

SANYO

No.3151

2SB1451/2SD2200

PNP/NPN Epitaxial Planar Silicon Transistors

80V/5A Switching Applications

Features

- Surface mount type device making the following possible
 - Reduction in the number of manufacturing processes for 2SB1451/2SD2200-applied equipment
 - High density surface mount applications
 - Small size of 2SB1451/2SD2200-applied equipment
- Low collector-to-emitter saturation voltage
- Large current capacity

() : 2SB1451

Absolute Maximum Ratings at Ta = 25°C

| | | | unit |
|------------------------------|------------------|-------------|------|
| Collector-to-Base Voltage | V _{CBO} | (-)90 | V |
| Collector-to-Emitter Voltage | V _{CEO} | (-)80 | V |
| Emitter-to-Base Voltage | V _{EBO} | (-)6 | V |
| Collector Current | I _C | (-)5 | A |
| Collector Current(Pulse) | I _{CP} | (-)9 | A |
| Collector Dissipation | P _C | 1.65 | W |
| | | 30 | W |
| | | 150 | °C |
| Junction Temperature | T _j | | |
| Storage Temperature | T _{stg} | -55 to +150 | °C |

T_c = 25°C

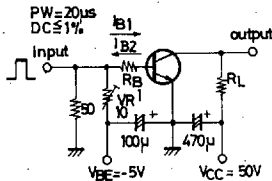
Electrical Characteristics at Ta = 25°C

| | | | min | typ | max | unit |
|--------------------------|----------------------|--|-------|----------|--------|------|
| Collector Cutoff Current | I _{CBO} | V _{CB} = (-)80V, 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 = (-)3A | 30 | | | |
| Gain-Bandwidth Product | f _T | V _{CE} = (-)5V, I _C = (-)1A | | 20 | | MHz |
| C-E Saturation Voltage | V _{CE(sat)} | I _C = (-)3A, I _B = (-)0.3A | | | 0.4 | V |
| | | | | | (-0.5) | |
| C-B Breakdown Voltage | V _{(BR)CBO} | I _C = (-)1mA, I _E = 0 | (-)90 | | | V |
| C-E Breakdown Voltage | V _{(BR)CEO} | I _C = (-)1mA, R _{BE} = ∞ | (-)80 | | | V |
| E-B Breakdown Voltage | V _{(BR)EBO} | I _E = (-)1mA, I _C = 0 | (-)6 | | | V |
| Turn-ON Time | t _{on} | See specified Test Circuit. | | (0.2)0.1 | | μs |
| Storage Time | t _{stg} | " | | (0.7)1.2 | | μs |
| Fall Time | t _f | " | | (0.2)0.4 | | μs |

* : The 2SB1451/2SD2200 are classified by 1A h_{FE} as follows:

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

Switching Time Test Circuit



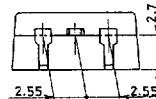
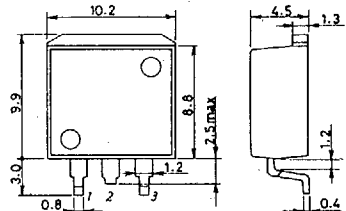
10 I_{B1} = 10 I_{B2} = I_C = 2A

For PNP, the polarity is reversed.

Unit (Resistance : Ω, Capacitance : F)

Package Dimensions 2069B

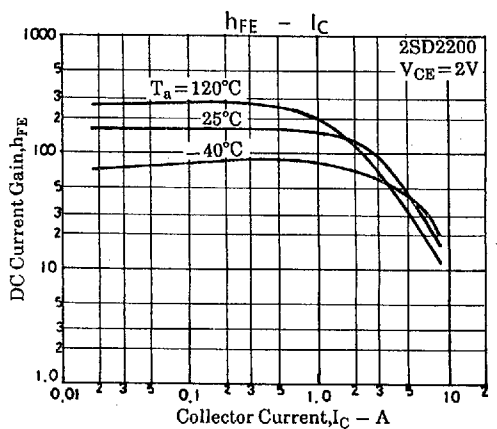
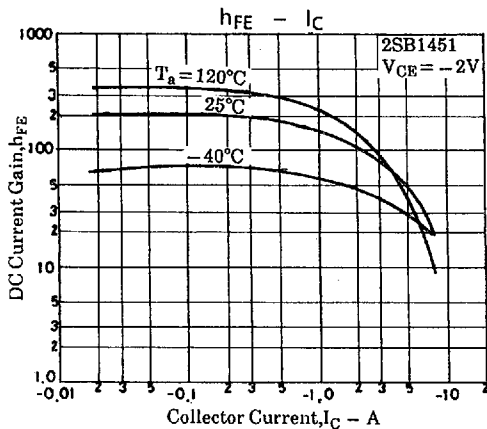
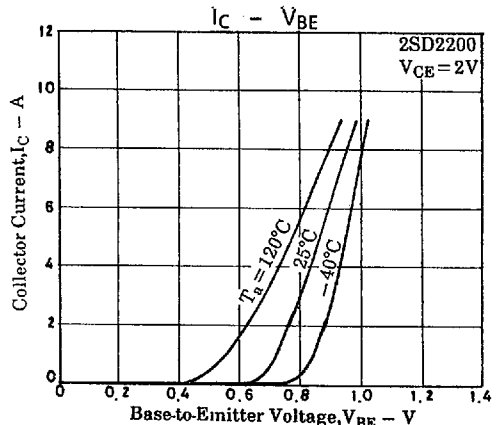
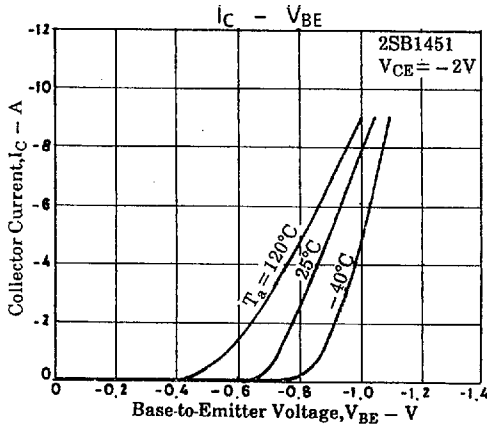
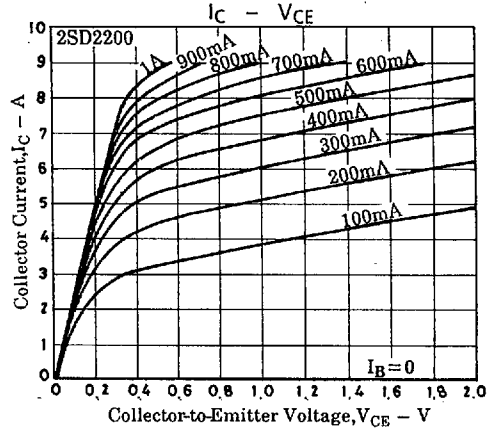
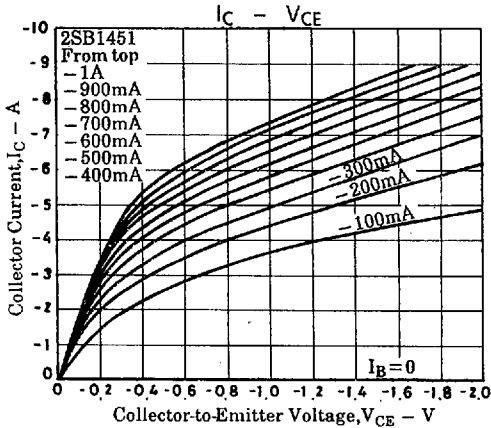
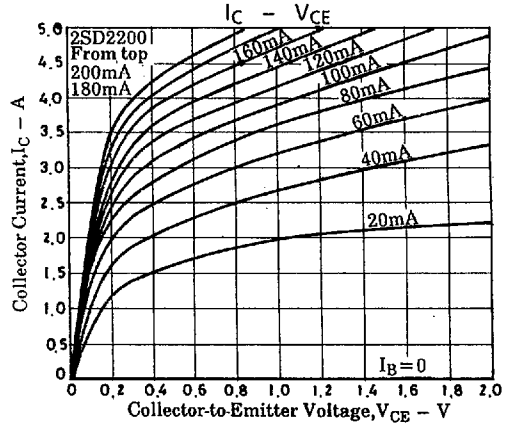
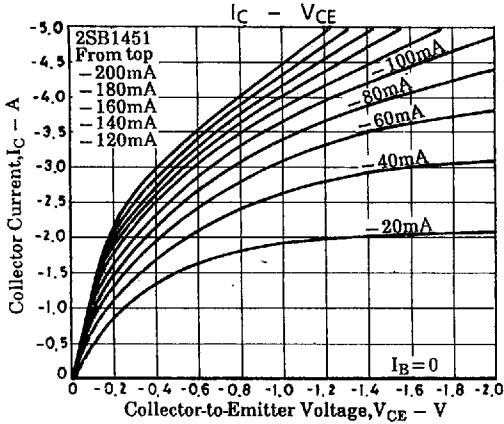
(unit : mm)



1 : Base
2 : Collector
3 : Emitter

SANYO : SMP-FD

2SB1451/2SD2200



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