

Transistors

For Power Amplification (−60V, −3A)

2SB1566

●Structure

PNP Silicon Epitaxial Planar Transistor

●Features

- 1) Low $V_{CE(sat)}$.
- 2) Wide SOA.

●Applications

Relay drive
DC-DC converter
Stabilized power supply

●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|-------------|-----------------|
| Collector-base voltage | V_{CBO} | −60 | V |
| Collector-emitter voltage | V_{CEO} | −50 | V |
| Emitter-base voltage | V_{EBO} | −5 | V |
| Collector current | DC | I_C | −3 A(DC) |
| | Pulse | I_{CP} | −4.5 A(Pulse)*1 |
| Collector power dissipation | P_C | 2 | W(Ta=25°C) |
| | | 25 | W(Tc=25°C) |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | −55 to +150 | °C |

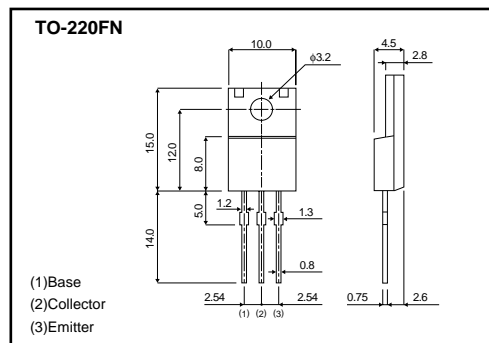
*1 Pw=100ms, single pulse

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|---------------|------|------|------|---------|--|
| Collector-emitter breakdown voltage | BV_{CEO} | −50 | − | − | V | $I_C = -1mA$ |
| Collector-base breakdown voltage | BV_{CBO} | −60 | − | − | V | $I_C = -50\mu A$ |
| Emitter-base breakdown voltage | BV_{EBO} | −5 | − | − | V | $I_E = -50\mu A$ |
| Collector cutoff current | I_{CBO} | − | − | −1.0 | μA | $V_{CB} = -60V$ |
| Emitter cutoff current | I_{EBO} | − | − | −1.0 | μA | $V_{EB} = -4V$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | − | − | −1.0 | V | $I_C/I_B = -2A/-0.2A$ *1 |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | − | − | −1.5 | V | $I_C/I_B = -2A/-0.2A$ *1 |
| DC current gain | h_{FE} | 100 | − | 320 | − | $V_{CE} = -3V, I_C = -0.5A$ |
| Transition frequency | f_T | − | 60 | − | MHz | $V_{CE} = -5V, I_E = 0.5A, f = 30MHz$ *1 |
| Collector output capacitance | C_{ob} | − | 40 | − | pF | $V_{CB} = -10V, I_E = 0A, f = 1MHz$ |

*1 Pulse test

●External dimensions (Unit : mm)



●Complements

| PNP | NPN |
|---------|---------|
| 2SB1566 | 2SD2395 |

●Packaging specifications and hFE

| Type | hFE | Package | Taping |
|---------|-----|---------|------------------------------|
| | | Code | Basic ordering unit (pieces) |
| 2SB1566 | EF | | 500 |

hFE values are classified as follows:

| Item | E | F |
|----------|------------|------------|
| h_{FE} | 100 to 200 | 160 to 320 |

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