

Compact Motor Driver Applications

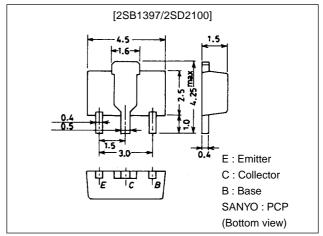
Features

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

Package Dimensions

unit:mm

2038



(): 2SB1397

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	V _{CEO}		(-)20	V
Emitter-to-Base Voltage	V _{EBO}		(-)6	V
Collector Current	IC		(-)2	Α
Collector Current (Pulse)	I _{CP}		(-)4	Α
Collector Dissipation	PC	Mounted on ceramic board (250mm²×0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

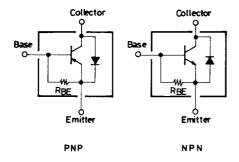
Parameter	Symbol	Conditions		Ratings		
	Symbol		min	typ	max	Unit
Collector Cutoff Current	I _{CBO}	V _{CB} =(-)20V, I _E =0			(-)1.0	μΑ
DC Current Gain	h _{FE} 1	V _{CE} =(-)2V, I _C =(-)0.5A	(-)70			
	h _{FE} 2	V _{CE} =(-)2V, I _C =(-)2A	(-)50			
Gain-Bandwidth Product	fT	V _{CE} =(-)2V, I _C =(-)0.5A		(300)		MHz
				200		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(40)25		pF

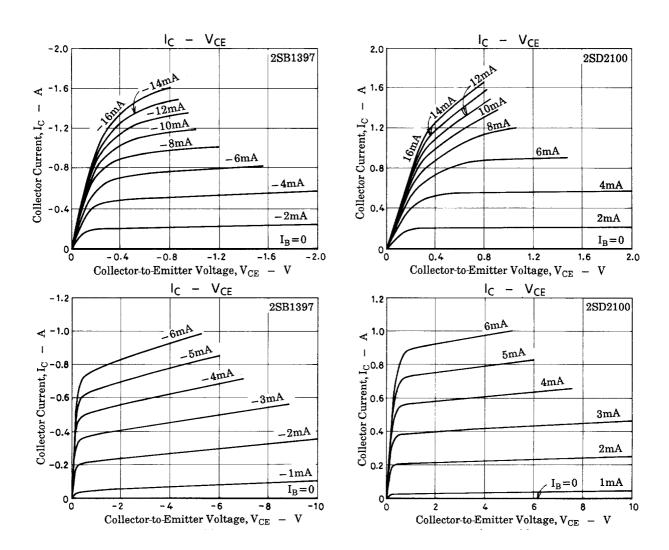
Marking: 2SB1397: BP 2SD2100: DP

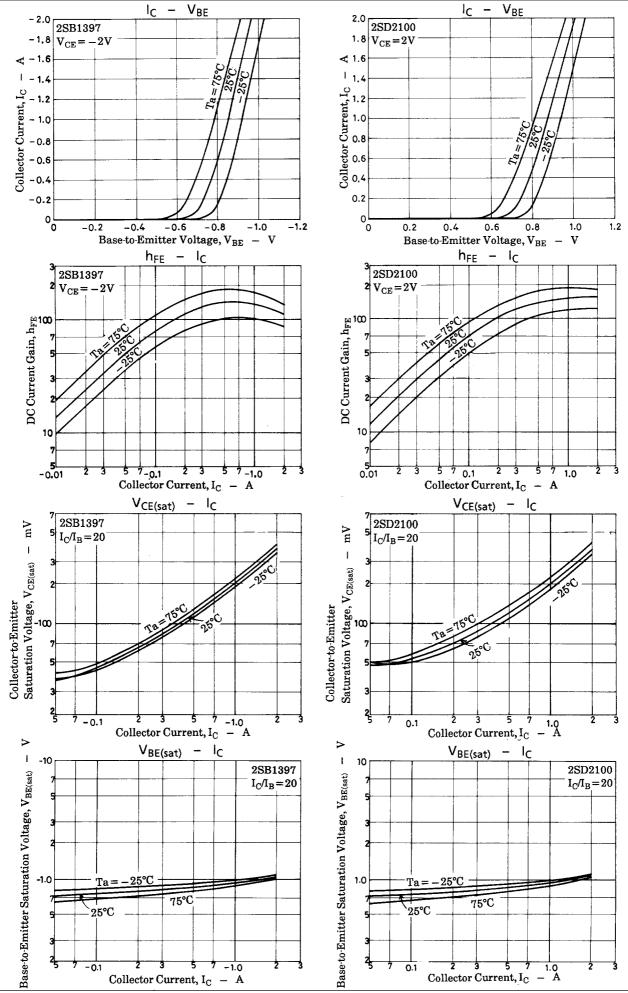
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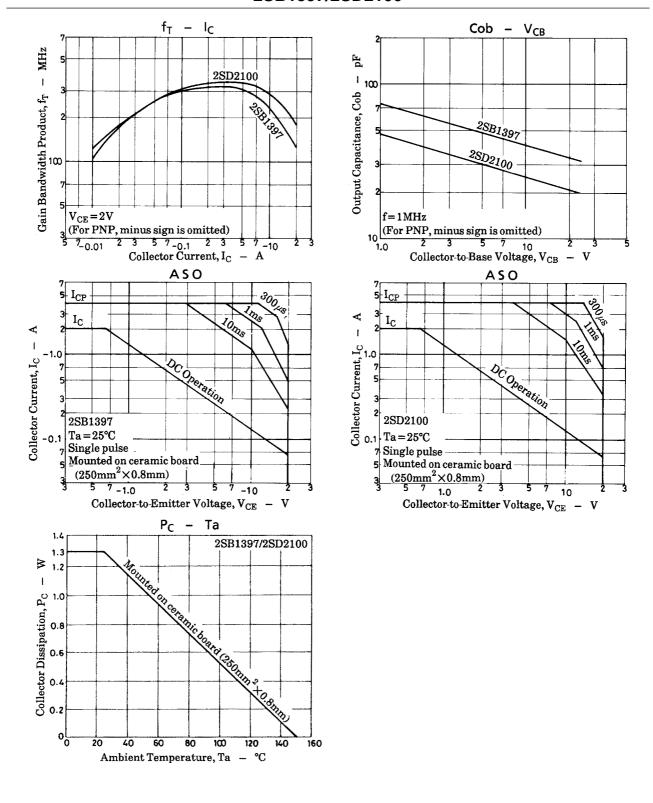
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)1A, I _B =(-)50mA		(-)0.25	(-)0.5	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =(-)1A, I _B =(-)50mA			(–)1.5	V
Collector-to-Base Breakdown Voltage	V _(BR) CBO	$I_{C}=(-)10\mu A, I_{E}=0$	(-)25			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO1	I _C =(-)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	k\v2
Base-to-Emitter Resistance	R _{BE}			1.6		

Electrical Connection









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