PNP/NPN Epitaxial Planar Silicon Transistors



2SB1325/2SD1999

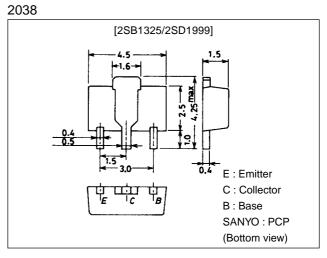
Compact Motor Driver Applications

Features

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

Package Dimensions

unit:mm



():2SB1325

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		(–)25	V
Collector-to-Emitter Voltage	VCEO		(–)20	V
Emitter-to-Base Voltage	VEBO		(–)6	V
Collector Current	ι _C		(-)4	A
Collector Current (Pulse)	I _{CP}		(–)6	A
Collector Dissipation	PC	Mounted on ceramic board (250mm ² ×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	ICBO	V _{CB} =(-)20V, I _E =0			(–)1.0	μA
DC Current Gain	hFE1	V _{CE} =(-)2V, I _C =(-)0.5A	70			
	h _{FE} 2	V _{CE} =(-)2V, I _C =(-)3A	50			
Gain-Bandwidth Product	fT	V _{CE} =(-)2V, I _C =(-)0.5A		(300)		MHz
				200		MHz
Output Capacitance	Cob	V _{CB} =(-)10V, f=1MHz		(60)45		pF

Marking: 2SB1325: BM

2SD1999 : DN

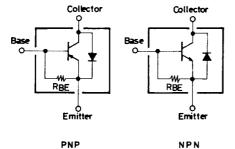
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Parameter	Symbol	Conditions	Ratings			Unit
	Symbol		min	typ	max	Onit
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)3A, I _B =(-)150mA		(–)0.25	(–)0.5	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	V _{CE} =(-)3V, I _B =(-)150mA			(–)1.5	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =(-)10µA, I _E =0	(–)25			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO1	I _C =(−)10µA, R _{BE} =∞	(–)25			V
	V(BR)CEO2	I _C =(−)10mA, R _{BE} =∞	(–)20			V
Diode Forwad Voltage	VF	I _F =0.5A			1.5	V
Base-to-Emitter Resistance	R _{BE}			1.5		kΩ

Electrical Connection



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