



SANYO Semiconductors

DATA SHEET

2SB1230 / 2SD1840 — PNP / NPN Epitaxial Planar Silicon Transistors

High-Current Switching Applications

Applications

- Motor drivers, relay drivers, converters and other general high-current switching applications.

Features

- Large current capacity and wide ASO.
- Low saturation voltage.

Specifications () : 2SB1230

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|----------------------|-------------|------|
| Collector-to-Base Voltage | V _{CB0} | | (-)110 | V |
| Collector-to-Emitter Voltage | V _{CEO} | | (-)100 | V |
| Emitter-to-Base Voltage | V _{EBO} | | (-)6 | V |
| Collector Current | I _C | | (-)15 | A |
| Collector Current (Pulse) | I _{CP} | | (-)25 | A |
| Base Current | I _B | | (-)5 | A |
| Collector Dissipation | P _C | | 3.0 | W |
| | | T _C =25°C | 100 | 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} =(-)100V, I _E =0A | | | (-)0.1 | mA |
| Emitter Cutoff Current | I _{EBO} | V _{EB} =(-)5V, I _C =0A | | | (-)0.1 | mA |
| DC Current Gain | h _{FE1} | V _{CE} =(-)2V, I _C =(-)1.5A | 50* | | 140* | |
| | h _{FE2} | V _{CE} =(-)2V, I _C =(-)6A | 20 | | | |
| Collector-to-Emitter Saturation Voltage | V _{CE(sat)} | I _C =(-)6A, I _B =(-)0.6A | | | (-)0.8 | V |
| Base-to-Emitter Saturation Voltage | V _{BE(sat)} | I _C =(-)6A, I _B =(-)0.6A | | | (-)1.5 | V |

Continued on next page.

* : For the h_{FE1} of the 2SB1230 / 2SD1840, specify two ranks or more in principle.

| Rank | P | Q |
|-----------------|-----------|-----------|
| h _{FE} | 50 to 100 | 70 to 140 |

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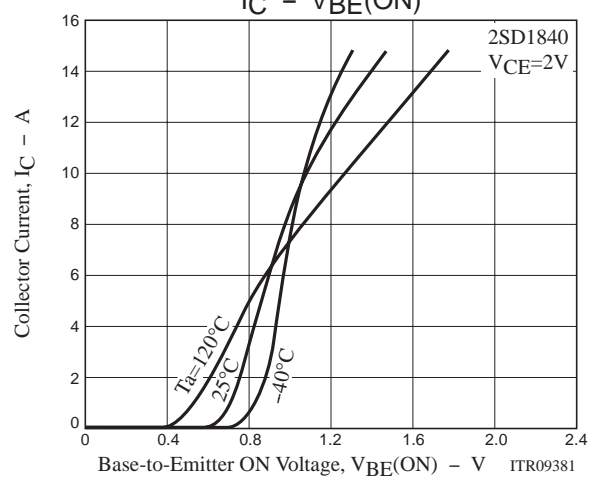
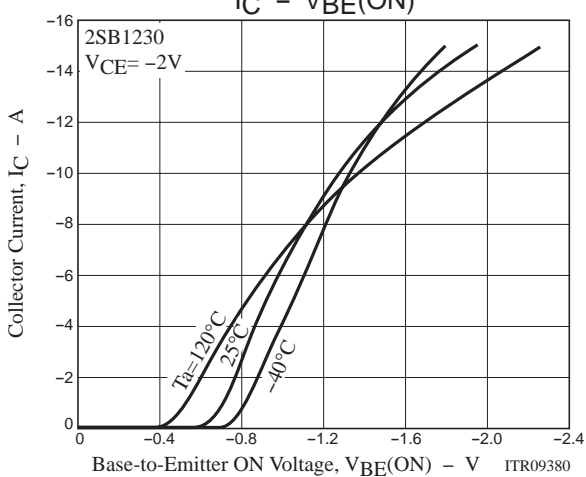
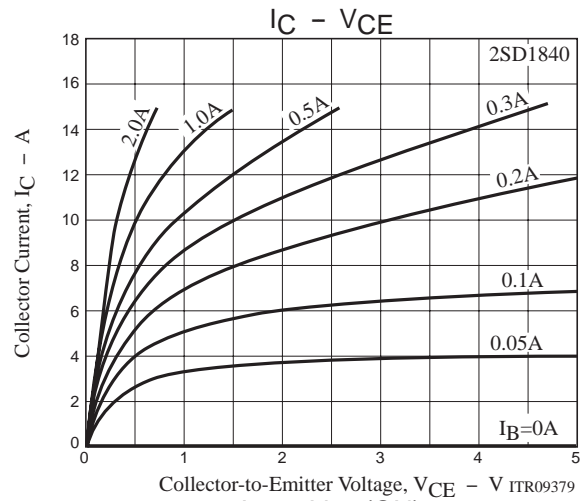
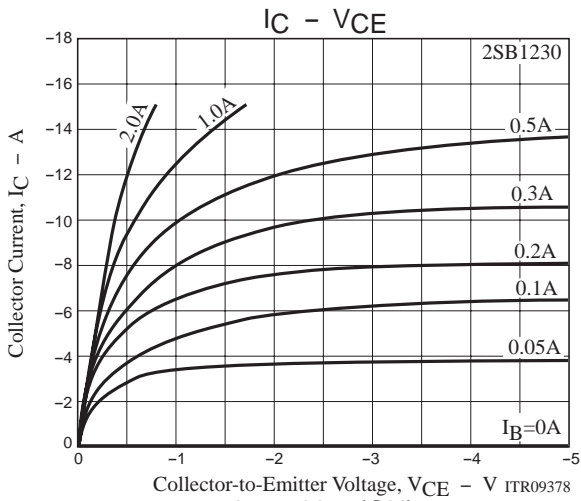
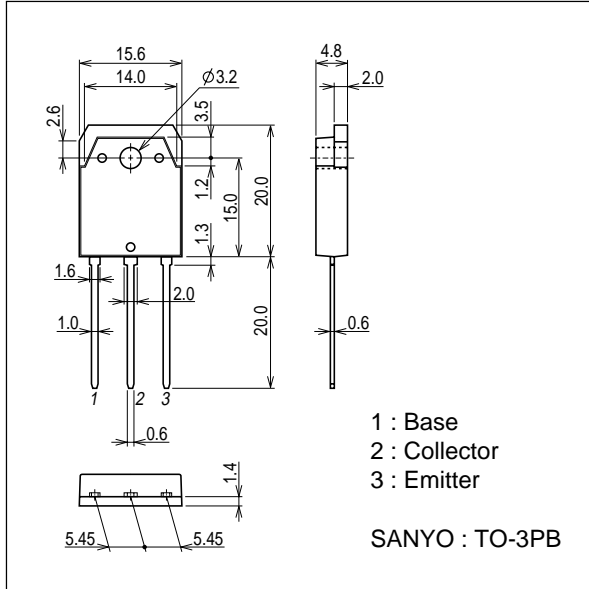
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|---------------------------------|---------|-----|-----|------|
| | | | min | typ | max | |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = (-)1mA, I_E = 0A$ | (-)110 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = (-)5mA, R_{BE} = \infty$ | (-)100 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = (-)1mA, I_C = 0A$ | (-)6 | | | V |

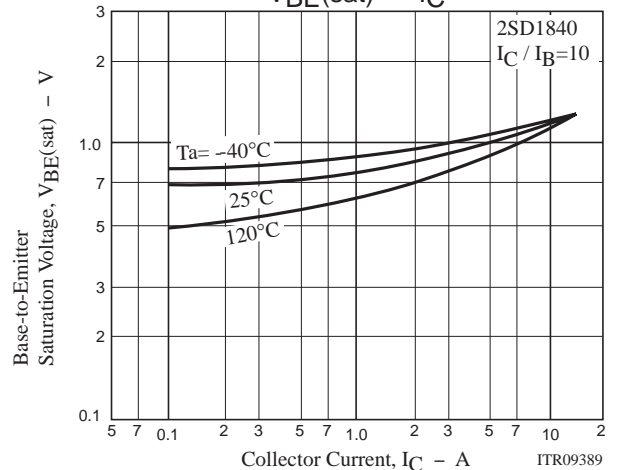
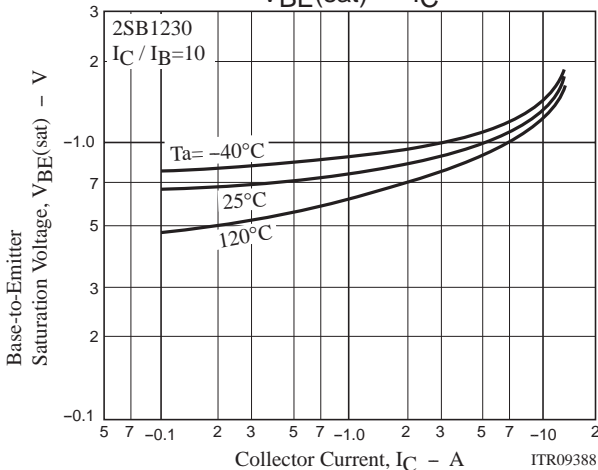
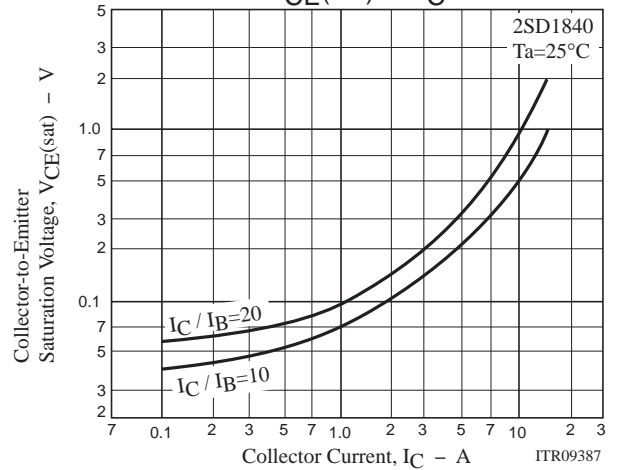
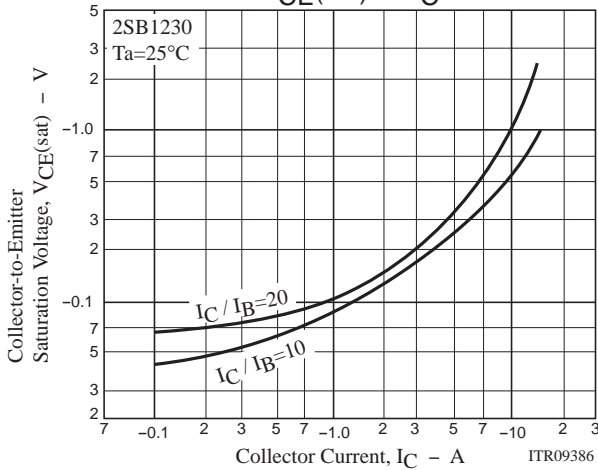
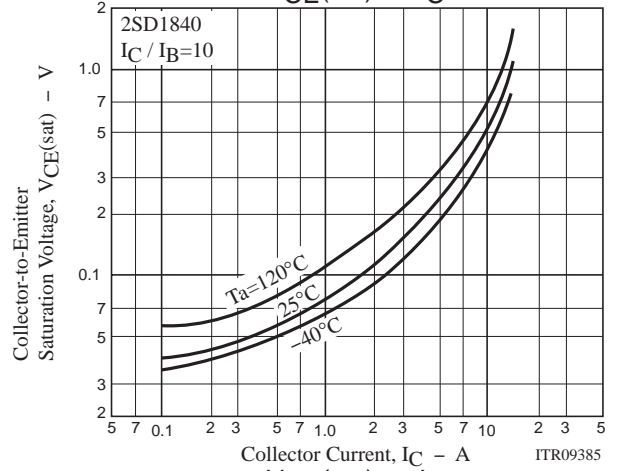
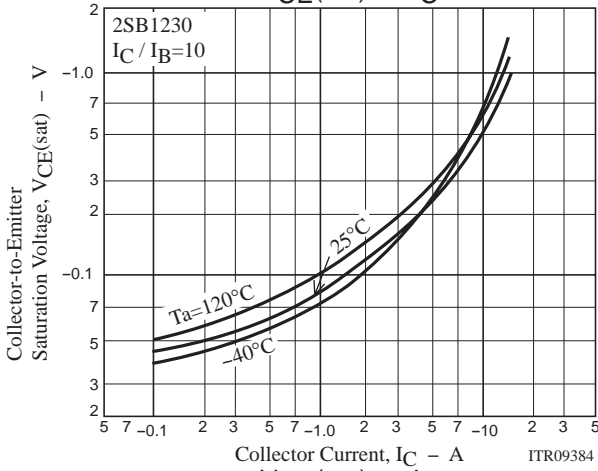
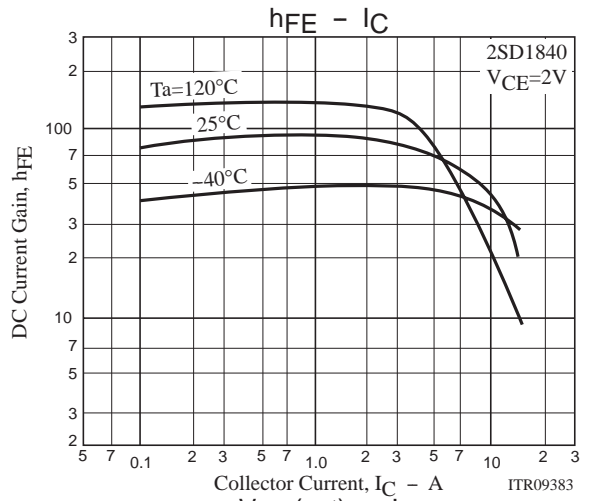
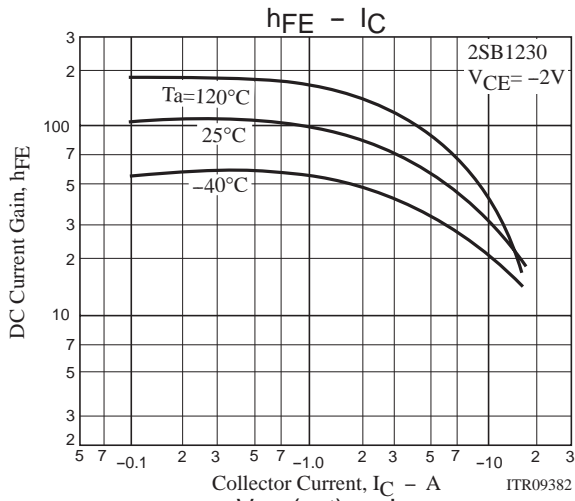
Package Dimensions

unit : mm

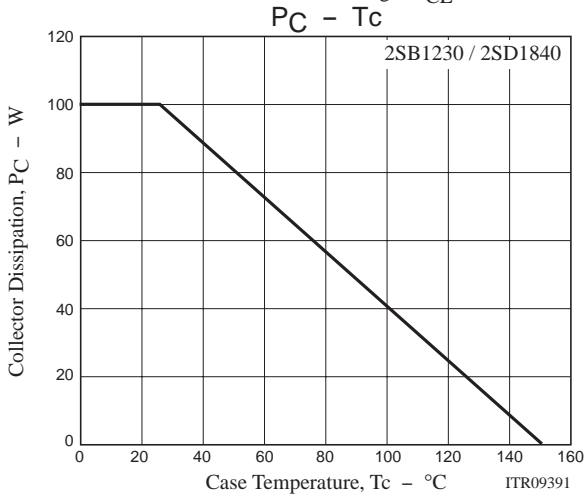
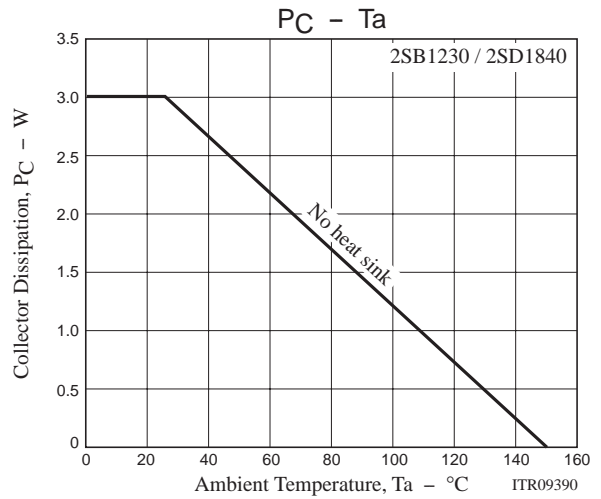
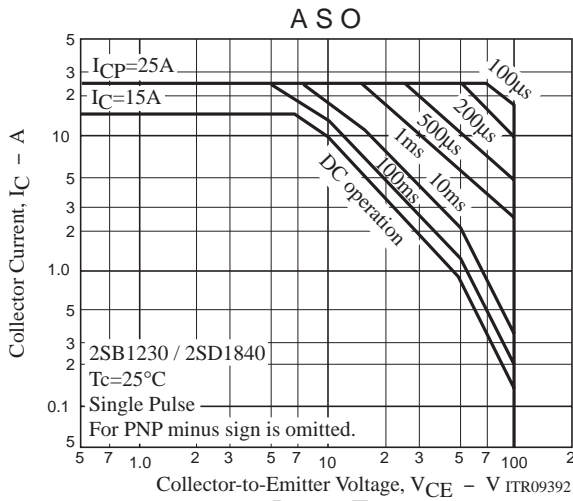
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