



2SB1325/2SD1999

Compact Motor Driver Applications

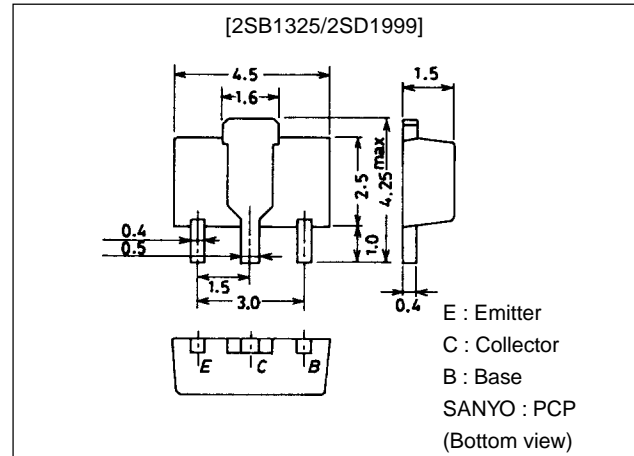
Features

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

Package Dimensions

unit:mm

2038



() : 2SB1325

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-)25	V
Collector-to-Emitter Voltage	V_{CE0}		(-)20	V
Emitter-to-Base Voltage	V_{EBO}		(-)6	V
Collector Current	I_C		(-)4	A
Collector Current (Pulse)	I_{CP}		(-)6	A
Collector Dissipation	P_C	Mounted on ceramic board (250mm ² ×0.8mm)	1.5	W
Junction Temperature	T_J		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)20\text{V}, I_E = 0$			(-)1.0	μA
DC Current Gain	h_{FE1}	$V_{CE} = (-)2\text{V}, I_C = (-)0.5\text{A}$	70			
	h_{FE2}	$V_{CE} = (-)2\text{V}, I_C = (-)3\text{A}$	50			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)2\text{V}, I_C = (-)0.5\text{A}$		(300)		MHz
				200		MHz
Output Capacitance	C_{ob}	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(60)45		pF

Marking : 2SB1325 : BM
2SD1999 : DN

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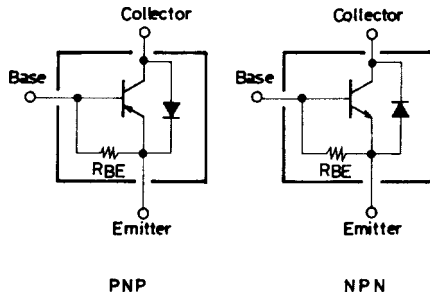
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)3A, I_B=(-)150mA$		(-)0.25	(-)0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$V_{CE}=(-)3V, I_B=(-)150mA$			(-)1.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)25			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO1}$	$I_C=(-)10\mu A, R_{BE}=\infty$	(-)25			V
	$V_{(BR)CEO2}$	$I_C=(-)10mA, R_{BE}=\infty$	(-)20			V
Diode Forward Voltage	V_F	$I_F=0.5A$			1.5	V
Base-to-Emitter Resistance	R_{BE}			1.5		k Ω

Electrical Connection



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