Ordering number: EN 3176A

SANYO

No.3176A

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 high-density, small-sized hybrid ICs.

( ) : 2SB1397

Absolute Maximum Ratings at Ta = 25°C

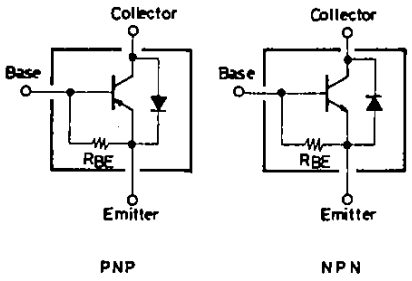
				unit
Collector to Base Voltage	V_{CBO}		(−)25	V
Collector to Emitter Voltage	V_{CEO}		(−)20	V
Emitter to Base Voltage	V_{EBO}		(−)6	V
Collector Current	I_C		(−)2	A
Collector Current(Pulse)	I_{CP}		(−)4	A
Collector Dissipation	P_C	Mounted on ceramic board (250mm² × 0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=(−)20V, I_E=0			(−)1.0	μA
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	f_T	V_{CE}=(−)2V, I_C=(−)0.5A		(300)200		MHz
Output Capacitance	Cob	V_{CB}=(−)10V, f=1MHz		(40)25		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=(−)1A, I_B=(−)50mA		(−)0.25	(−)0.5	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=(−)1A, I_B=(−)50mA			(−)1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=(−)10μA, I_E=0	(−)25			V
C-E Breakdown Voltage	$V_{(BR)CEO}(1)$	I_C=(−)10μA, R_{BE}=∞	(−)25			V
	$V_{(BR)CEO}(2)$	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

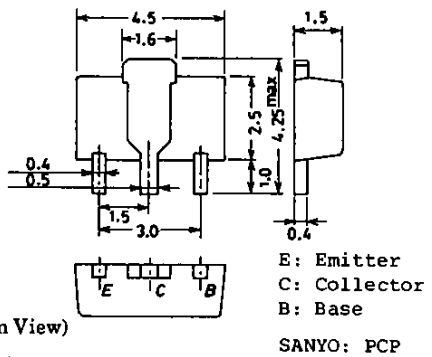
Marking 2SB1397 : BP
2SD2100 : DP

Electrical Connection



Package Dimensions 2038

(unit : mm)



(Bottom View)

E: Emitter
C: Collector
B: Base

SANYO: PCP

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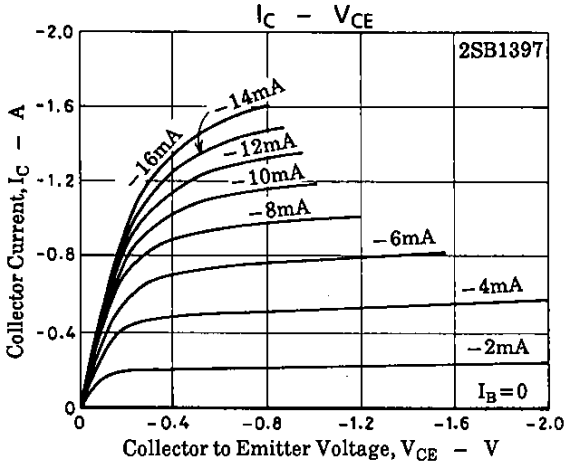
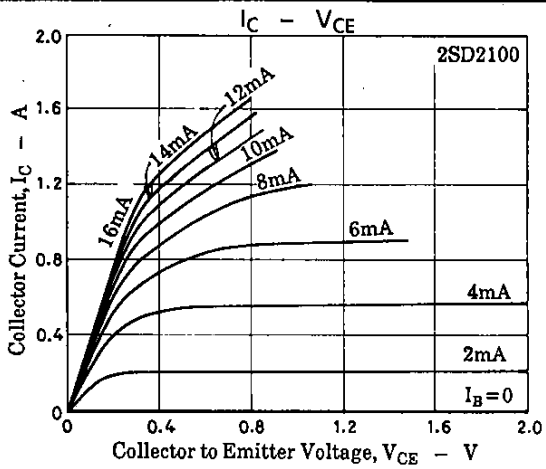
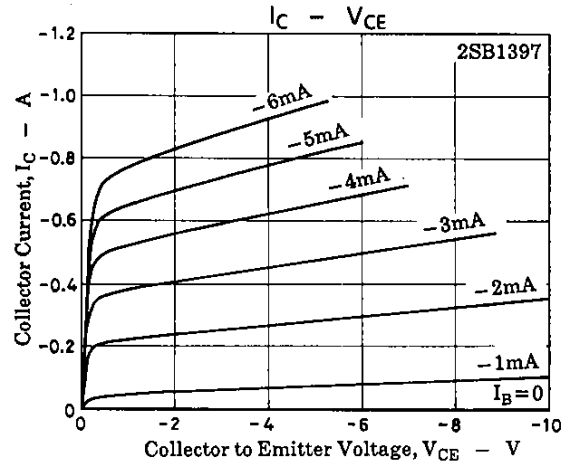
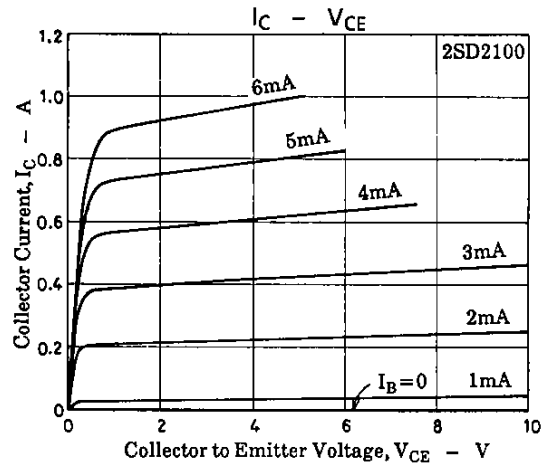
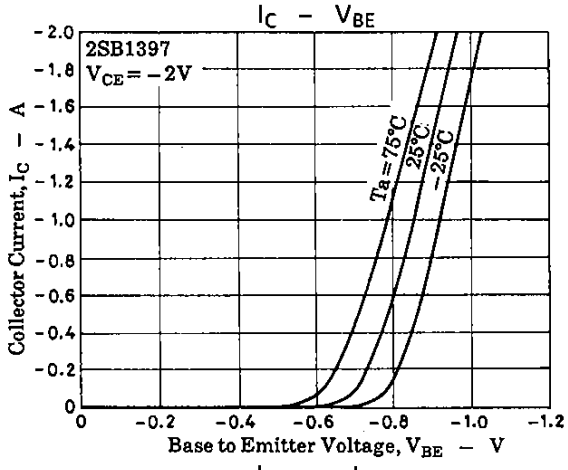
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

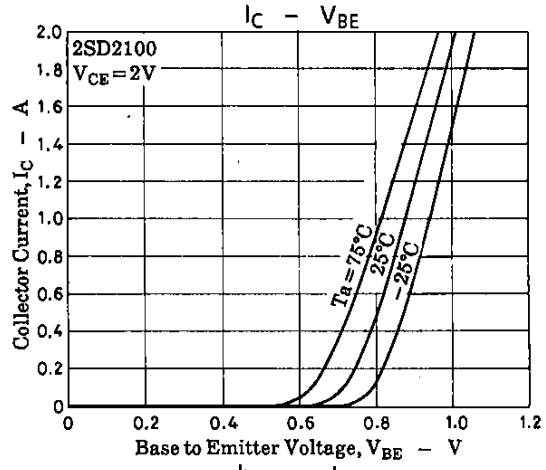


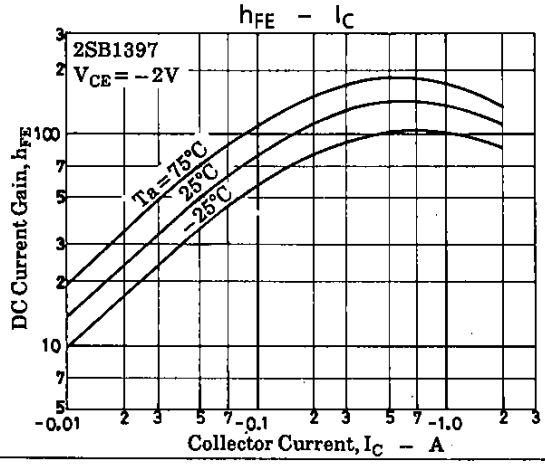


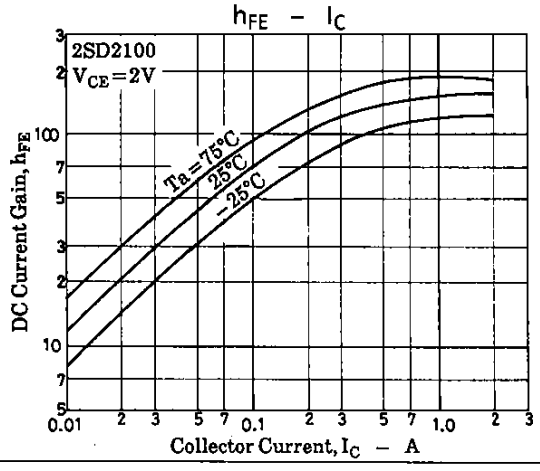




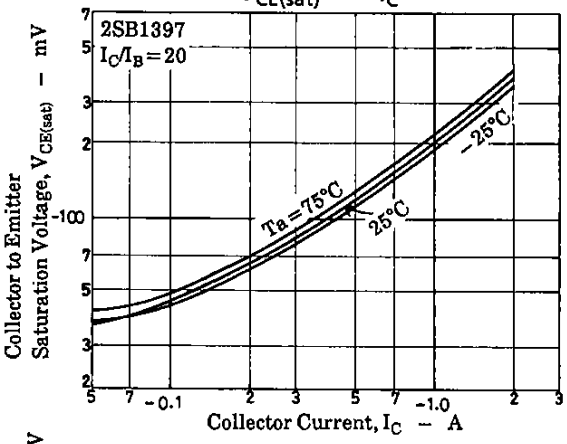








$V_{CE(sat)}$ – I_C



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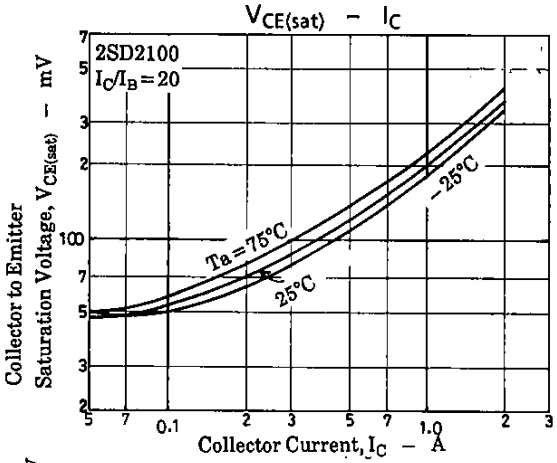
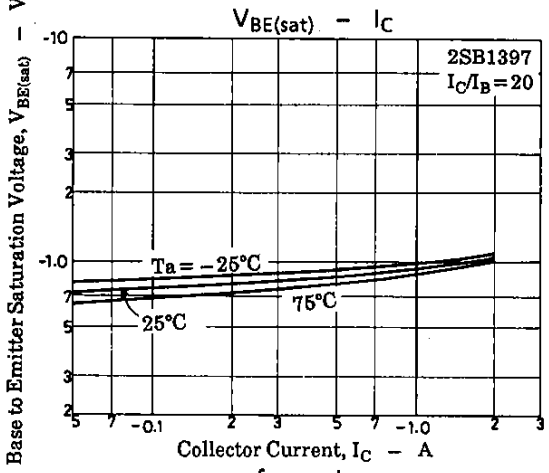
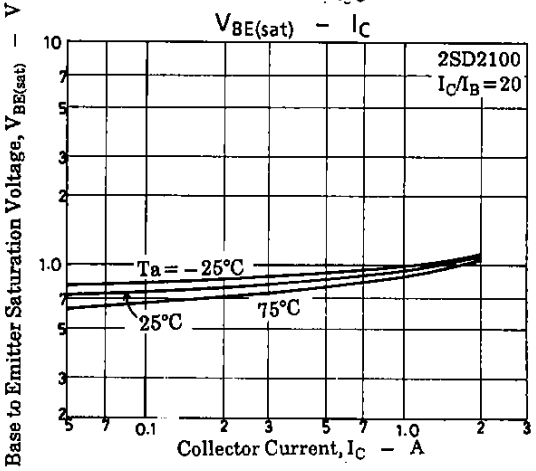


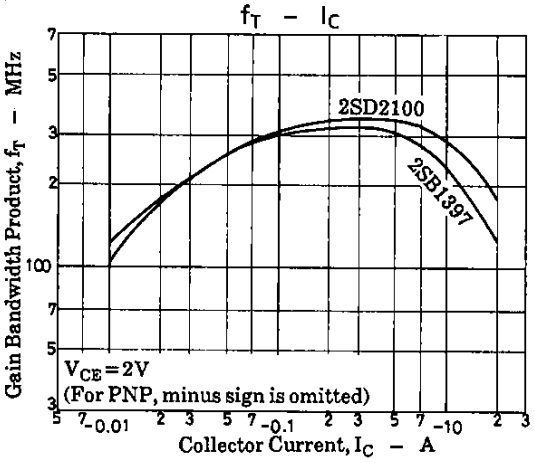
$V_{BE(sat)}$ – I_C



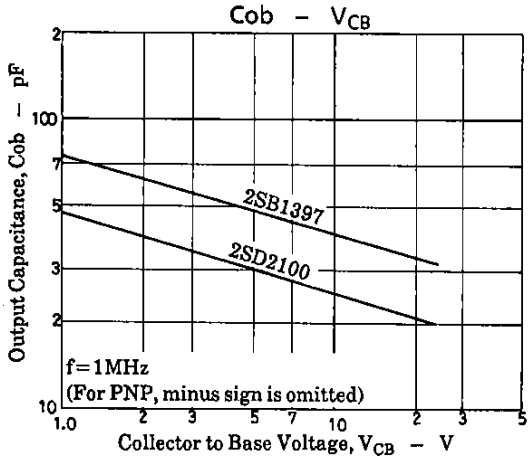
$V_{BE(sat)}$ – I_C



f_T – I_C



Cob – V_{CB}



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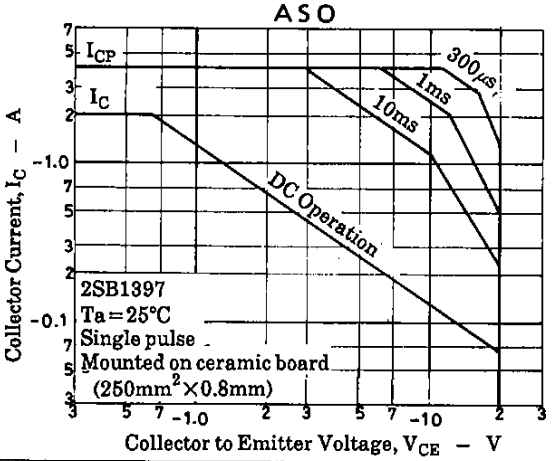

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