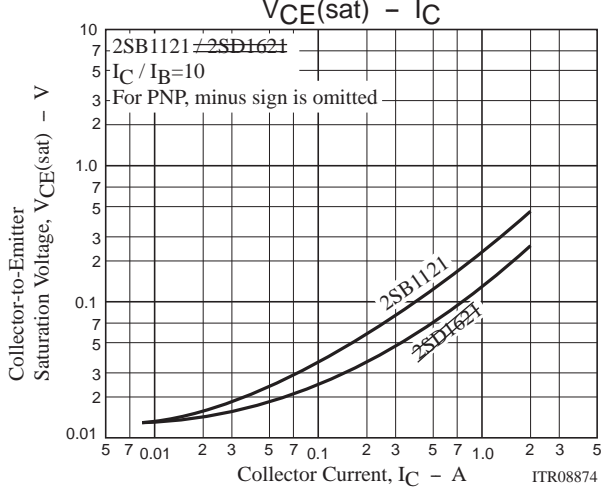
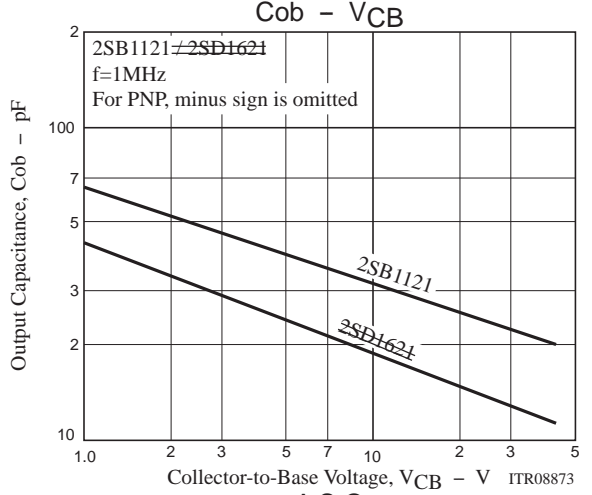
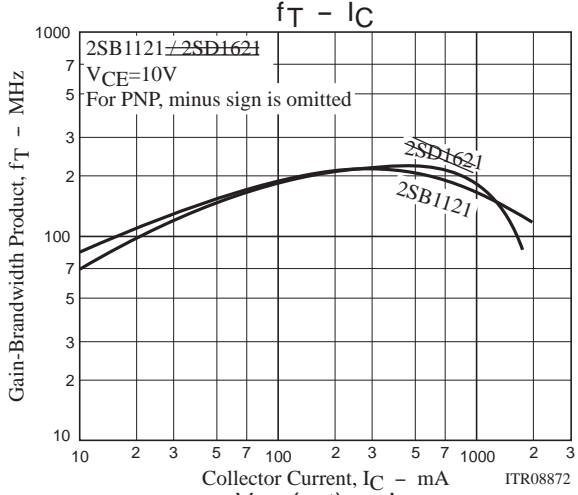
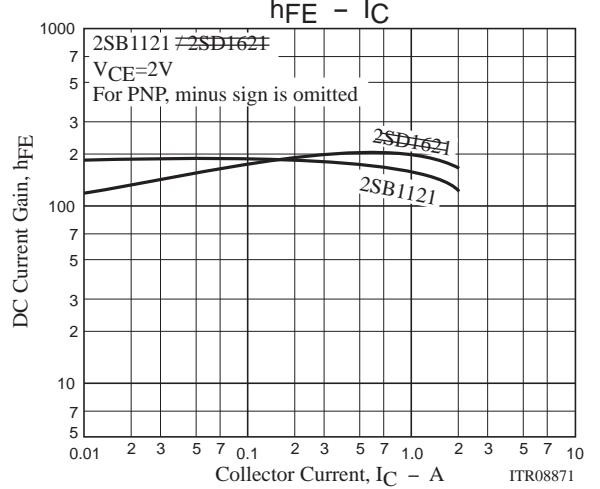
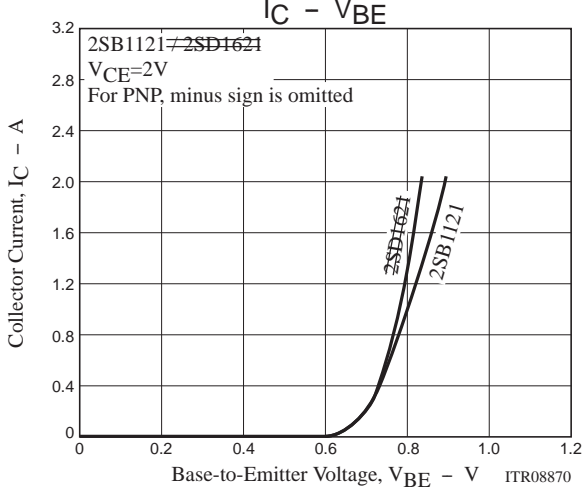
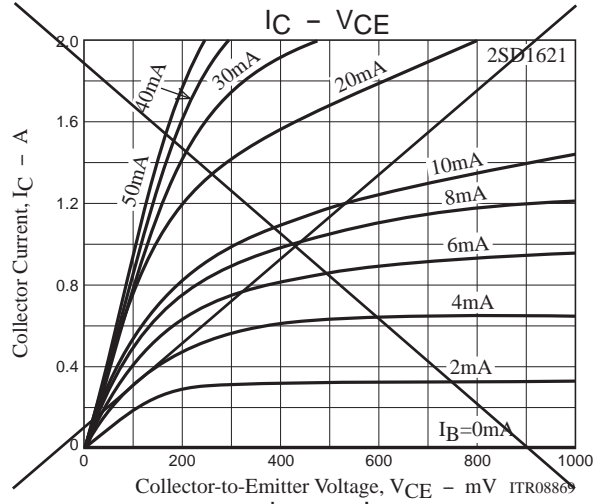
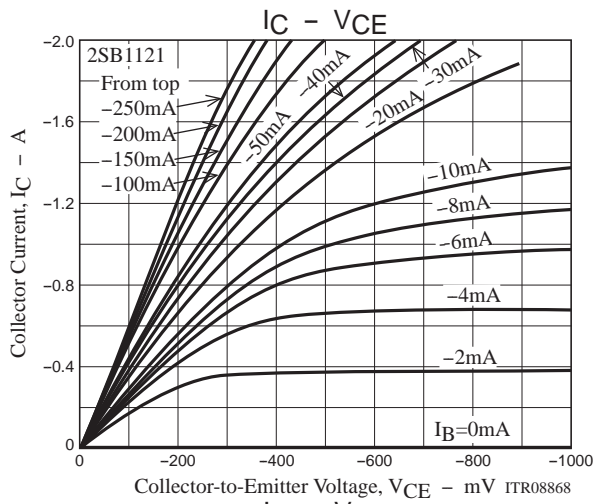
Package Dimension

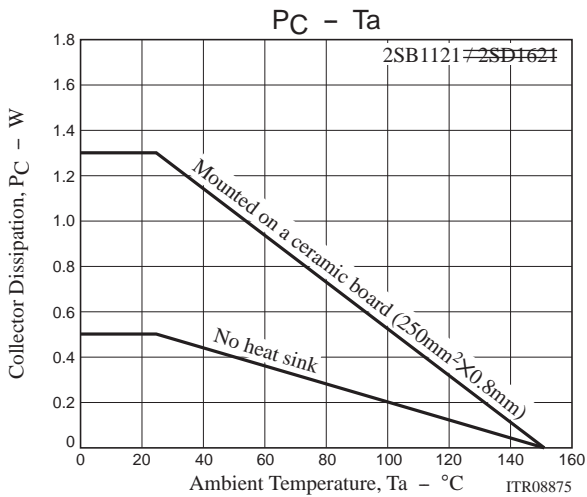


Switching Time Test Circuit



# 2SB1121 / 2SD1621





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