Ordering number: EN 1787A

SANYO

No.1787A

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.
. Very small size making it easy to provide high-density, small-sized hybrid IC's.

( ): 2SB1121

Absolute Maximum Ratings at Ta=25°C

				unit
Collector to Base Voltage	V_{CBO}		(-)30	V
Collector to Emitter Voltage	V_{CEO}		(-)25	V
Emitter to Base Voltage	V_{EBO}		(-)6	V
Collector Current	I_C		(-)2	A
Collector Current(Pulse)	I_{CP}		(-)5	A
Collector Dissipation	P_C		500	mW
	P_C	Mounted on ceramic board (250mm² x 0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=(-)20V, I_E=0			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(-)4V, I_C=0			(-)0.1	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=(-)2V, I_C=(-)100mA	100*		560*	
	$h_{FE(2)}$	V_{CE}=(-)2V, I_C=(-)1.5A	65			
Gain-Bandwidth Product	f_T	V_{CE}=(-)10V, I_C=(-)50mA		150		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=(-)1.5A, I_B=(-)75mA		0.18	0.4	V
				(-0.35)	(-0.6)	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=(-)1.5A, I_B=(-)75mA		(-)0.85	(-)1.2	V

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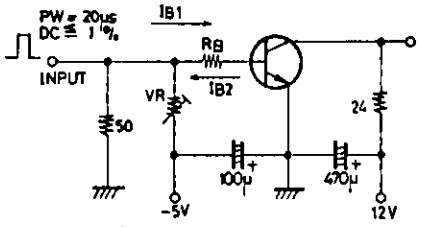
*:The 2SB1121/2SD1621 are classified by 100mA h_{FE} as follows:

100	R	200	140	S	280	200	T	400	280	U	560

Marking 2SB1121:BD 2SD1621:DD h_{FE} rank :R,S,T,U

Switching Time Test Circuit

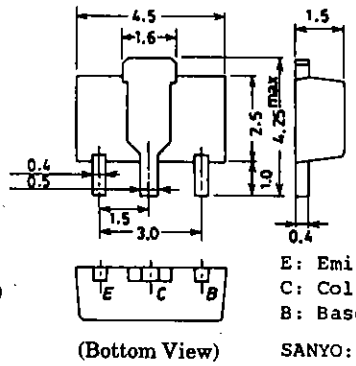


$20I_{B1}=-20I_{B2}=I_C=500mA$

(For PNP, the polarity is reversed.)

Unit (Resistance : Ω, Capacitance : F)

Package Dimensions 2038 (unit:mm)



E: Emitter
C: Collector
B: Base

(Bottom View) SANYO: PCP

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			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=(-)10μA, I_E=0	(-)30			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=(-)1mA, R_{BE}=∞	(-)25			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=(-)10μA, I_C=0	(-)6			V
Output Capacitance	c_{ob}	V_{CB}=(-)10V, f=1MHz		19		pF
				(32)		pF
Turn-ON Time	t_{on}	See specified Test Circuit.		60		ns
		"		(60)		ns
Storage Time	t_{stg}	"		500		ns
		"		(350)		ns
Fall Time	t_f	"		25		ns
		"		(25)		ns