

SANYO	No.3129	2SB1323/2SD1997
	PNP/NPN Epitaxial Planar Silicon Transistors	
Compact Motor Driver Applications		

Features

- Contains input resistance(R_1), base-to-emitter resistance(R_{BE}).
- Contains diode between collector and emitter.
- Low saturation voltage
- Large current capacity
- Small-sized package making it easy to provide high-density, small-sized hybrid ICs

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Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

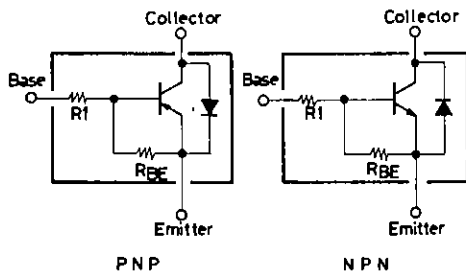
			unit
Collector to Base Voltage	V_{CBO}	(-) 40	V
Collector to Emitter Voltage	V_{CEO}	(-) 30	V
Emitter to Base Voltage	V_{EBO}	(-) 6	V
Collector Current	I_C	(-) 3	A
Collector Current(Pulse)	I_{CP}	(-) 5	A
Collector Dissipation	P_C (Mounted on ceramic board $250\text{mm}^2 \times 0.8\text{mm}$)	1.5	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to $+150$	$^\circ\text{C}$

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

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)30\text{V}, I_E = 0$			(-) 1.0	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = (-)2\text{V}, I_C = (-)0.5\text{A}$	70			
	$h_{FE(2)}$	$V_{CE} = (-)2\text{V}, I_C = (-)2\text{A}$	50			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)2\text{V}, I_C = (-)0.5\text{A}$		100		MHz
Output Capacitance	c_{ob}	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(55) 40		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)1\text{A}, I_B = (-)50\text{mA}$		0.12	0.3	V
				(-) 0.18	(-) 0.4	
B-E ON-State Voltage	$V_{BE(ON)}$	$V_{CE} = (-)2\text{V}, I_C = (-)1\text{A}$	(-) 1	(-) 2	(-) 5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}, I_E = 0$	(-) 40			V
C-E Breakdown Voltage	$V_{(BR)CEO(1)}$	$I_C = (-)10\mu\text{A}, R_{BE} = \infty$	(-) 40			V
	$V_{(BR)CEO(2)}$	$I_C = (-)10\text{mA}, R_{BE} = \infty$	(-) 30			V
Diode Forward Voltage	V_F	$I_F = 0.5\text{A}$			1.5	V
Base to Emitter Resistance	R_{BE}			0.8		$\text{k}\Omega$
Base Resistance	R_1		120	160	200	Ω

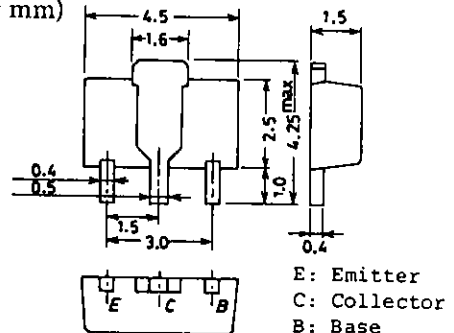
Marking 2SB1323: BK
2SD1997: DO

Electrical Connection



Package Dimensions 2038

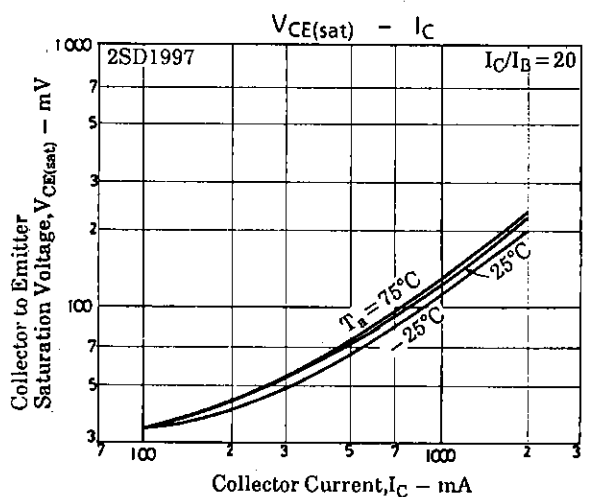
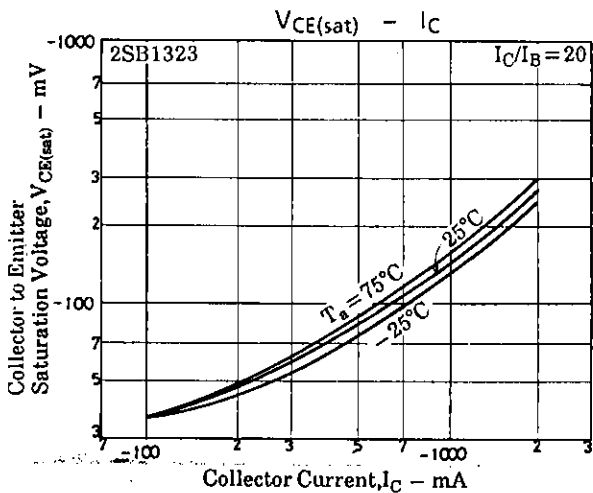
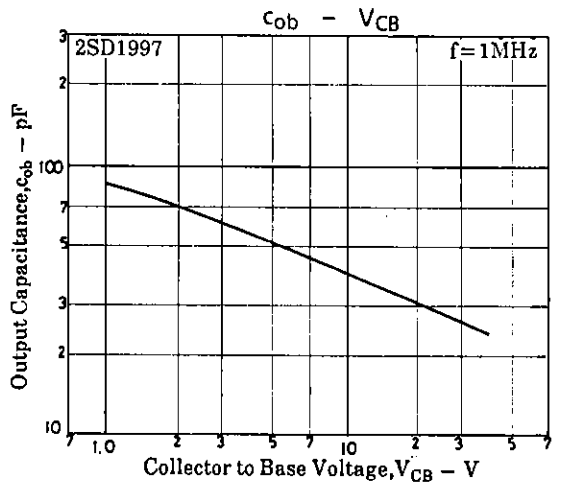
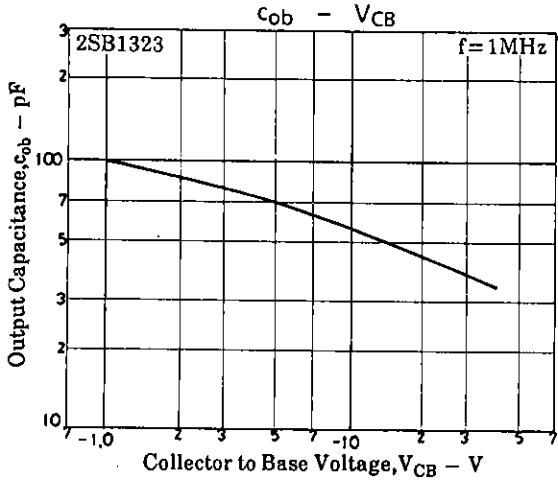
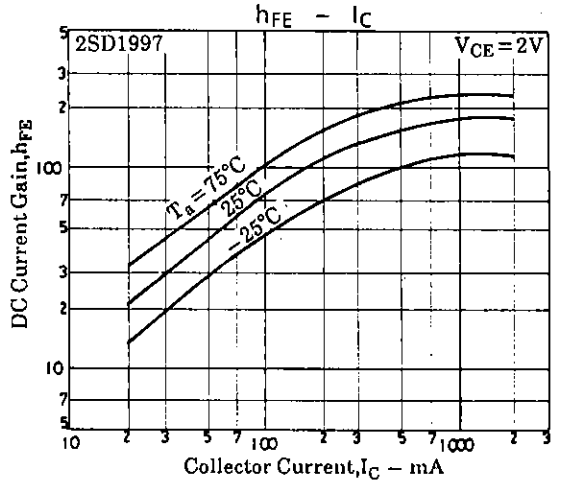
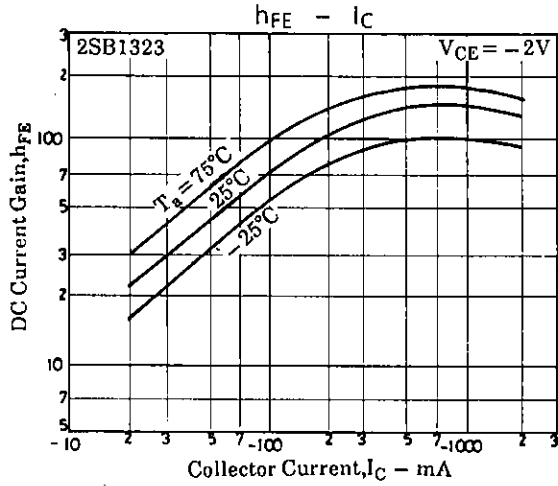
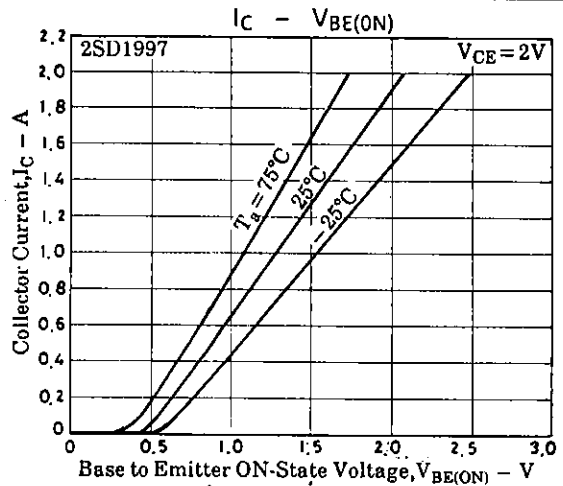
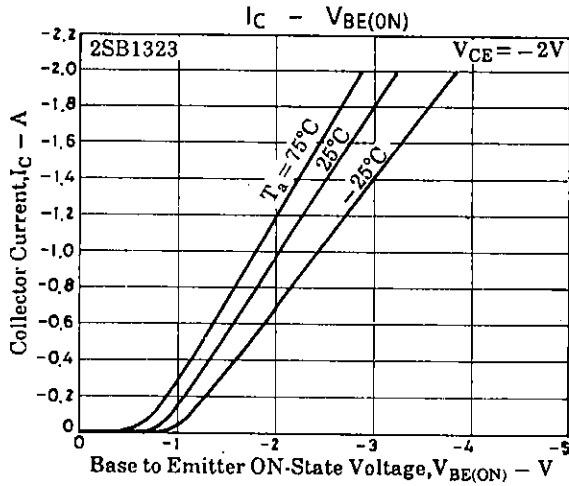
(unit: mm)

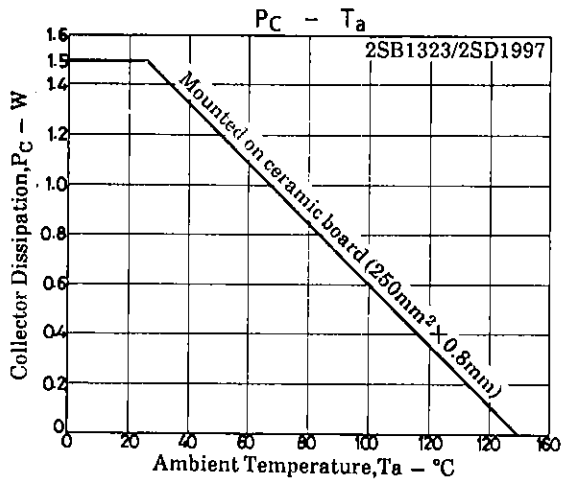


E: Emitter
C: Collector
B: Base

SANYO: PCP

(Bottom View)





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