Ordering number : EN3130A

SANYO Semiconductors
DATA SHEET

2SB1324 / 2SD1998 — PNP / NPN Epitaxial Planar Silicon Transistors
Compact Motor Driver Applications

Features

- Low saturation voltage.
- Contains diode between collector and emitter.
- Contains bias resistance between collector and emitter.
- Large current capacity.
- Small-sized package making it easy to provide high-density, small-sized hybrid ICs.

Specifications ( ) : 2SB1324

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	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 a ceramic board (250mm²×0.8mm)	1.5	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		–55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)30V, I_E=0A			(–)1.0	μA
DC Current Gain	$h_{FE}1$	V_{CE}=(–)2V, I_C=(–)0.5A	75			
	$h_{FE}2$	V_{CE}=(–)2V, I_C=(–)2A	50			

Marking 2SB1324 : BL
2SD1998 : DM

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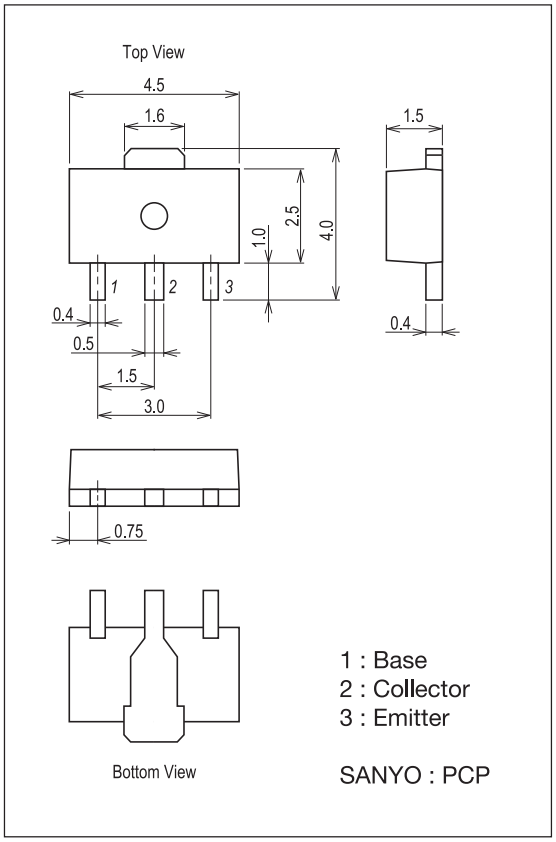
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	V_{CE}=(–)2V, I_C=(–)0.5A		100		MHz
Output Capacitance	Cob	V_{CB}=(–)10V, f=1MHz		(55)40		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=(–)2A, I_B=(–)100mA		(–0.25)0.2	(–0.6)0.5	V
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=(–)2A, I_B=(–)100mA			(–)1.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)10μA, I_E=0A	(–)40			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$1	I_C=(–)10μA, R_{BE}=∞	(–)40			V
	$V_{(BR)CEO}$2	I_C=(–)10μA, R_{BE}=∞	(–)30			V
Diode Forwad Voltage	V_F	I_F=0.5A			1.5	V
Base-to-Emitter Resistance	R_{BE}			0.8		kΩ

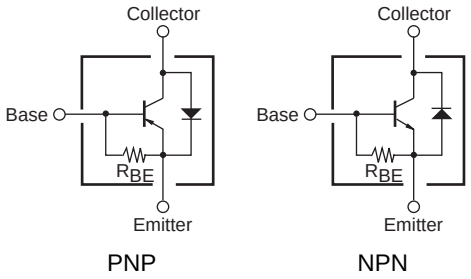
Package Dimensions

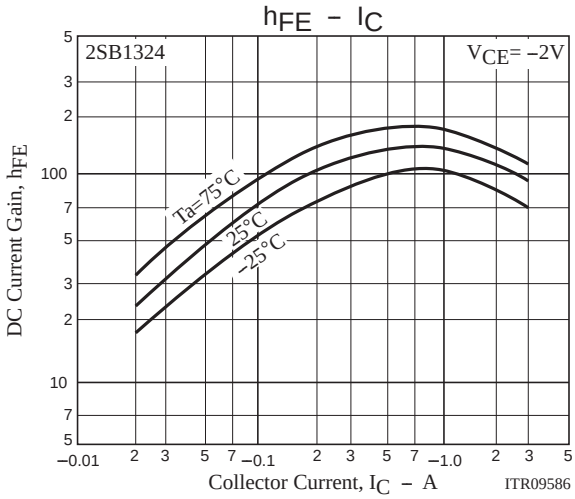
unit : mm (typ)

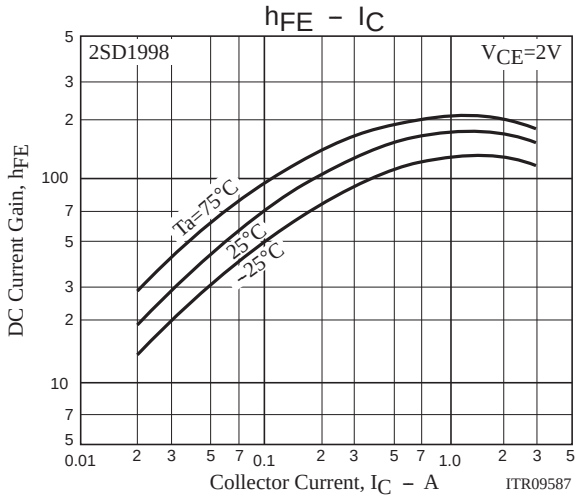
7007B-004



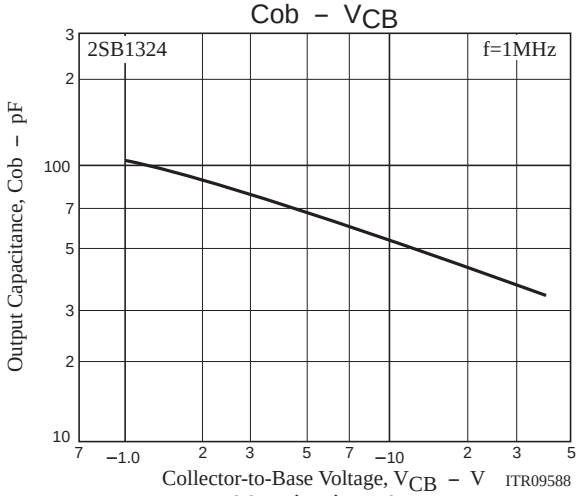
Electrical Connection



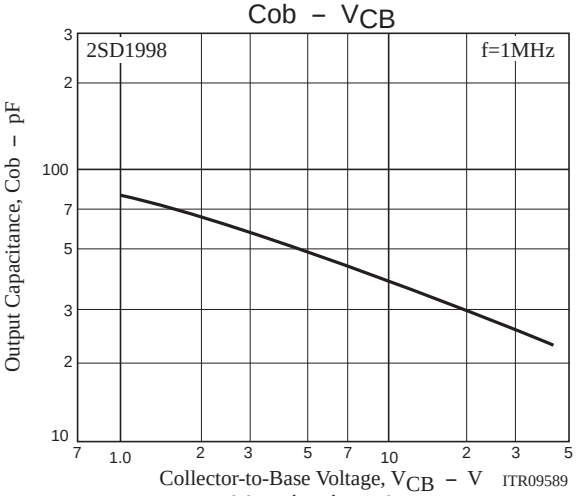




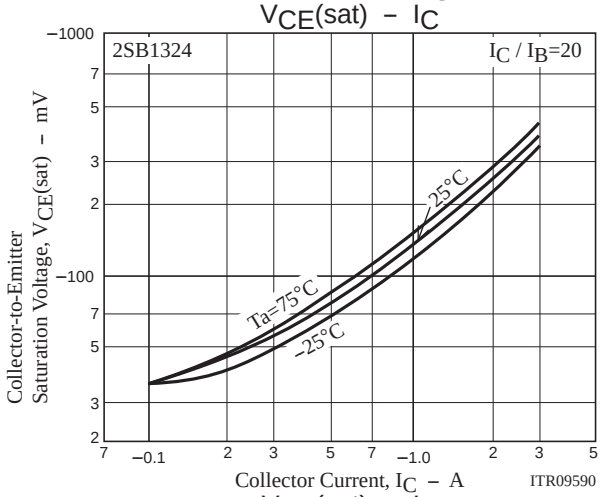
Cob – V_{CB}



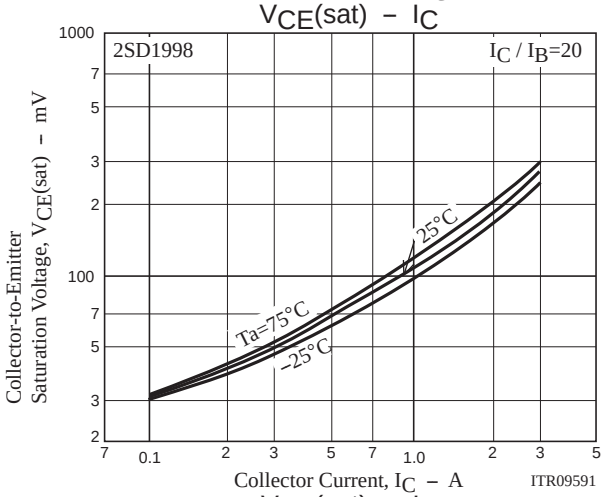
Cob – V_{CB}



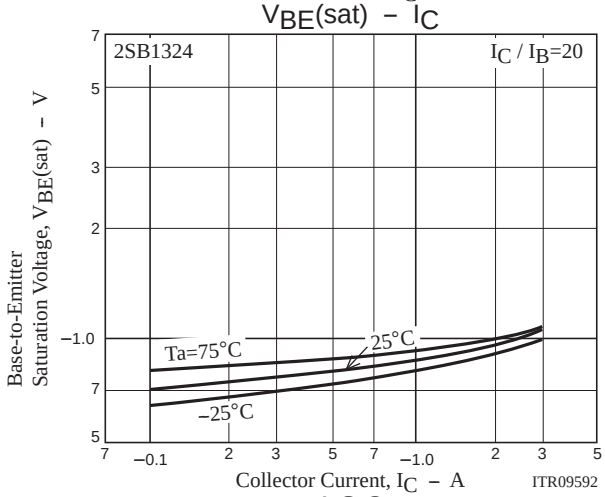
$V_{CE}(sat)$ – I_C



$V_{CE}(sat)$ – I_C



$V_{BE}(sat)$ – I_C



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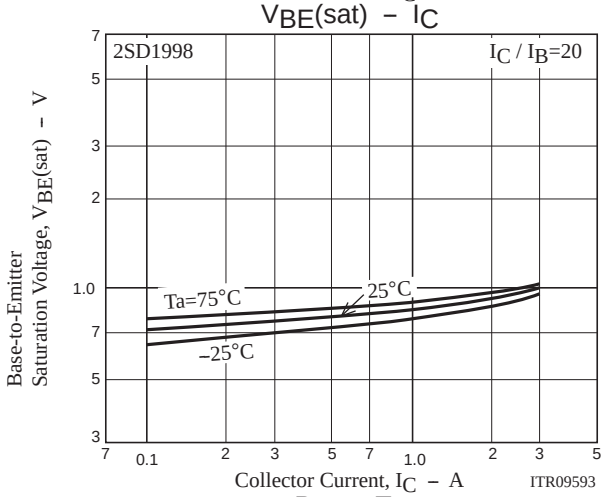

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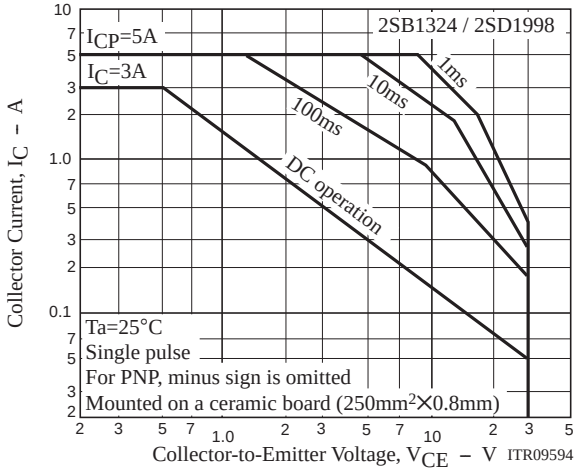

P_C – Ta