



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 (250mm²×0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Marking 2SB1121 : BD

~~2SD1621 : DD~~

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SANYO Semiconductor Co., Ltd.

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

2SB1121 / 2SD1621

Electrical Characteristics at Ta=25°C

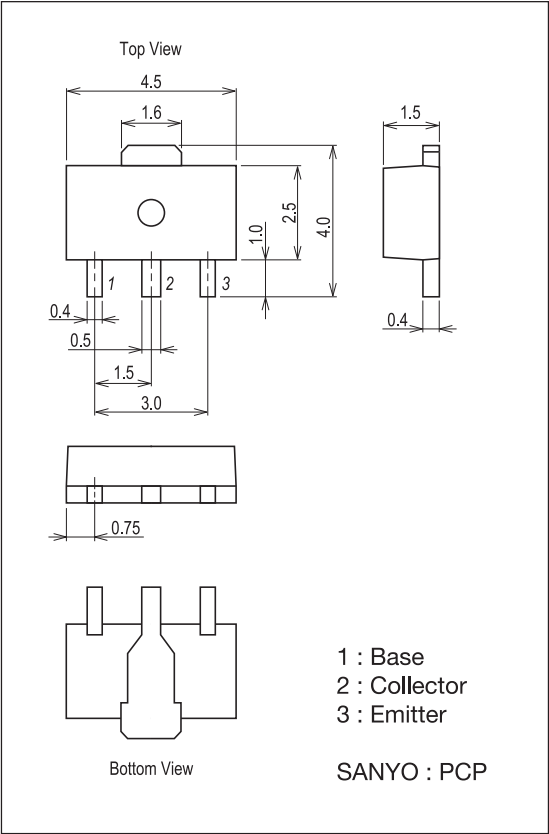
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	VCB=(-)20V, IE=0A			(-)0.1	μA
Emitter Cutoff Current	IEBO	VEB=(-)4V, IC=0A			(-)0.1	μA
DC Current Gain	hFE1	VCE=(-)2V, IC=(-)100mA	100*		560*	
	hFE2	VCE=(-)2V, IC=(-)1.5A	65			
Gain-Bandwidth Product	fT	VCE=(-)10V, IC=(-)50mA		150		MHz
Output Capacitance	Cob	VCB=(-)10V, f=1MHz		(32)19		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)	IC=(-)1.5A, IB=(-)75mA		(-0.35)0.18	(-0.6)0.4	V
Base-to-Emitter Saturation Voltage	VBE(sat)	IC=(-)1.5A, IB=(-)75mA		(-)0.85	(-)1.2	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC=(-)10μA, IE=0A	(-)30			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC=(-)1mA, RBE=∞	(-)25			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE=(-)10μA, IC=0A	(-)6			V
Turn-ON Time	ton	See specified Test Circuit.		(60)60		ns
Storage Time	tstg	See specified Test Circuit.		(350)550		ns
Fall Time	tr	See specified Test Circuit.		(25)25		ns

*: The 2SB1121 / 2SD1621 are classified by 100mA hFE as follows:

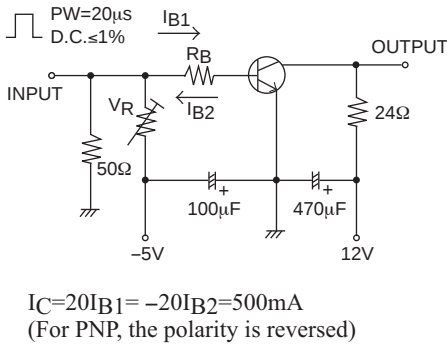
Rank	R	S	T	U
hFE	100 to 200	140 to 280	200 to 400	280 to 560

Package Dimensions

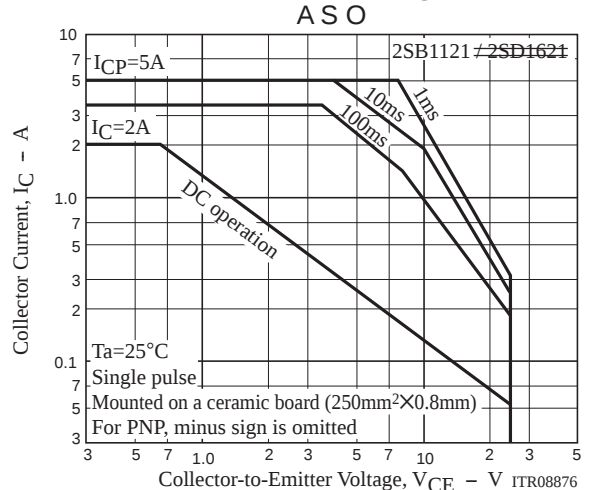
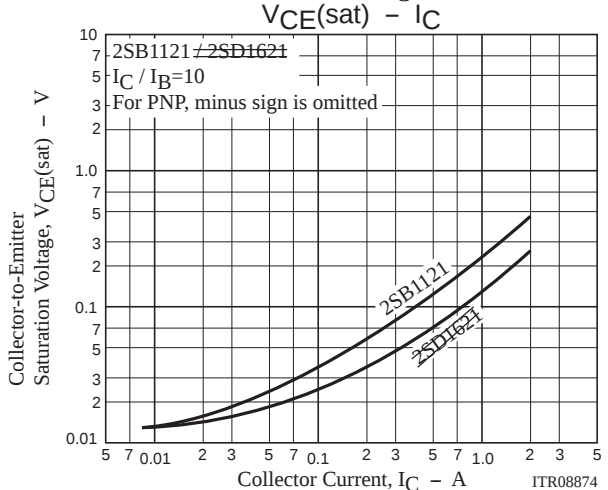
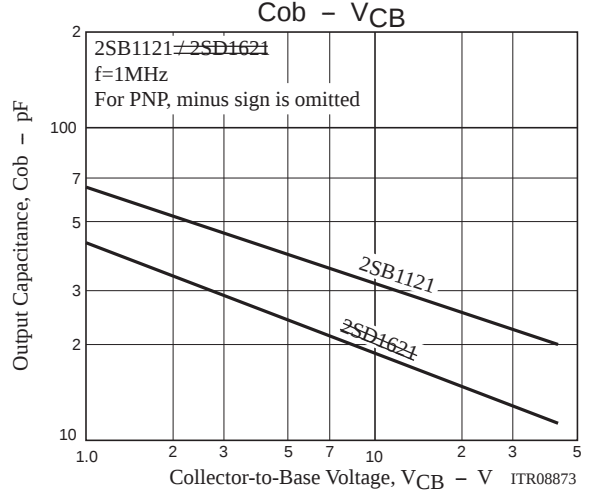
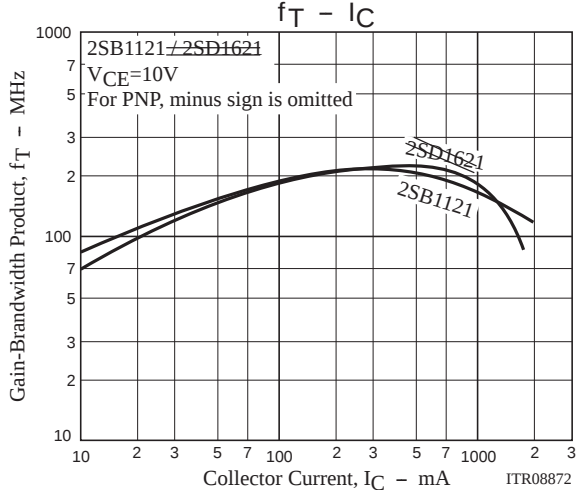
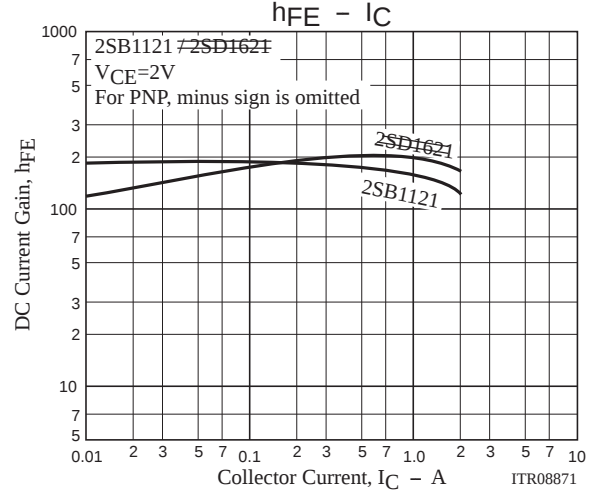
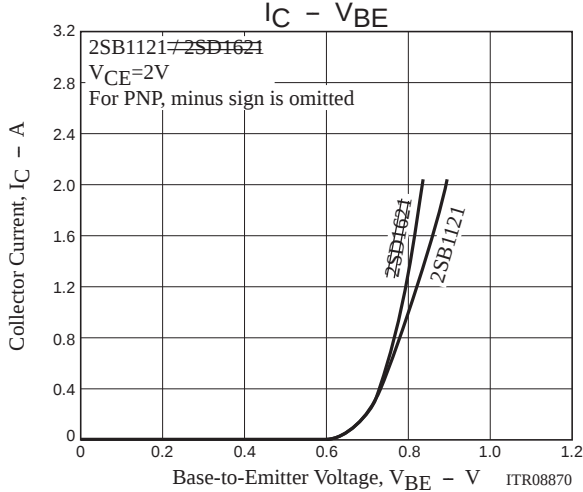
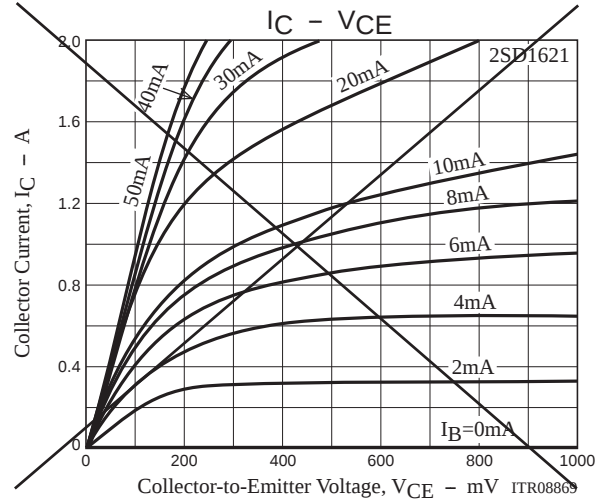
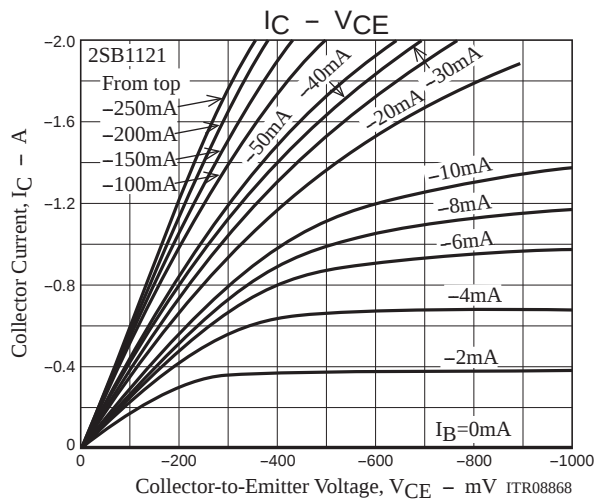
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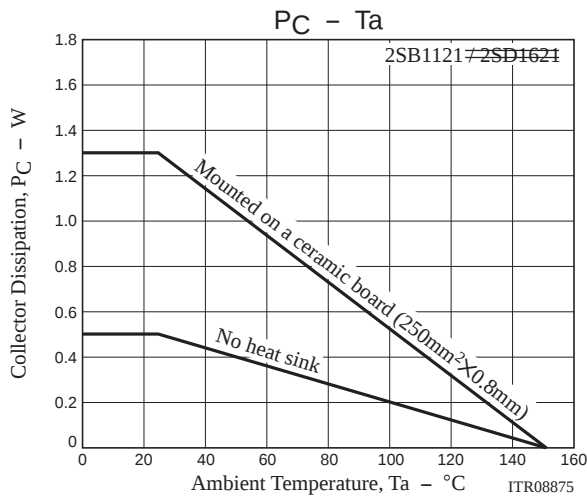


Switching Time Test Circuit



2SB1121/2SD1621





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