

<b>SANYO</b>	No.3129	<b>2SB1323/2SD1997</b>
		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

( ) : 2SB1323

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

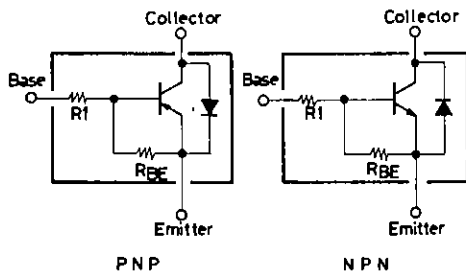
			unit
Collector to Base Voltage	$V_{CBO}$	(-) $40$	V
Collector to Emitter Voltage	$V_{CEO}$	(-) $30$	V
Emitter to Base Voltage	$V_{EBO}$	(-) $6$	V
Collector Current	$I_C$	(-) $3$	A
Collector Current(Pulse)	$I_{CP}$	(-) $5$	A
Collector Dissipation	$P_C$ (Mounted on ceramic board $250\text{mm}^2 \times 0.8\text{mm}$ )	$1.5$	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	$I_{CBO}$	$V_{CB} = (-)30\text{V}, I_E = 0$			(-) $1.0$	$\mu\text{A}$
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	$R_1$		$120$	$160$	$200$	$\Omega$

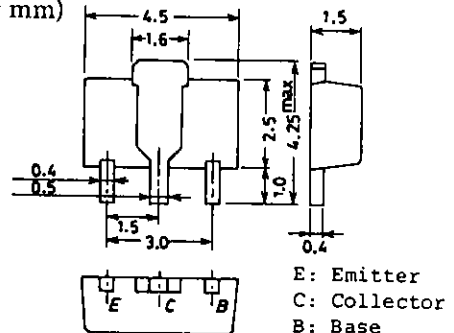
Marking 2SB1323: BK  
2SD1997: DO

**Electrical Connection**



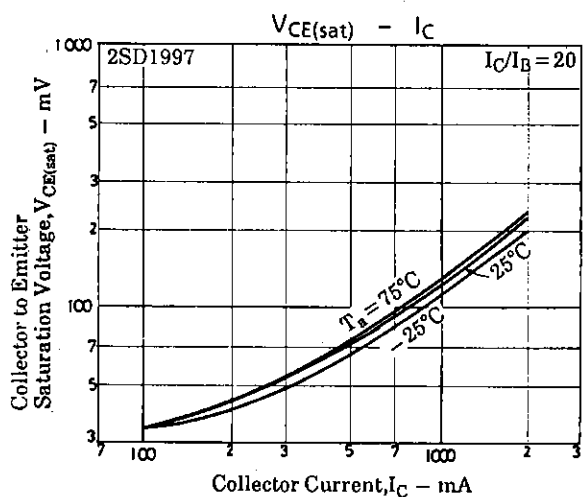
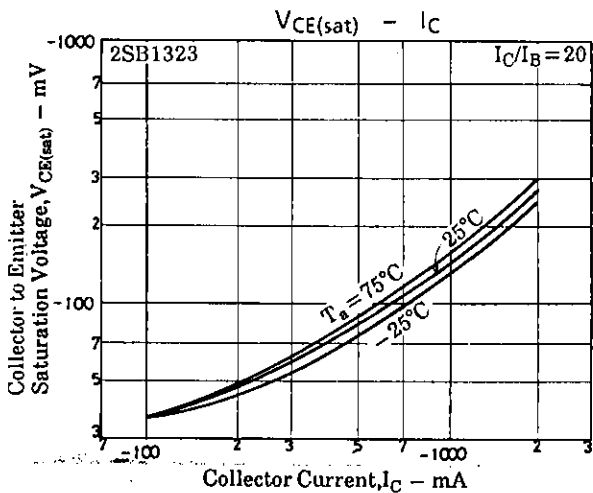
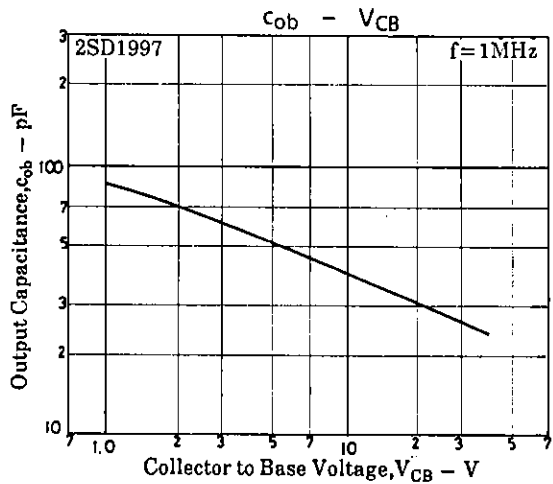
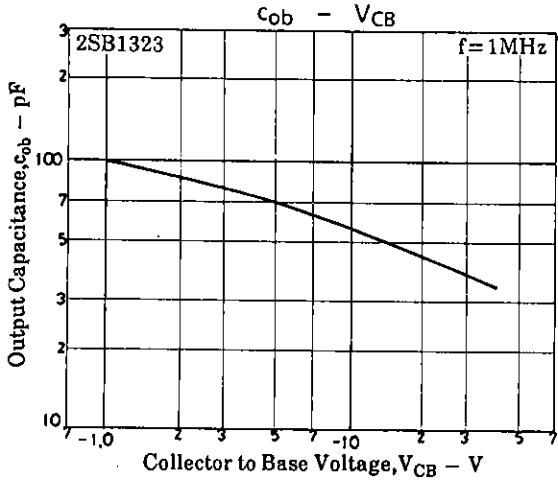
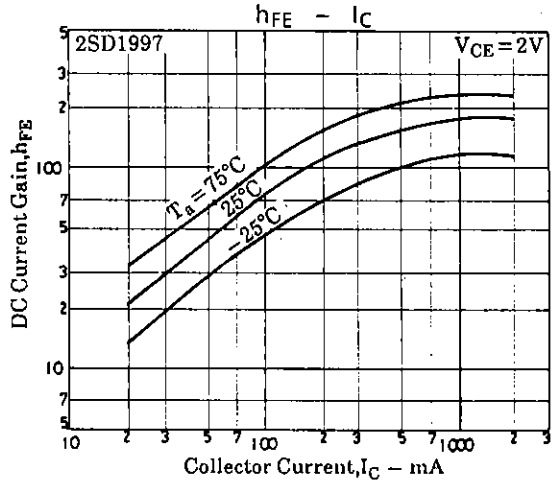
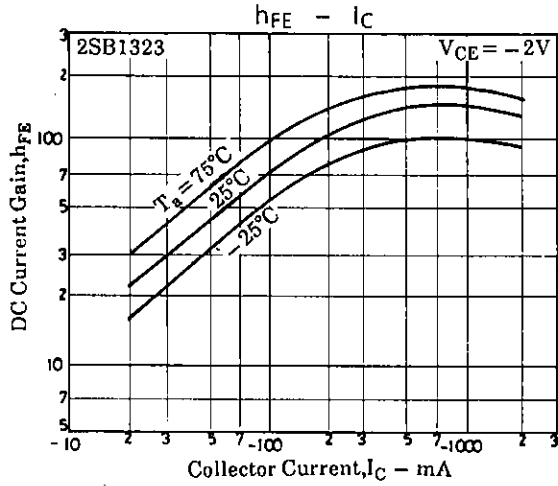
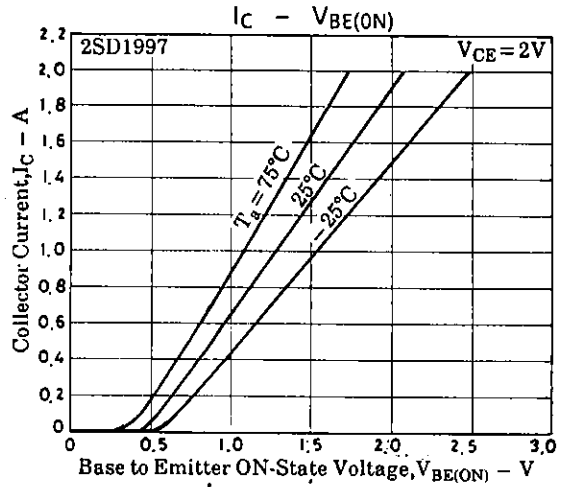
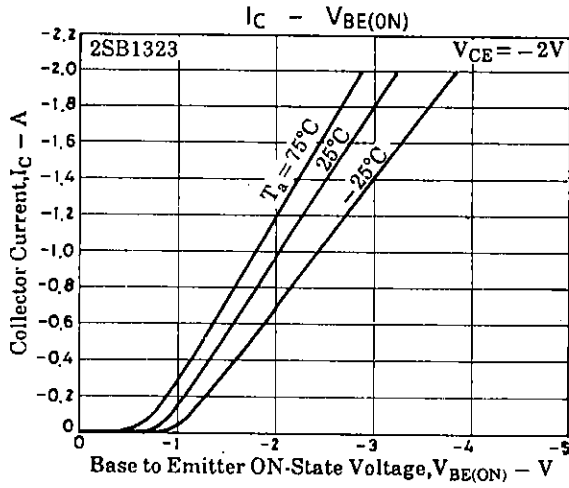
**Package Dimensions 2038**

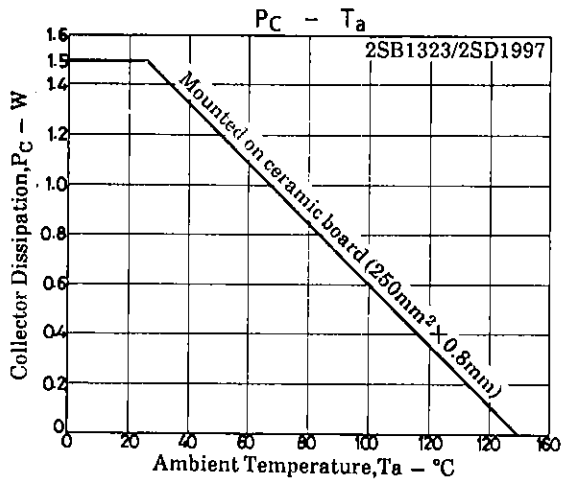
(unit: mm)



E: Emitter  
C: Collector  
B: Base

SANYO: PCP  
(Bottom View)





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