

For Power Amplification (-60V , -3A)

2SB1565

●Structure

PNP Silicon Epitaxial Planar Transistor

●Features

- 1) Low $V_{CE(sat)}$.
- 2) Excellent electrical characteristics of DC current Gain h_{FE} .
- 3) Wide SOA.

●Applications

Low frequency power amplifier
Stereophonic output
Stabilization of power supply

●Absolute maximum ratings ($T_a=25^\circ\text{C}$)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|-------------|---------------------------|
| Collector-base voltage | V_{CB0} | -60 | V |
| Collector-emitter voltage | V_{CE0} | -60 | V |
| Emitter-base voltage | V_{EB0} | -7 | V |
| Collector current | DC | I_C | -3 A |
| | Pulse | I_{CP} | -6 A *1 |
| Collector power dissipation | P_C | 2 | $W(T_a=25^\circ\text{C})$ |
| | | 25 | $W(T_c=25^\circ\text{C})$ |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

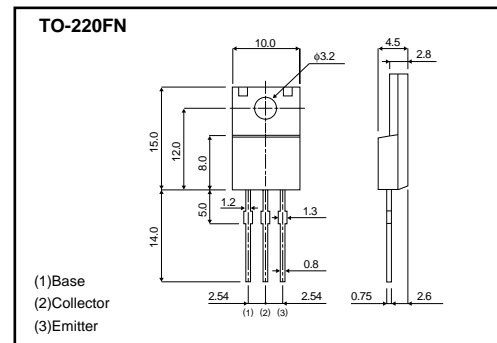
*1 $P_w=100\text{ms}$, non repetitive pulse

●Electrical characteristics ($T_a=25^\circ\text{C}$)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|---------------|------|------|------|---------------|--|
| Collector-emitter breakdown voltage | BV_{CE0} | -60 | - | - | V | $I_C=-1\text{mA}$ |
| Collector-base breakdown voltage | BV_{CB0} | -60 | - | - | V | $I_C=-50\mu\text{A}$ |
| Emitter-base breakdown voltage | BV_{EB0} | -7 | - | - | V | $I_E=-50\mu\text{A}$ |
| Collector cutoff current | I_{CB0} | - | - | -10 | μA | $V_{CB}=-60\text{V}$ |
| Emitter cutoff current | I_{EB0} | - | - | -10 | μA | $V_{EB}=-7\text{V}$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | - | - | -1.5 | V | $I_C/I_B=-2A/-0.2A$ *1 |
| DC current gain | h_{FE} | 100 | - | 320 | - | $V_{CE}=-5\text{V}$, $I_C=-0.5\text{A}$ *1,2 |
| Transition frequency | f_T | - | 15 | - | MHz | $V_{CE}=-5\text{V}$, $I_E=0.5\text{A}$, $f=5\text{MHz}$ *1 |
| Collector output capacitance | C_{ob} | - | 50 | - | pF | $V_{CB}=-10\text{V}$, $I_E=0\text{A}$, $f=1\text{MHz}$ |

*1 Single pulse *2 h_{FE} rank

●External dimensions (Unit : mm)



●Complements

| PNP | NPN |
|---------|---------|
| 2SB1565 | 2SD2394 |

●Packaging specifications and h_{FE}

| Type | h_{FE} | Package | Taping |
|---------|----------|------------------------------|--------|
| | | Code | - |
| | | Basic ordering unit (pieces) | 500 |
| 2SB1565 | EF | | ○ |

h_{FE} values are classified as follows:

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

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