



2SB826/2SD1062

50V/12A Switching Applications

Applications

- Relay drivers, high-speed inverters, converters, and other general high-current switching applications.

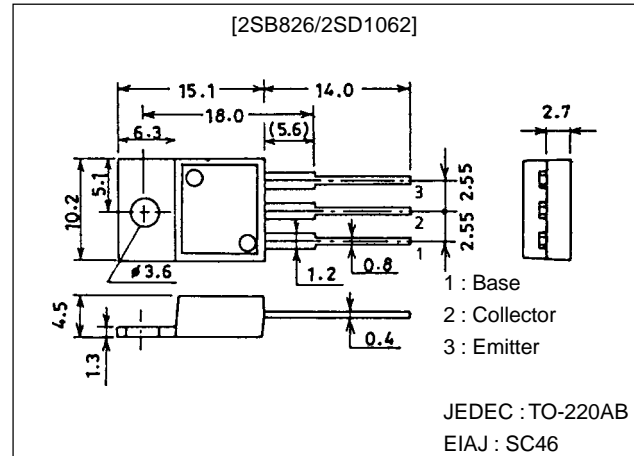
Features

- Low-saturation collector-to-emitter voltage :
 $V_{CE(sat)} = -0.5V$ (PNP), $0.4V$ (NPN) max.
- Wide ASO leading to high resistance to breakdown.

Package Dimensions

unit:mm

2010C



() : 2SB826

Specifications

Absolute Maximum Ratings at $T_a = 25^\circ C$

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------------|-------------|------------|
| Collector-to-Base Voltage | V_{CBO} | | (-60) | V |
| Collector-to-Emitter Voltage | V_{CEO} | | (-50) | V |
| Emitter-to-Base Voltage | V_{EBO} | | (-6) | V |
| Collector Current | I_C | | (-12) | A |
| Collector Current (Pulse) | I_{CP} | | (-15) | A |
| Collector Dissipation | P_C | $T_c=25^\circ C$ | 40 | W |
| Junction Temperature | T_J | | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ C$ |

Electrical Characteristics at $T_a = 25^\circ C$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--------------------------|-----------|-------------------------------|---------|-----|--------|------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB} = (-)40V, I_E = 0$ | | | (-0.1) | mA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = (-)4V, I_C = 0$ | | | (-0.1) | mA |
| DC Current Gain | h_{FE1} | $V_{CE} = (-)2V, I_C = (-)1A$ | 70* | | 280* | |
| | h_{FE2} | $V_{CE} = (-)2V, I_C = (-)5A$ | 30 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE} = (-)5V, I_C = (-)1A$ | | 10 | | MHz |

* : The 2SB826/2SD1062 are classified by $1A h_{FE}$ as follows :

| | | | | | | | | |
|----|---|-----|-----|---|-----|-----|---|-----|
| 70 | Q | 140 | 100 | R | 200 | 140 | S | 280 |
|----|---|-----|-----|---|-----|-----|---|-----|

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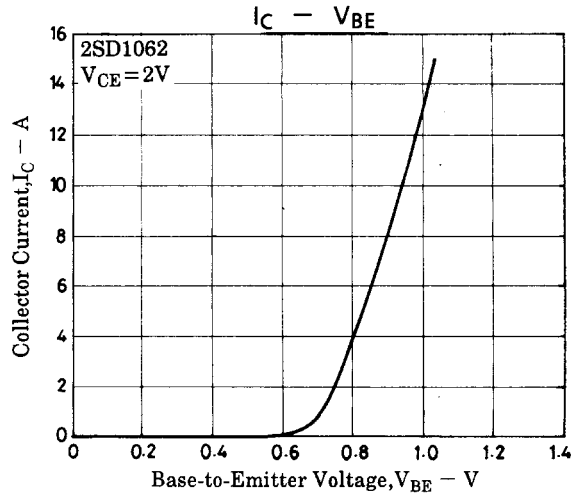
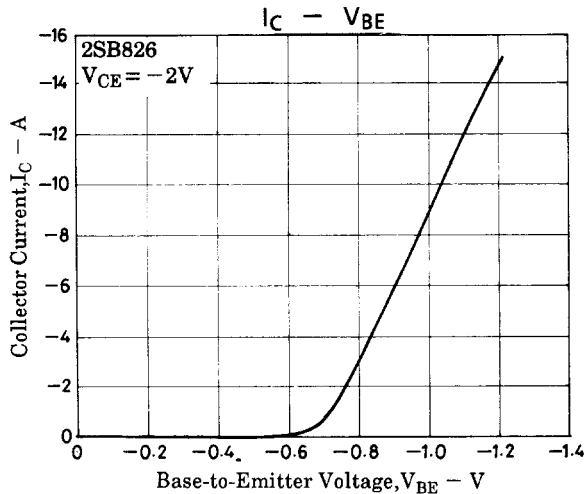
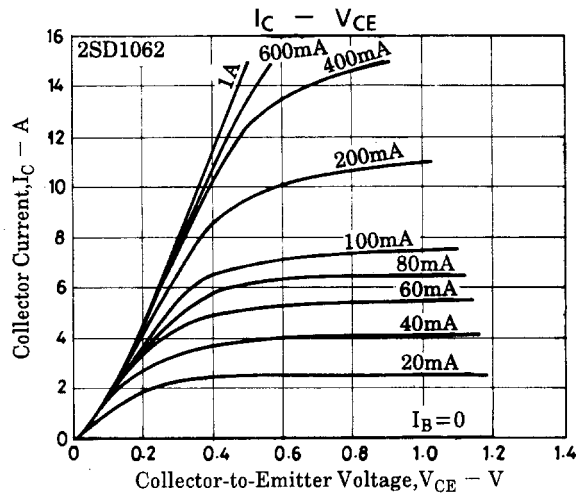
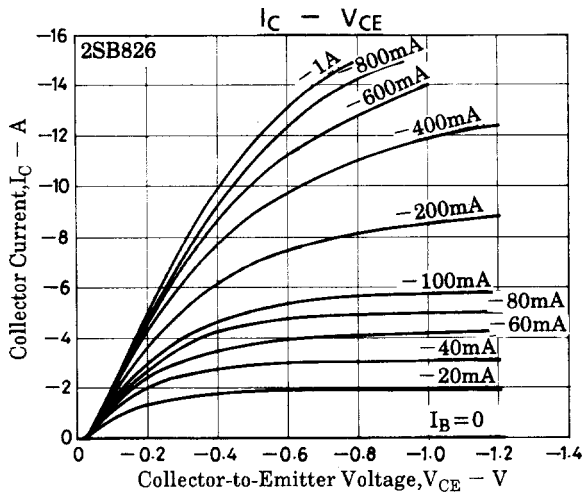
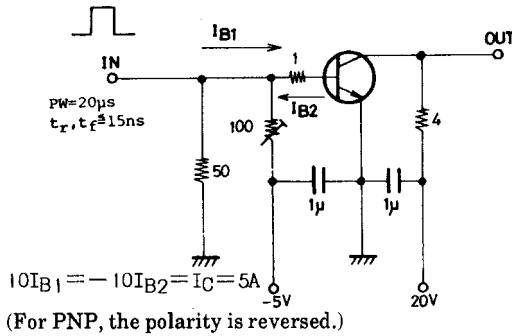
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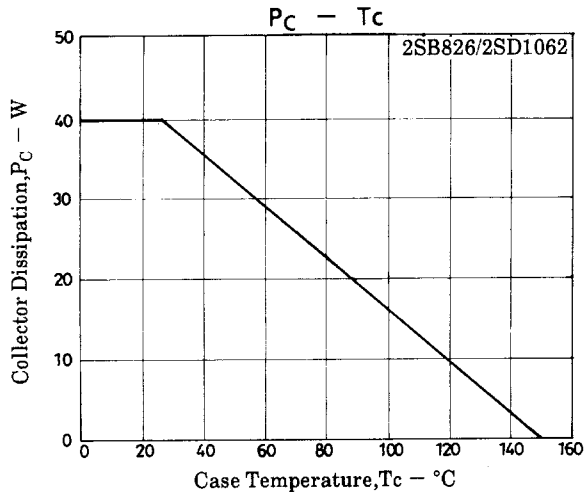
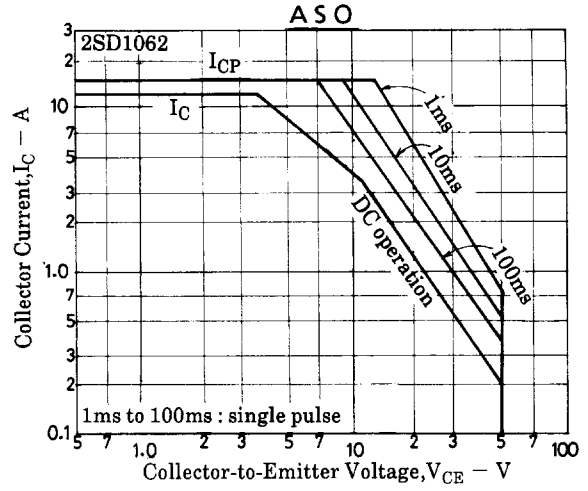
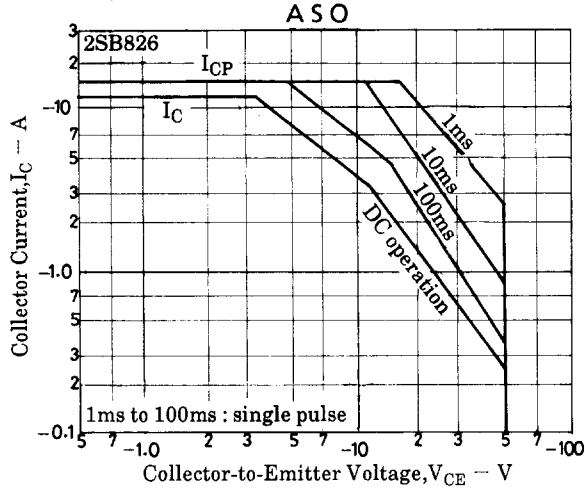
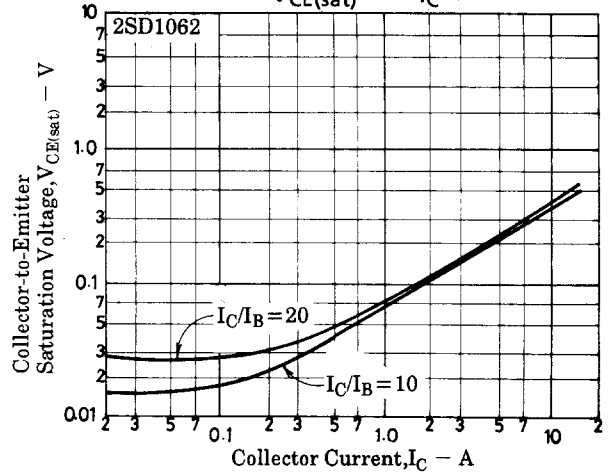
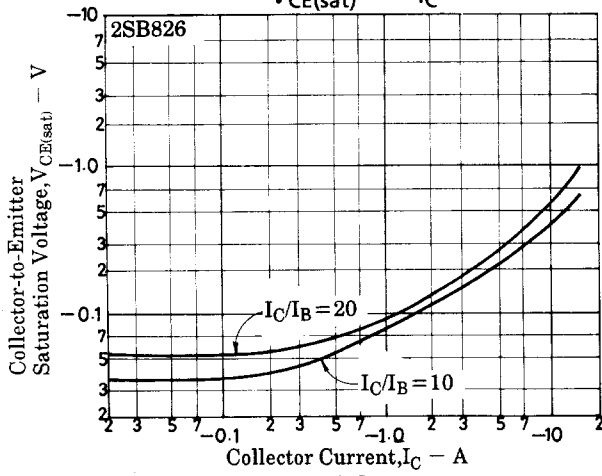
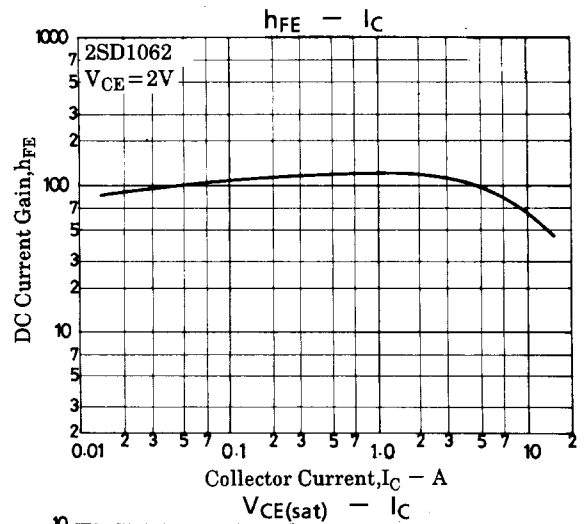
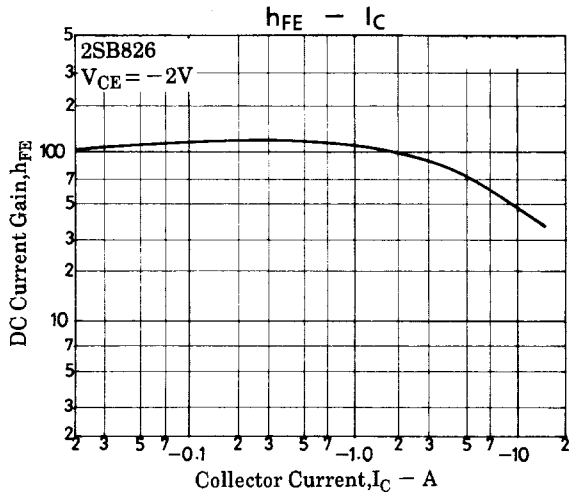
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|-----------------------------|---------|-------|--------|---------|
| | | | min | typ | max | |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=(-)6A, I_B=(-)0.3A$ | | | 0.4 | V |
| | | | | | (-0.5) | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=(-)1mA, I_E=0$ | (-60) | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=(-)1mA, R_{BE}=\infty$ | (-50) | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=(-)1mA, I_C=0$ | (-6) | | | V |
| Turn-ON Time | t_{on} | See specified test circuit. | | (0.2) | | μs |
| | | | | | 0.1 | μs |
| Fall Time | t_f | See specified test circuit. | | (0.4) | | μs |
| | | | | | 1.2 | μs |
| Storage Time | t_{stg} | See specified test circuit. | | (0.1) | | μs |
| | | | | | 0.05 | μs |

Switching Time Test Circuit



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