



2SB985/2SD1347

Large-Current Driving Applications

Applications

- Power supplies, relay drivers, lamp drivers, electrical equipment.

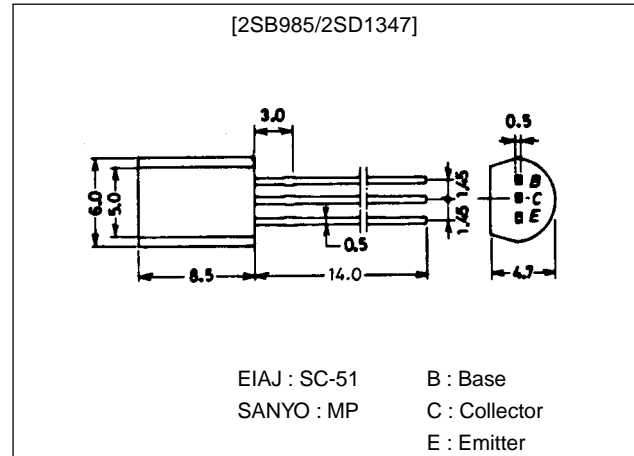
Features

- Adoption of FBET, MBIT processes.
- Low saturation voltage.
- Large current capacity and wide ASO.

Package Dimensions

unit:mm

2006A



() : 2SB985

Specifications

Absolute Maximum Ratings at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------|-------------|------|
| Collector-to-Base Voltage | V_{CB0} | | (-)60 | V |
| Collector-to-Emitter Voltage | V_{CE0} | | (-)50 | V |
| Emitter-to-Base Voltage | V_{EB0} | | (-)6 | V |
| Collector Current | I_C | | (-)3 | A |
| Collector Current (Pulse) | I_{CP} | | (-)6 | A |
| Collector Dissipation | P_C | | 1 | 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} | $V_{CB}=(-)40V, I_E=0$ | | | (-)1.0 | μA |
| Emitter Cutoff Current | I_{EB0} | $V_{EB}=(-)4V, I_C=0$ | | | (-)1.0 | μA |
| DC Current Gain | h_{FE1} | $V_{CE}=(-)2V, I_C=(-)100mA$ | 100* | | 560* | |
| | h_{FE2} | $V_{CE}=(-)2V, I_C=(-)3A$ | 40 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE}=(-)10V, I_C=(-)50mA$ | | 150 | | MHz |
| Common Base Output Capacitance | C_{ob} | $V_{CB}=(-)10V, f=1MHz$ | | 25(39) | | pF |

* : The 2SB985/2SD1347 are classified by 100mA h_{FE} as follows :

| | | | | | | | | | | | |
|-----|---|-----|-----|---|-----|-----|---|-----|-----|---|-----|
| 100 | R | 200 | 140 | S | 280 | 200 | T | 400 | 280 | U | 560 |
|-----|---|-----|-----|---|-----|-----|---|-----|-----|---|-----|

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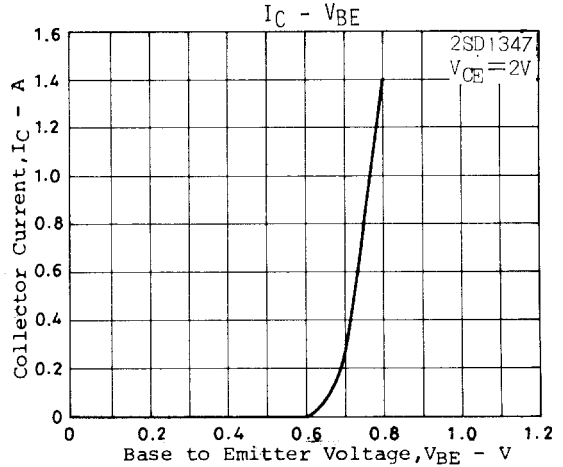
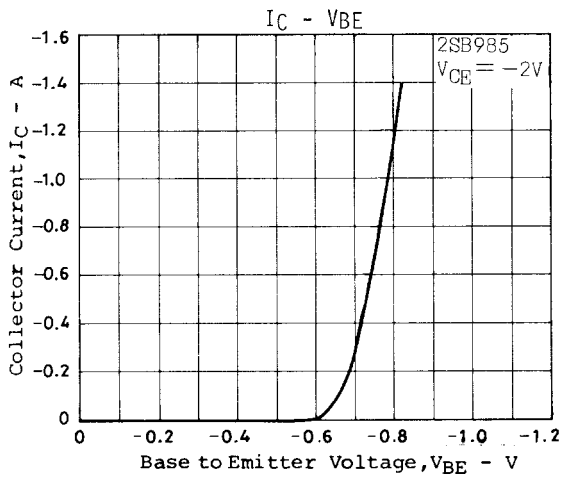
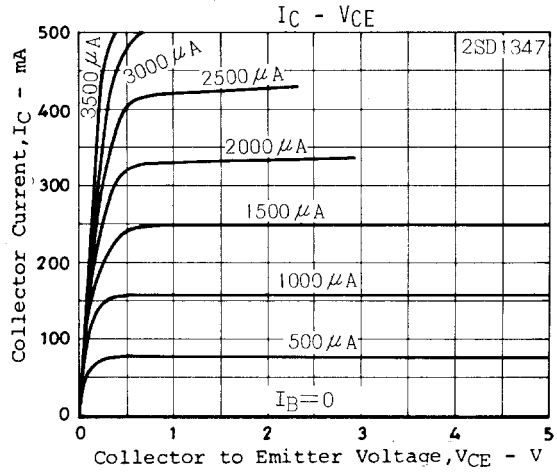
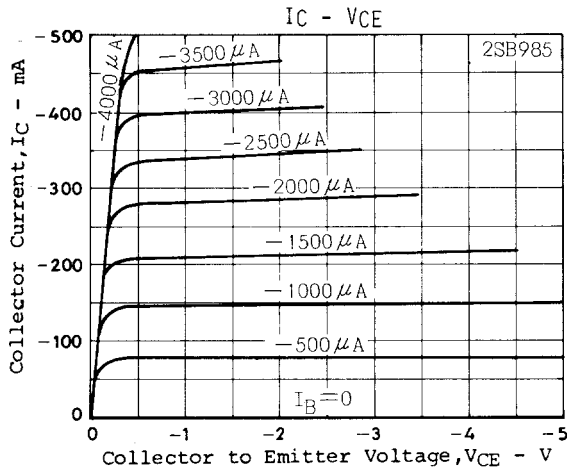
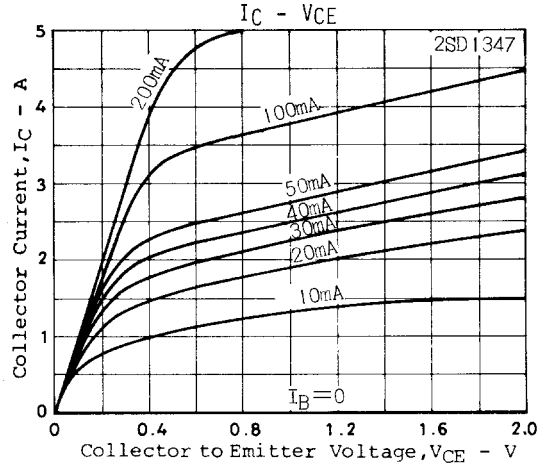
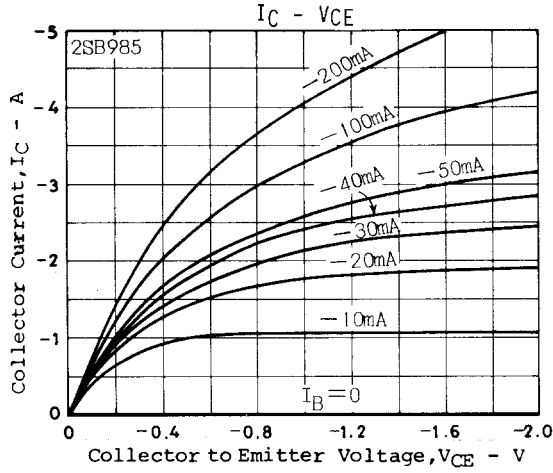
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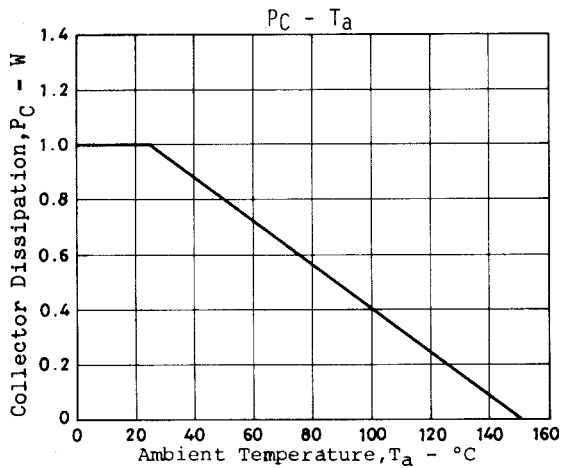
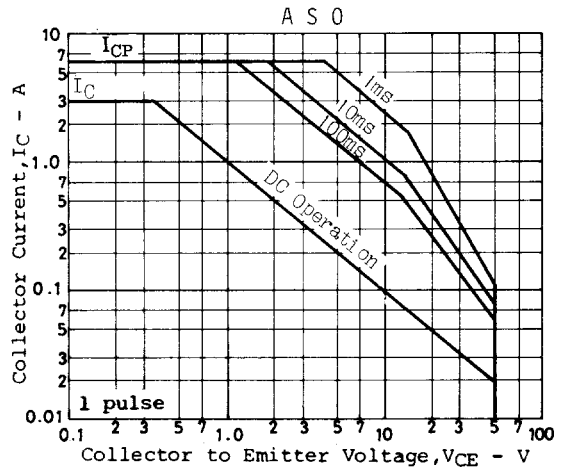
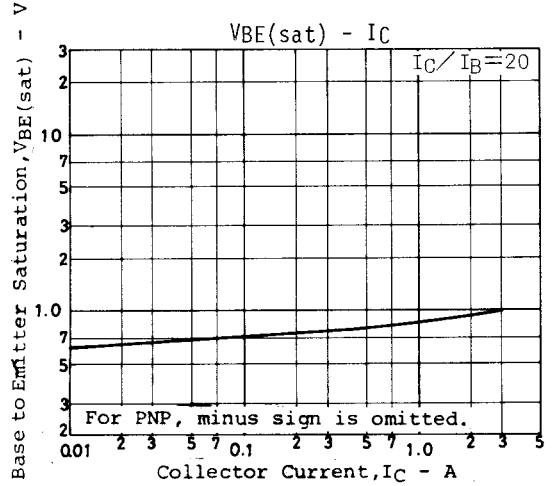
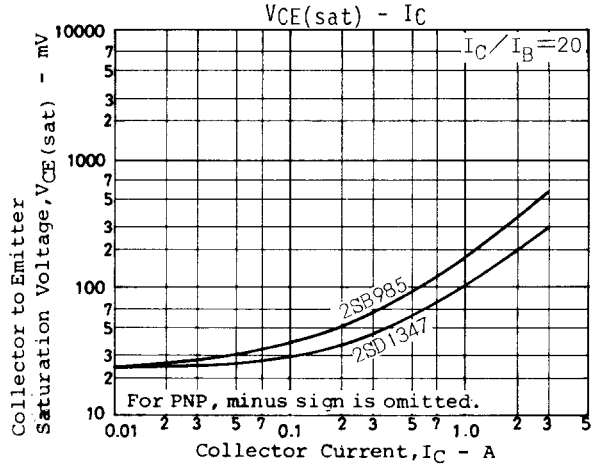
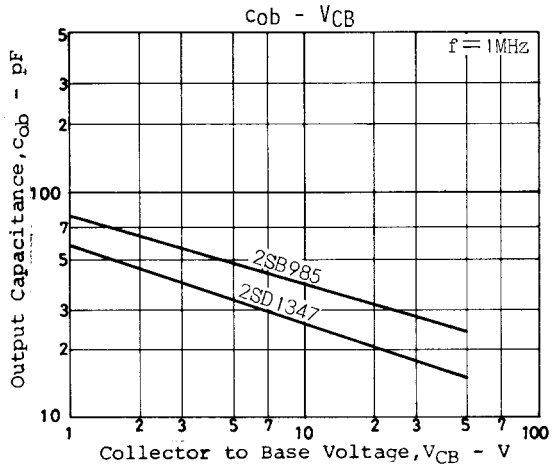
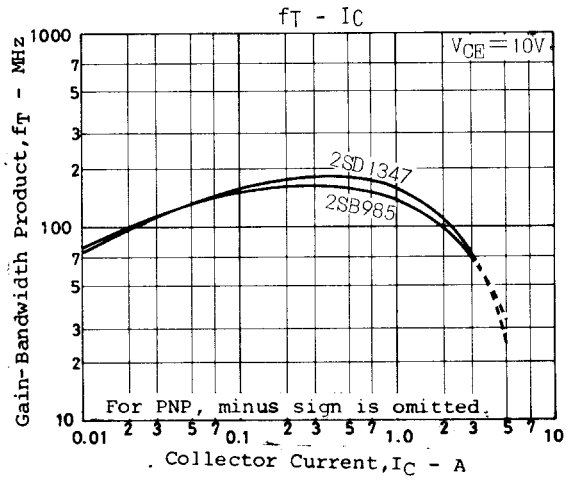
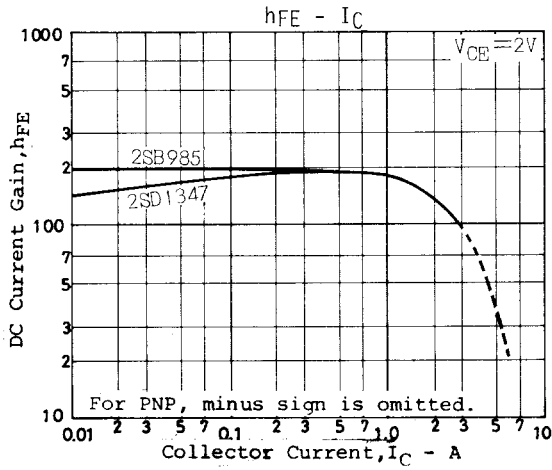
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2SB985/2SD1347

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|-----------------------------|---------|---------|--------|------|
| | | | min | typ | max | |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=(-)2A, I_B=(-)100mA$ | | 0.19 | 0.5 | V |
| | | | | (-0.35) | (-0.7) | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=(-)2A, I_B=(-)100mA$ | | (-0.94) | (-1.2) | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=(-)10\mu A, I_E=0$ | (-60) | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=(-)1mA, R_{BE}=\infty$ | (-50) | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=(-)10\mu A, I_C=0$ | (-6) | | | V |



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