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| 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_{CB0} | (-)25 | V |
| Collector to Emitter Voltage | V_{CE0} | (-)20 | V |
| Emitter to Base Voltage | V_{EB0} | (-)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 × 0.8mm) | 1.3 | W |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature | T_{stg} | - 55 to + 150 | °C |

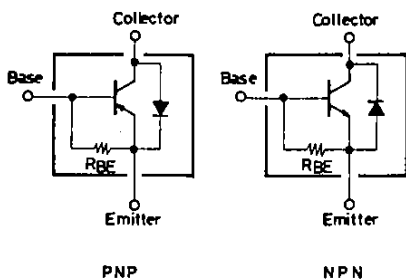
Electrical Characteristics at Ta = 25°C

| | | | min | typ | max | unit |
|----------------------------|------------------|-------------------------------------|-------|----------|--------|------------|
| Collector Cutoff Current | I_{CB0} | $V_{CB} = (-)20V, I_E = 0$ | | | (-)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 | C_{ob} | $V_{CB} = (-)10V, f = 1MHz$ | | (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 | $V_{(BR)CBO}$ | $I_C = (-)10\mu A, I_E = 0$ | (-)25 | | | V |
| C-E Breakdown Voltage | $V_{(BR)CEO(1)}$ | $I_C = (-)10\mu A, R_{BE} = \infty$ | (-)25 | | | V |
| | $V_{(BR)CEO(2)}$ | $I_C = (-)10mA, R_{BE} = \infty$ | (-)20 | | | V |
| Diode Forward Voltage | V_F | $I_F = 0.5A$ | | | (-)1.5 | V |
| Base to Emitter Resistance | R_{BE} | | | 1.6 | | k Ω |

Marking 2SB1397: BP

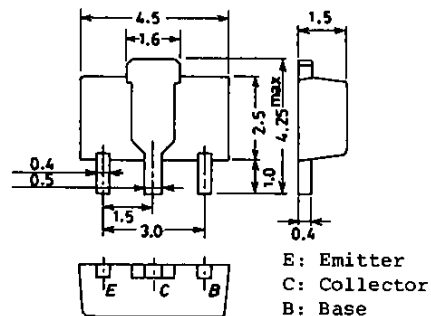
2SD2100: DP

Electrical Connection



Package Dimensions 2038

(unit: mm)



(Bottom View)

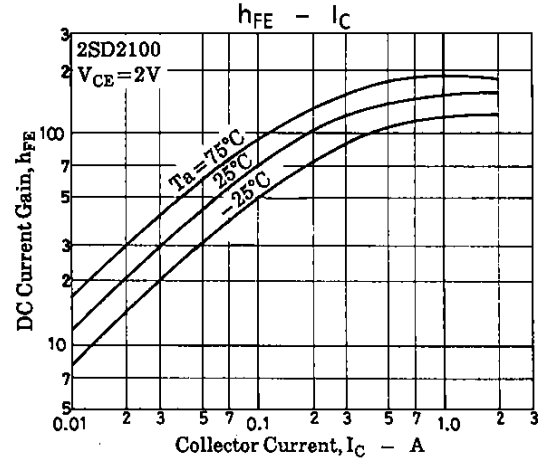
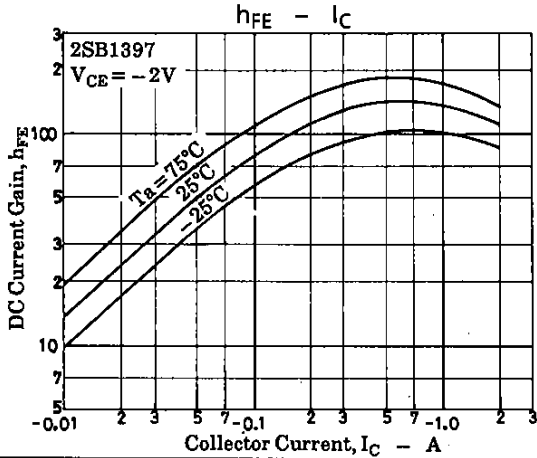
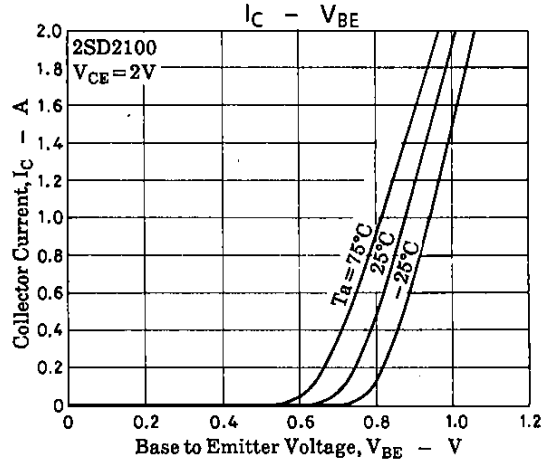
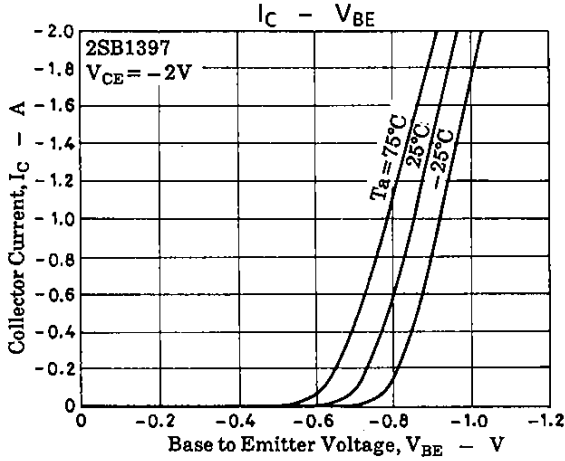
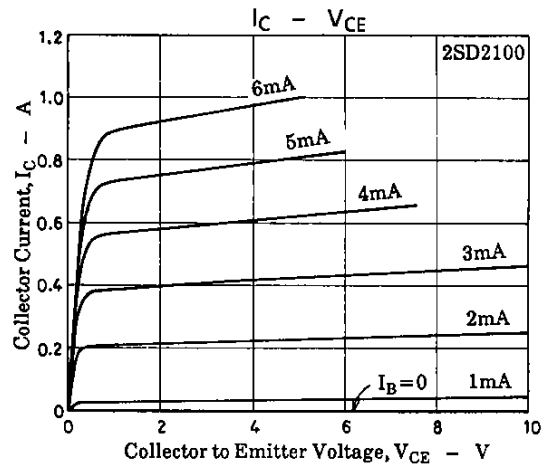
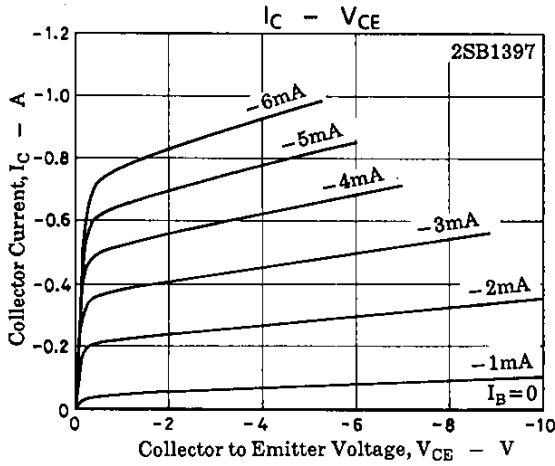
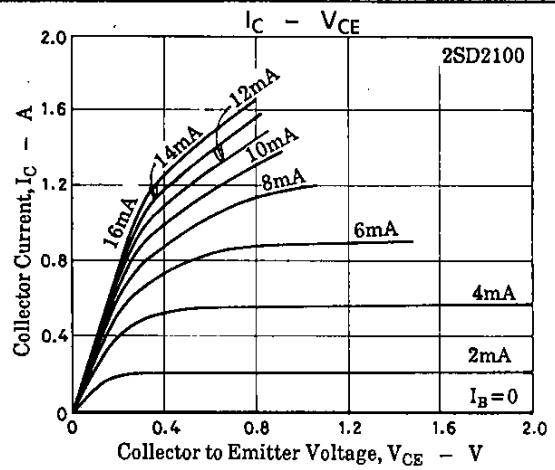
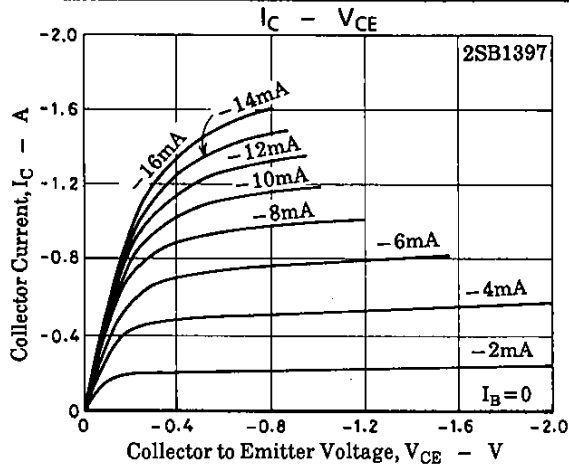
E: Emitter
C: Collector
B: Base

SANYO: PCP

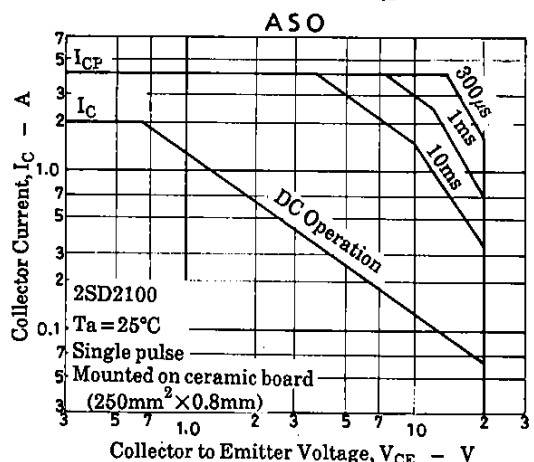
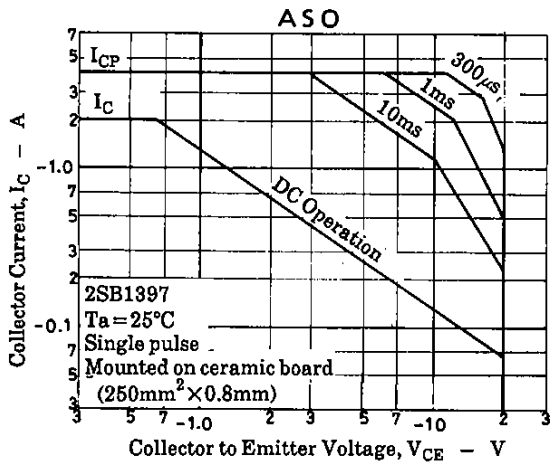
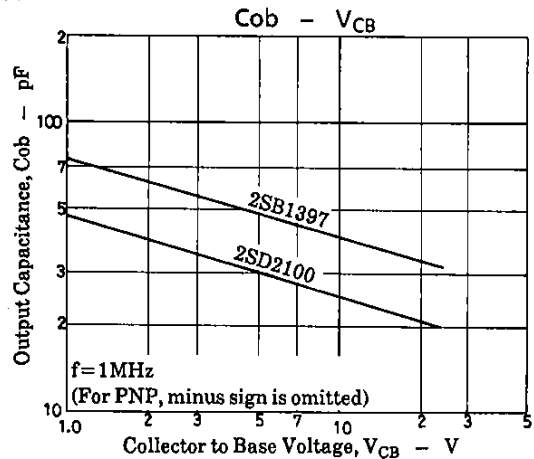
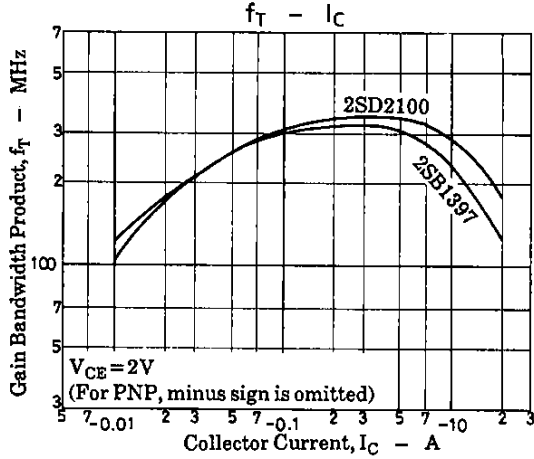
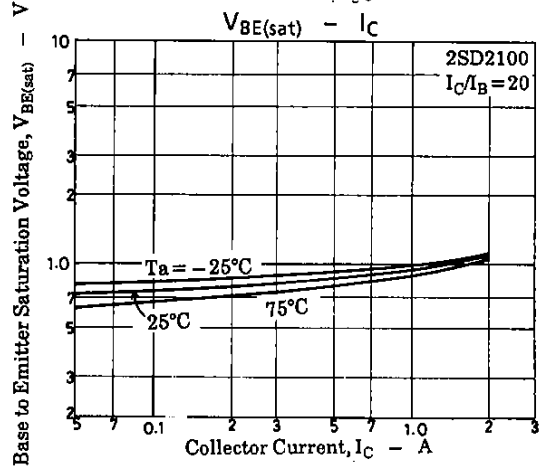
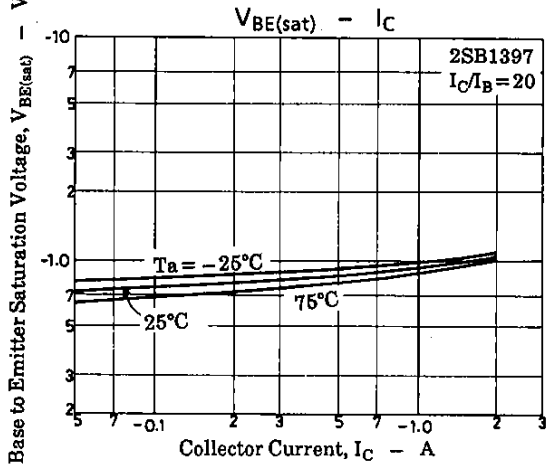
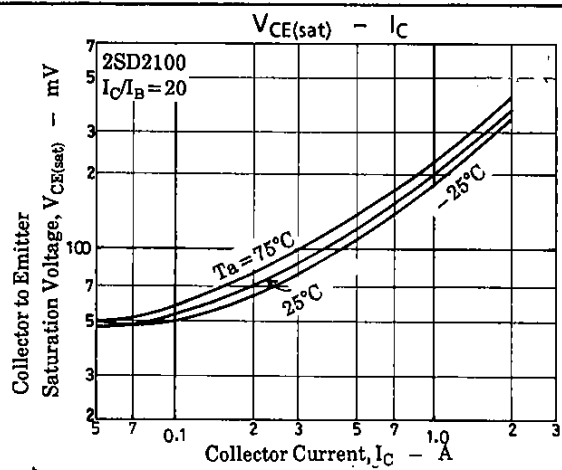
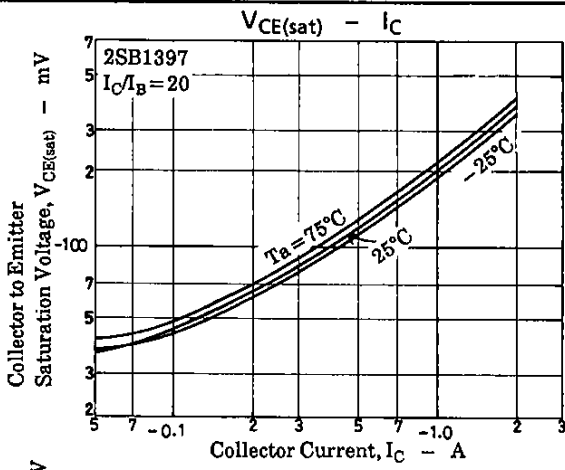
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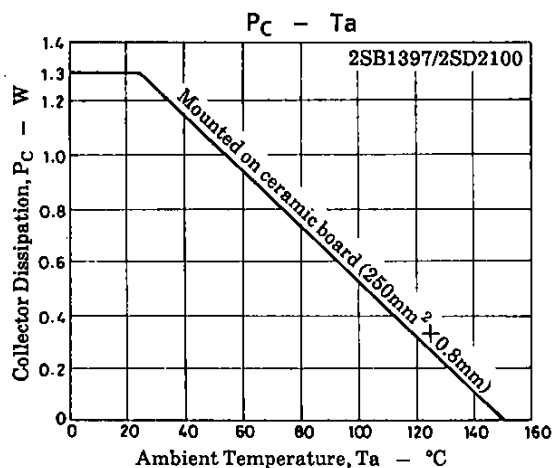
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2SB1397/2SD2100





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