

Power Transistor (−80V, −1A)

2SB1260 / 2SB1181

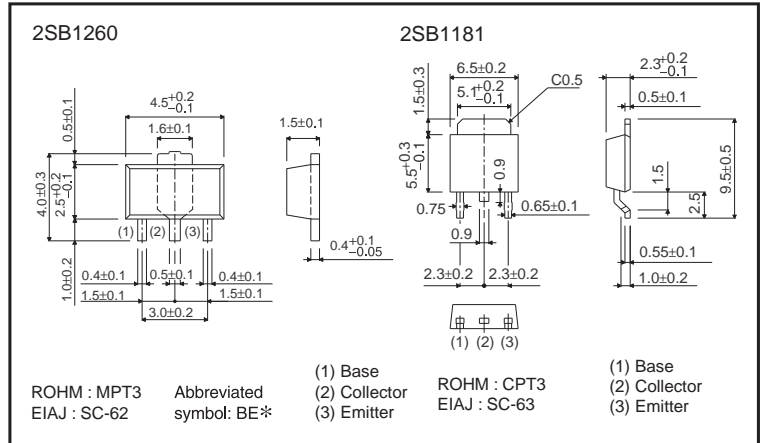
●Features

- 1) High breakdown voltage and high current.
BV_{CEO} = −80V, I_c = −1A
- 2) Good h_{FE} linearity.
- 3) Low V_{CE(sat)}.
- 4) Complements the 2SD1898 / 2SD1733.

●Structure

Epitaxial planar type
PNP silicon transistor

●Dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|------------------|-------------|--------------------------|
| Collector-base voltage | V _{CB0} | −80 | V |
| Collector-emitter voltage | V _{CEO} | −80 | V |
| Emitter-base voltage | V _{EBO} | −5 | V |
| Collector current | I _c | −1 | A (DC) |
| | I _{cP} | −2 *1 | A (Pulse) |
| Collector power dissipation | P _c | 0.5 | W |
| | | 2 *2 | |
| | | 10 | |
| | | 1 | W (T _c =25°C) |
| Junction temperature | T _j | 150 | °C |
| Storage temperature | T _{stg} | −55 to +150 | °C |

*1 2SB1260 : P_w=20ms duty=1/2

*2 2SB1260 : When mounted on a 40×40×0.7 mm ceramic board.

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|----------------------|------|------|------|------|---|
| Collector-base breakdown voltage | BV _{CB0} | −80 | − | − | V | I _c = −50μA |
| Collector-emitter breakdown voltage | BV _{CEO} | −80 | − | − | V | I _c = −1mA |
| Emitter-base breakdown voltage | BV _{EBO} | −5 | − | − | V | I _E = −50μA |
| Collector cutoff current | I _{CB0} | − | − | −1 | μA | V _{CB} = −60V |
| Emitter cutoff current | I _{EBO} | − | − | −1 | μA | V _{EB} = −4V |
| Collector-emitter saturation voltage | V _{CE(sat)} | − | − | −0.4 | V | I _c /I _B = −500mA/ −50mA |
| DC current transfer ratio | h _{FE} | 120 | − | 390 | − | V _{CE} = −3V, I _c = −0.1A |
| Transition frequency | f _T | − | 100 | − | MHz | V _{CE} = −10V, I _E = 50mA, f = 100MHz |
| Output capacitance | C _{ob} | − | 20 | − | pF | V _{CB} = −10V I _E = 0A f = 1MHz |
| | | − | 25 | − | pF | |

●Packaging specifications and hFE

| Type | hFE | Package | Taping | |
|---------|-----|------------------------------|--------|------|
| | | Code | TL | T100 |
| | | Basic ordering unit (pieces) | 2500 | 1000 |
| 2SB1260 | QR | | - | ○ |
| 2SB1181 | QR | | ○ | - |

hFE values are classified as follows :

| Item | Q | R |
|------|------------|------------|
| hFE | 120 to 270 | 180 to 390 |

●Electrical characteristic curves

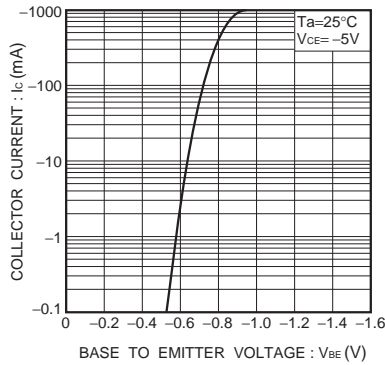


Fig.1 Grounded emitter propagation characteristics

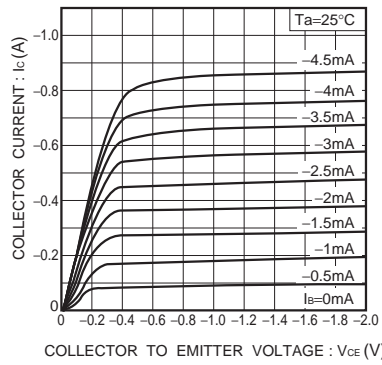


Fig.2 Grounded emitter output characteristics

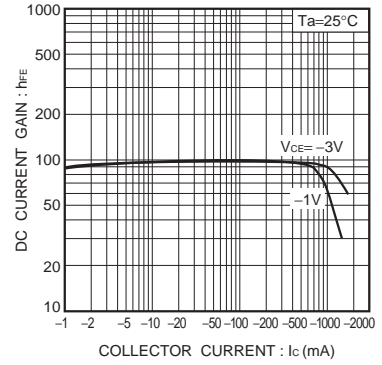


Fig.3 DC current gain vs. collector current

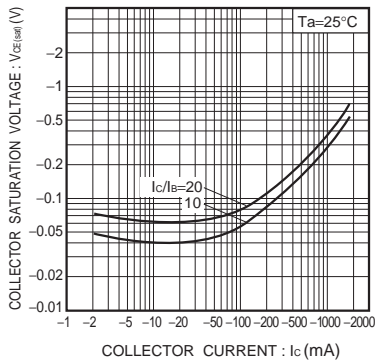


Fig.4 Collector-emitter saturation voltage vs. collector current

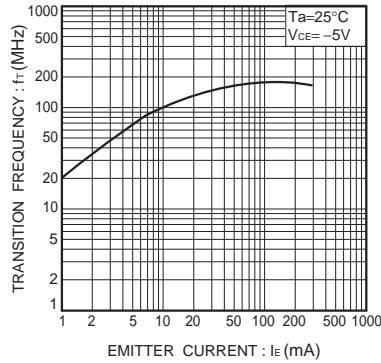


Fig.5 Gain bandwidth product vs. emitter current

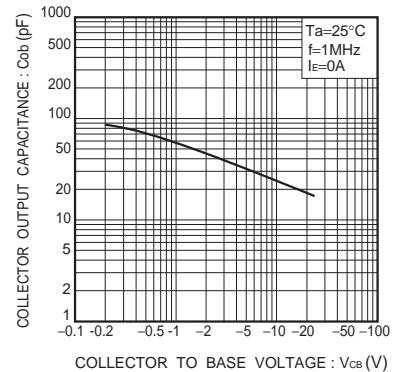


Fig.6 Collector output capacitance vs. collector-base voltage

Notes

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Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331