

SANYO

No.825C

2SB829/2SD1065

PNP/NPN Epitaxial Planar Silicon Transistors

50V/15A Switching Applications

Applications

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

Features

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

() : 2SB829

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

| | | | 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 | (-)15 | A |
| Collector Current (Pulse) | I_{CP} | (-)20 | A |
| Collector Dissipation | P_C | 90 | W |
| Junction Temperature | T_j | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | -55 to +150 | $^\circ C$ |

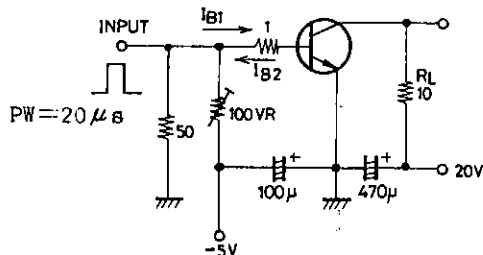
$T_c = 25^\circ C$

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

| | | | min | typ | max | unit |
|--------------------------|---------------|---------------------------------|-------|---------|--------|---------|
| 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 | $h_{FE(1)}$ | $V_{CE} = (-)2V, I_C = (-)1A$ | 70* | | 280* | |
| | $h_{FE(2)}$ | $V_{CE} = (-)2V, I_C = (-)8A$ | 30 | | | |
| Gain Bandwidth Product | f_T | $V_{CE} = (-)5V, I_C = (-)1A$ | | 20 | | MHz |
| C-E Saturation Voltage | $V_{CE(sat)}$ | $I_C = (-)8A, I_B = (-)0.4A$ | | (-0.26) | (-0.5) | V |
| | | | | 0.18 | 0.4 | |
| C-B Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = (-)1mA, I_E = 0$ | (-)60 | | | V |
| C-E Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = (-)1mA, R_{BE} = \infty$ | (-)50 | | | V |
| E-B Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = (-)1mA, I_C = 0$ | (-)6 | | | V |
| Rise Time | t_{on} | See specified Test Circuit. | | 0.2 | | μs |
| Storage Time | t_{stg} | " | (0.5) | 1.0 | | μs |
| Fall Time | t_f | " | | 0.1 | | μs |

* : The 2SB829/2SD1065 are classified by 1A h_{FE} as follows :

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

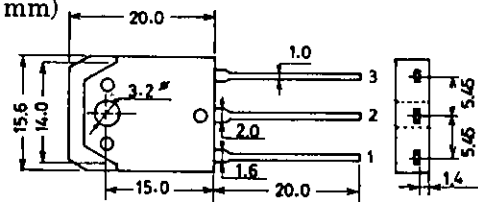
Switching Time Test Circuit

$$10I_{B1} = -10I_{B2} = I_C = 2A$$

(For PNP, the polarity is reversed.)

Unit (Resistance : Ω , Capacitance : F)**Package Dimensions 2022A**

(unit : mm)

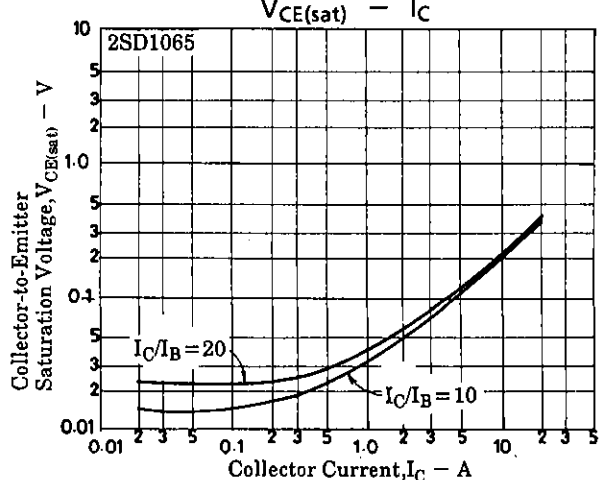
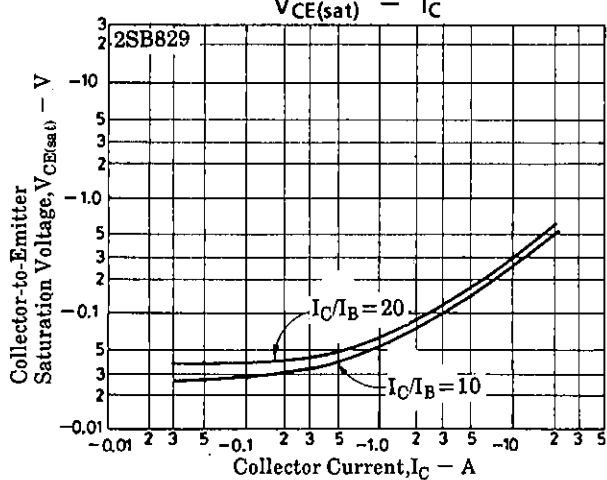
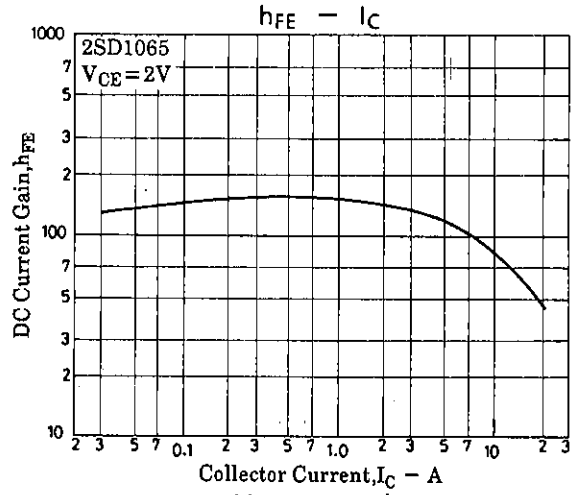
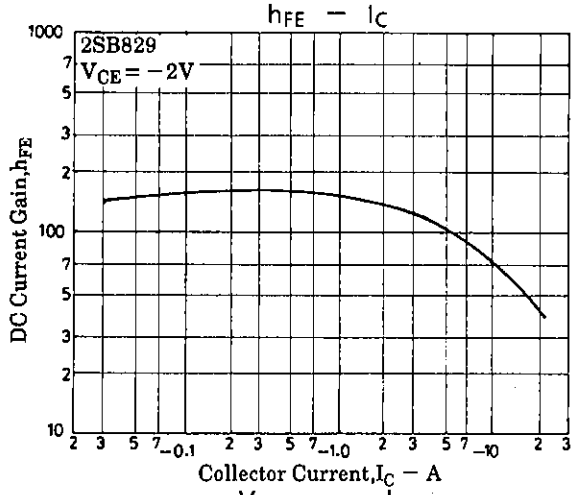
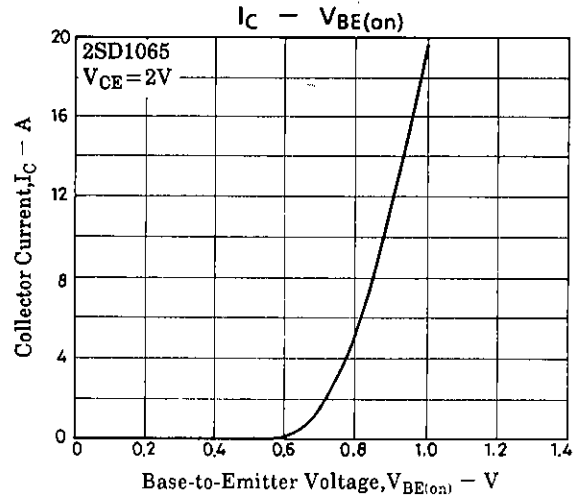
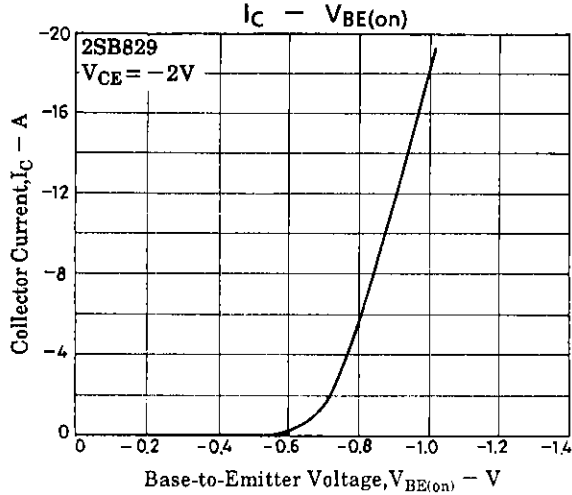
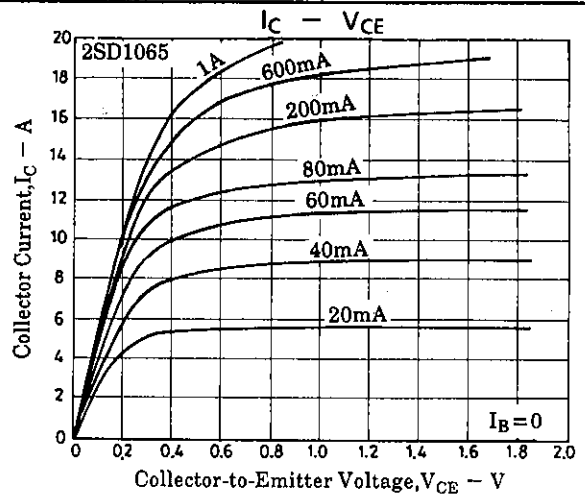
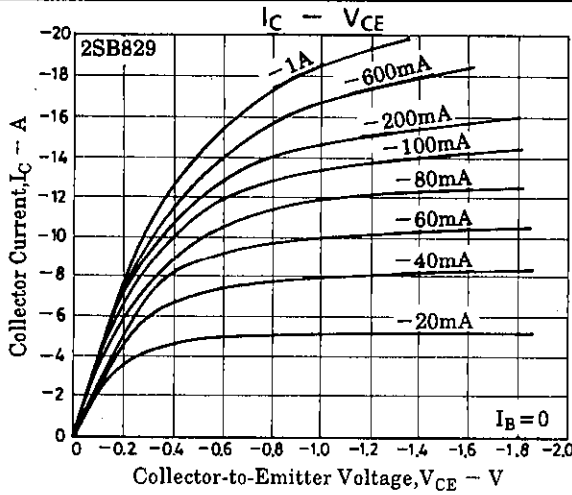


1 : Base
2 : Collector
3 : Emitter
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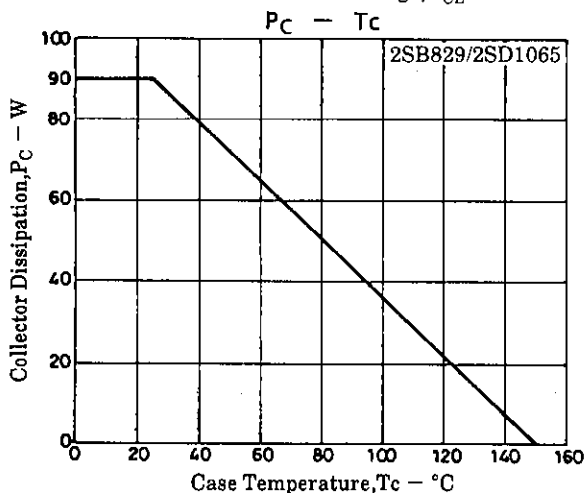
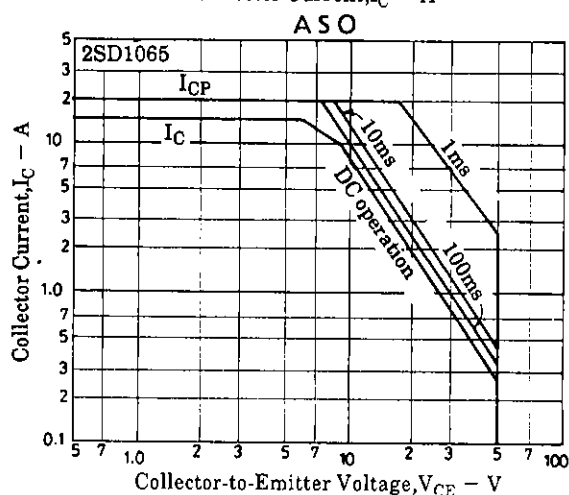
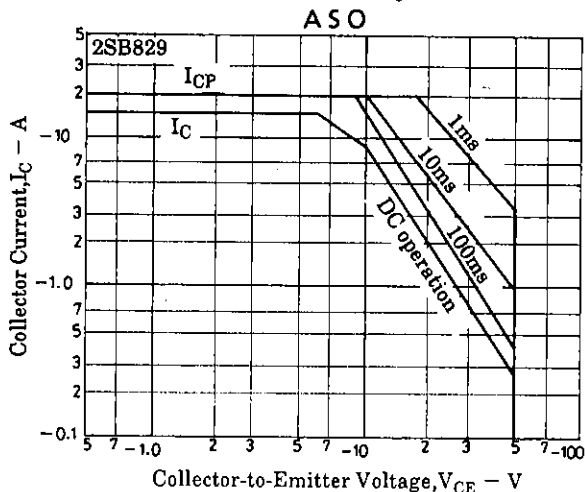
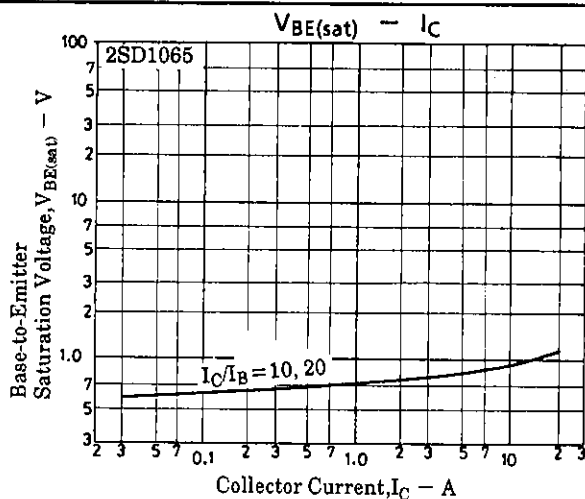
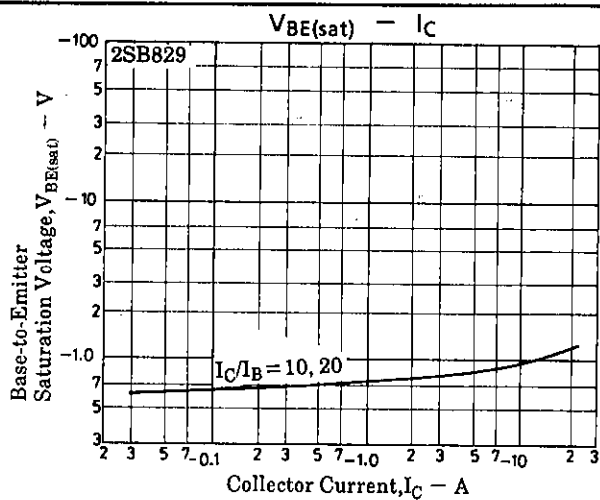
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