

Excellent Integrated System Limited

Stocking Distributor

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[Rohm Semiconductor](#)
[2SB1308T100P](#)

For any questions, you can email us directly:

sales@integrated-circuit.com

Power Transistor (−50V, −3A)

2SB1308

●Features

- 1) Low saturation voltage, typically $V_{CE(sat)} = -0.45V$ (Max.) at $I_C / I_B = -1.5A / -0.15A$.
- 2) Excellent DC current gain characteristics.
- 3) Complements the 2SD1963.

●Packaging specifications and hFE

| | |
|------------------------------|---------|
| Type | 2SB1308 |
| Package | MPT3 |
| hFE | PQR |
| Marking | BF* |
| Code | T100 |
| Basic ordering unit (pieces) | 1000 |

* Denotes hFE

●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|----------|--------------|
| Collector-base voltage | V_{CBO} | −30 | V |
| Collector-emitter voltage | V_{CEO} | −20 | V |
| Emitter-base voltage | V_{EBO} | −6 | V |
| Collector current | I_C | −3 | A (DC) |
| | | −5 | A (Pulse) *1 |
| Collector power dissipation | P_C | 0.5 | W |
| | | 2.0 | |
| Junction temperature | T_J | 150 | °C |
| Storage temperature | T_{stg} | −55~+150 | °C |

*1 Single pulse, $P_w=100ms$

*2 When mounted on a $40 \times 40 \times 0.7$ ceramic board.

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|---------------|------|------|-------|---------|---------------------------------------|
| Collector-base breakdown voltage | BV_{CBO} | −30 | — | — | V | $I_C = -50 \mu A$ |
| Collector-emitter breakdown voltage | BV_{CEO} | −20 | — | — | V | $I_C = 1mA$ |
| Emitter-base breakdown voltage | BV_{EBO} | −6 | — | — | V | $I_E = -50 \mu A$ |
| Collector cutoff current | I_{CBO} | — | — | −0.5 | μA | $V_{CB} = -20V$ |
| Emitter cutoff current | I_{EBO} | — | — | −0.5 | μA | $V_{EB} = -5V$ |
| DC current transfer ratio | hFE | 82 | — | 390 | — | $V_{CE}/I_C = -2V/-0.5A$ * |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | — | — | −0.45 | V | $I_C/I_B = -1.5A/-0.15A$ * |
| Transition frequency | f_r | — | 120 | — | MHz | $V_{CE} = -6V, I_E = 50mA, f = 30MHz$ |
| Output capacitance | C_{ob} | — | 60 | — | pF | $V_{CB} = -20V, I_E = 0A, f = 1MHz$ |

* Measured using pulse current

(94S-166-B204)

Power Transistor (50V, 3A)

2SD1963

●Features

- 1) Low saturation voltage, typically $V_{CE(sat)} = -0.45V$ (Max.) at $I_C / I_B = -1.5A / -0.15A$.
- 2) Excellent DC current gain characteristics.
- 3) Complements the 2SB1308.

●Packaging specifications and hFE

| | |
|------------------------------|---------|
| Type | 2SD1963 |
| Package | MPT3 |
| hFE | QRS |
| Marking | DG* |
| Code | T100 |
| Basic ordering unit (pieces) | 1000 |

* Denotes hFE

●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|----------|-------------|
| Collector-base voltage | V_{CBO} | 50 | V |
| Collector-emitter voltage | V_{CEO} | 20 | V |
| Emitter-base voltage | V_{EBO} | 6 | V |
| Collector current | I_C | 3 | A (DC) |
| | | 5 | A (Pulse) * |
| Collector power dissipation | P_C | 0.5 | W |
| Junction temperature | T_J | 150 | °C |
| Storage temperature | T_{stg} | −55~+150 | °C |

* Single pulse, $P_w=100ms$

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|---------------|------|------|------|---------|--|
| Collector-base breakdown voltage | BV_{CBO} | 50 | — | — | V | $I_C = 50 \mu A$ |
| Collector-emitter breakdown voltage | BV_{CEO} | 20 | — | — | V | $I_C = 1mA$ |
| Emitter-base breakdown voltage | BV_{EBO} | 6 | — | — | V | $I_E = 50 \mu A$ |
| Collector cutoff current | I_{CBO} | — | — | 0.5 | μA | $V_{CB} = 40V$ |
| Emitter cutoff current | I_{EBO} | — | — | 0.5 | μA | $V_{EB} = 5V$ |
| DC current transfer ratio | hFE | 120 | — | 560 | — | $V_{CE}/I_C = 2V/0.5A$ * |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | — | 0.25 | 0.45 | V | $I_C/I_B = 1.5A/0.15A$ * |
| Transition frequency | f_r | — | 150 | — | MHz | $V_{CE} = 6V, I_E = -50mA, f = 100MHz$ |
| Output capacitance | C_{ob} | — | 35 | — | pF | $V_{CB} = 20V, I_E = 0A, f = 1MHz$ |

* Measured using pulse current

(94S-342-D204)