



2SB1397 / 2SD2100 — PNP / NPN Epitaxial Planar Silicon Transistors

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 highdensity, small-sized hybrid ICs.

Specifications () : 2SB1397

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		(-)25	V
Collector-to-Emitter Voltage	V _{CEO}		(-)20	V
Emitter-to-Base Voltage	V _{EBO}		(-)6	V
Collector Current	I _C		(-)2	A
Collector Current (Pulse)	I _{CP}		(-)4	A
Collector Dissipation	P _C	Mounted on ceramic board (250mm ² X0.8mm)	1.3	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =(-)20V, I _E =0A			(-)1.0	μA
DC Current Gain	h _{FE1}	V _{CE} =(-)2V, I _C =(-)0.5A	(-)70			
	h _{FE2}	V _{CE} =(-)2V, I _C =(-)2A	(-)50			
Gain-Bandwidth Product	f _T	V _{CE} =(-)2V, I _C =(-)0.5A		(300)200		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(40)25		pF
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 =(-)10μA, I _E =0A	(-)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 Forward Voltage	V _F	I _F =(-)0.5A			(-)1.5	V
Base-to-Emitter Resistance	R _{BE}			1.6		kΩ

Marking : 2SB1397 : BP

2SD2100 : DP

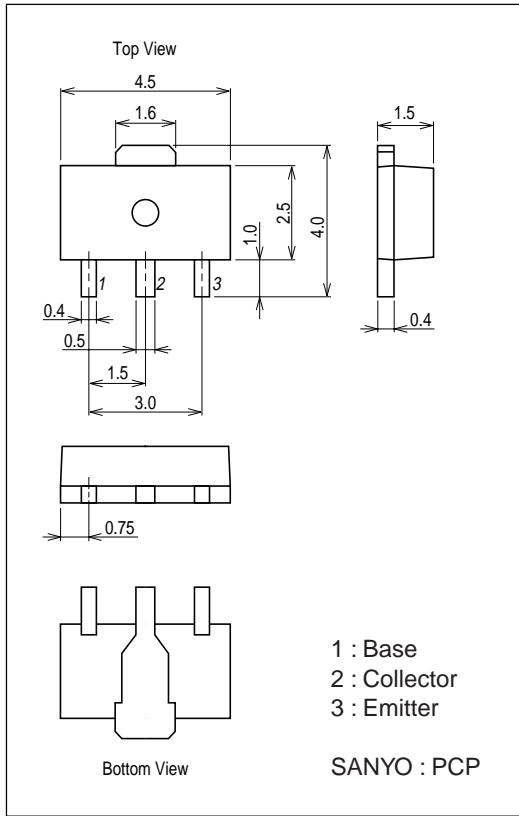
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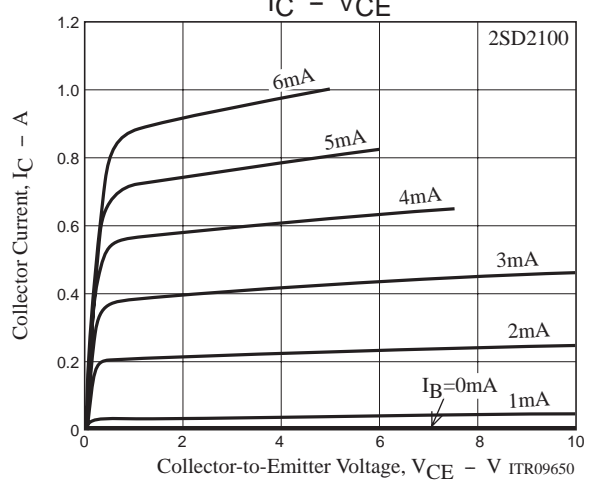
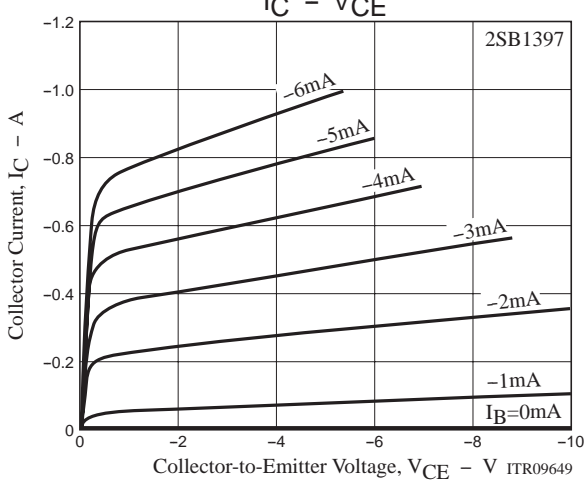
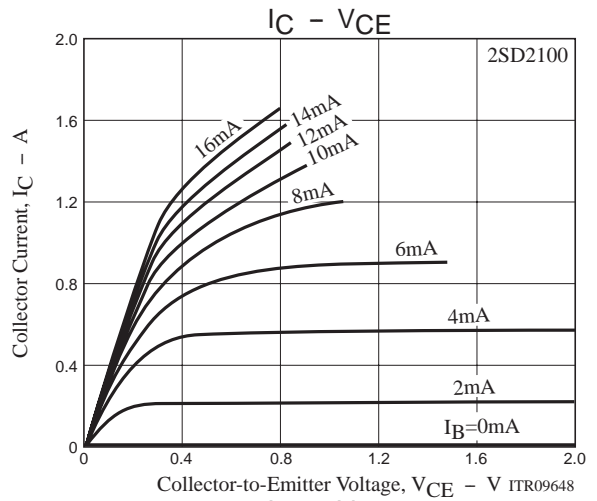
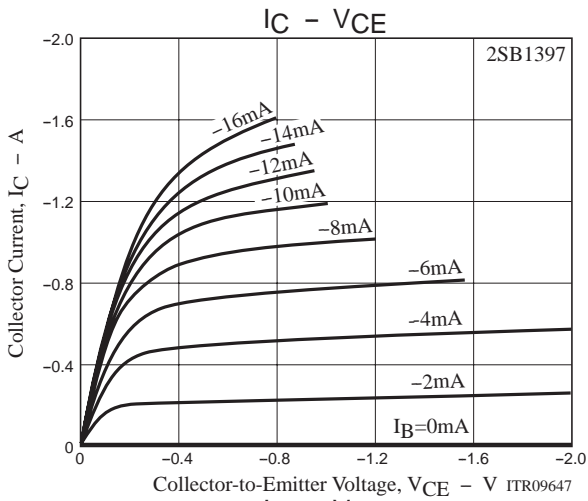
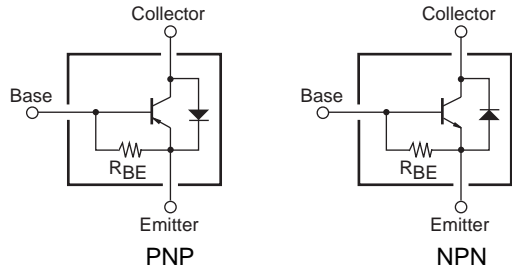
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Package Dimensions

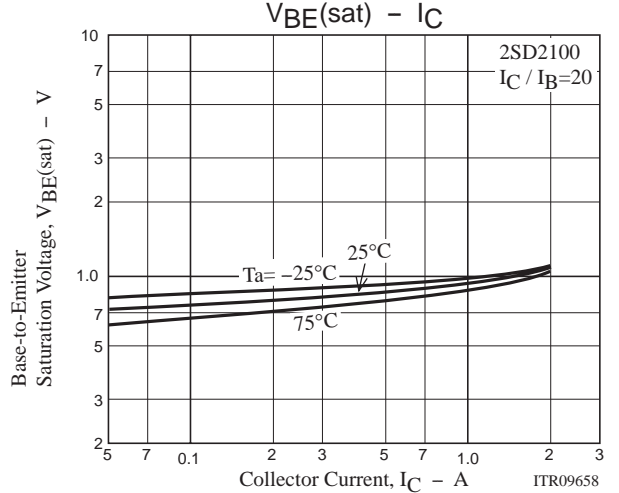
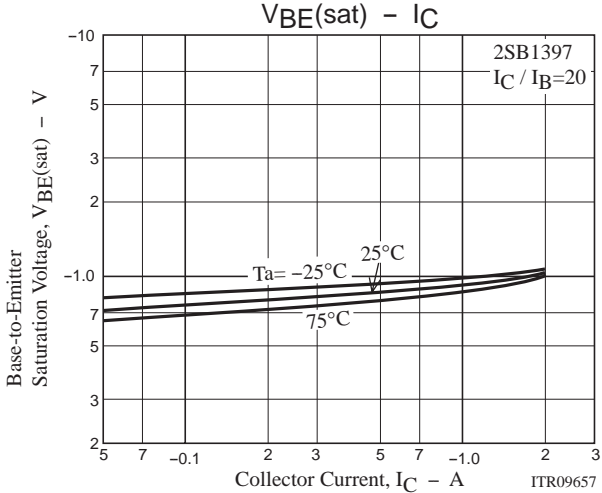
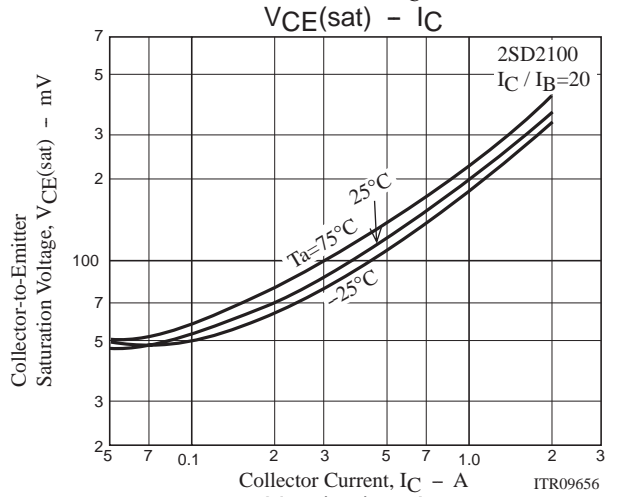
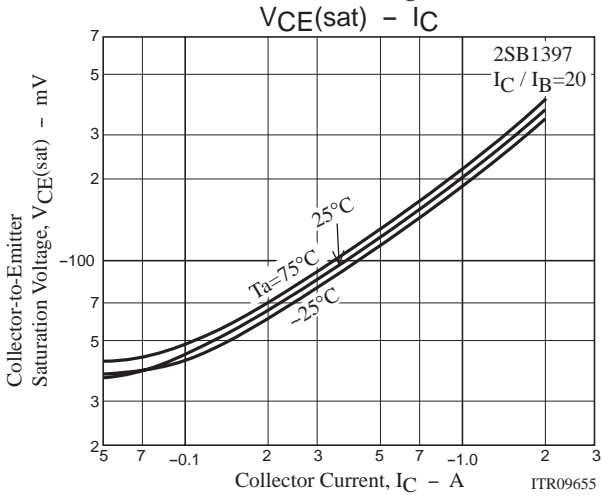
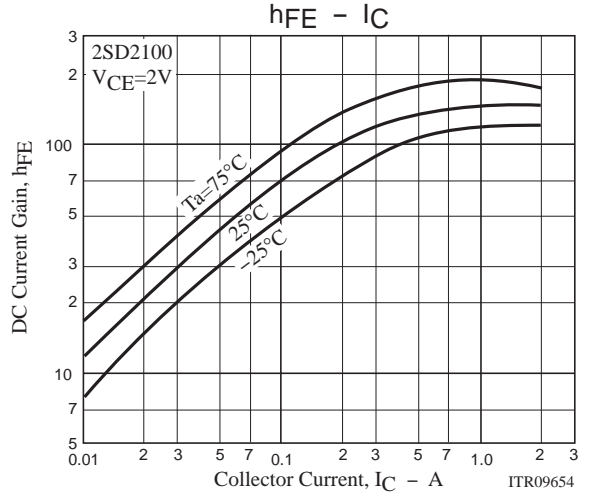
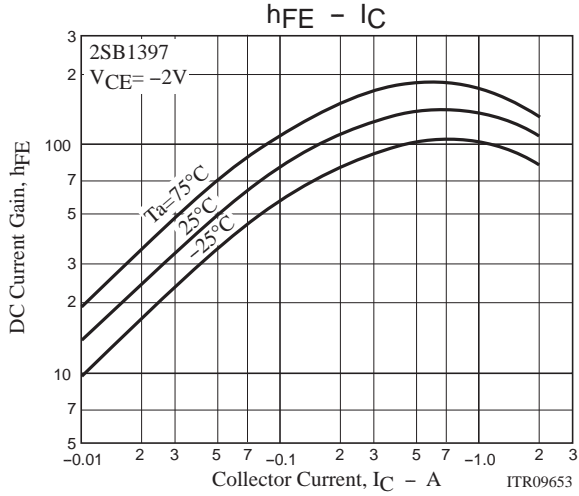
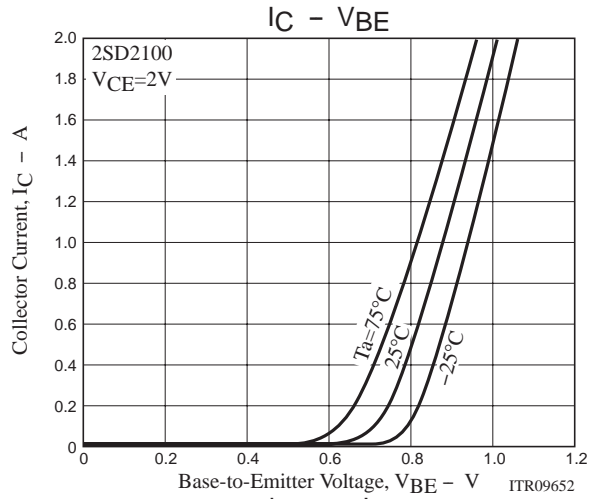
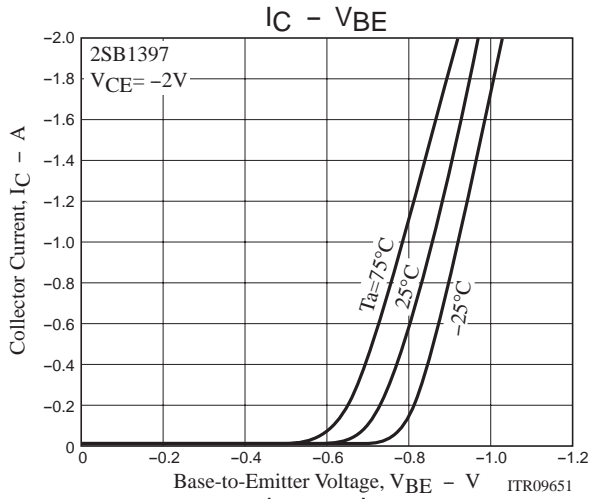
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7007A-004



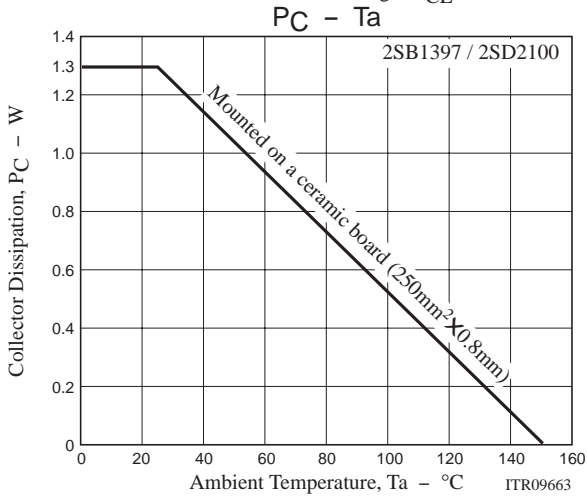
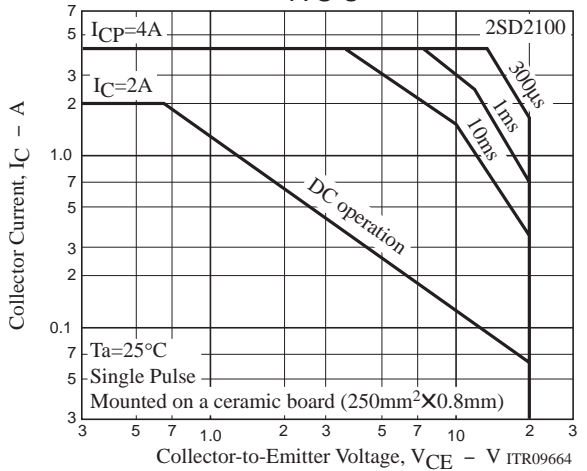
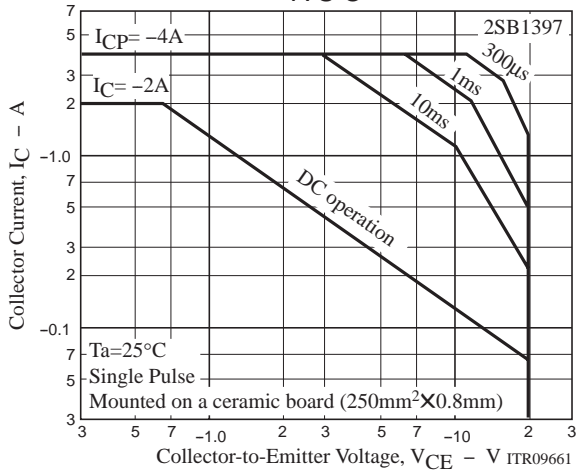
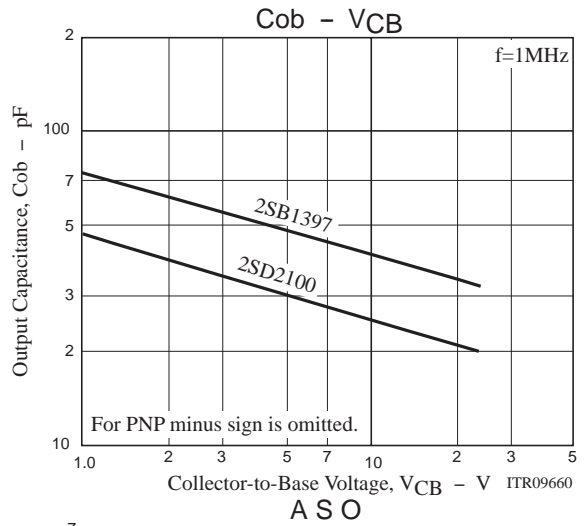
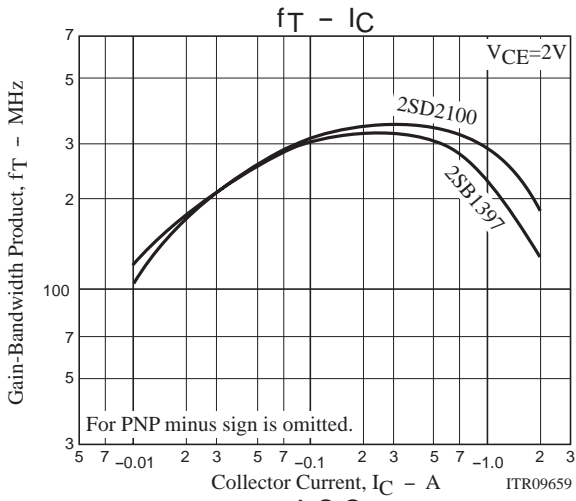
Electrical Connection



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