

Power Transistor (−50V, −2A)

2SA1797 / 2SB1443

●Features

- 1) Low saturation voltage, $V_{CE(sat)} = -0.35V$ (Max.) at $I_C / I_E = -1A / -50mA$.
- 2) Excellent DC current gain characteristics.
- 3) Complements the 2SA1797 and 2SC4672.

●Packaging specifications and hFE

| Type | 2SA1797 | 2SB1443 |
|------------------------------|---------|---------|
| Package | MPT3 | ATV |
| hFE | PQ | Q |
| Marking | AG* | — |
| Code | T100 | TV2 |
| Basic ordering unit (pieces) | 1000 | 2500 |

* Denotes hFE

●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} | -50 | — | — | V | $I_C = -1mA$ |
| Emitter-base breakdown voltage | BV_{EBO} | -6 | — | — | V | $I_E = -50 \mu A$ |
| Collector cutoff current | I_{CBO} | — | — | -0.1 | μA | $V_{CB} = -50V$ |
| Emitter cutoff current | I_{EBO} | — | — | -0.1 | μA | $V_{EB} = -5V$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | — | -0.15 | -0.35 | V | $I_C / I_E = -1A / -50mA$ * |
| DC current transfer ratio | 2SA1797 | hFE | 82 | — | 270 | $V_{CE} / I_C = -2V / -0.5A$ |
| | 2SB1443 | — | 120 | — | 270 | |
| Transition frequency | f_T | — | 200 | — | MHz | $V_{CE} = -2V, I_E = 0.5A, f = 100MHz$ * |
| Output capacitance | C_{ob} | — | 36 | — | pF | $V_{CB} = -10V, I_E = 0A, f = 1MHz$ |

* Measured using pulse current.

●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|----------|--------------|
| Collector-base voltage | V_{CBO} | -50 | V |
| Collector-emitter voltage | V_{CEO} | -50 | V |
| Emitter-base voltage | V_{EBO} | -6 | V |
| Collector current | I_C | -2 | A (DC) |
| | | -5 | A (Pulse) #1 |
| Collector power dissipation | P_C | 0.5 | W #2 |
| | | 2 | |
| | | 1 | |
| Junction temperature | T_J | 150 | °C |
| Storage temperature | T_{stg} | -55~+150 | °C |

#1 Single pulse, $P_W = 10ms$ #2 When mounted on a $40 \times 40 \times 0.7mm$ ceramic board.#3 Printed circuit board 1.7mm thick, collector plating $1cm^2$ or larger.

(96-100-B208)

Low Frequency Transistor (50V, 2A)

2SC4672

●Features

- 1) Low saturation voltage, typically $V_{CE(sat)} = 0.1V$ at $I_C / I_E = 1A / 50mA$.
- 2) Excellent DC current gain characteristics.
- 3) Complements the 2SA1797.

●Packaging specifications and hFE

| Type | 2SC4672 |
|------------------------------|---------|
| Package | MPT3 |
| hFE | PQ |
| Marking | DK* |
| Code | T100 |
| Basic ordering unit (pieces) | 1000 |

* Denotes hFE

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|---------------|------|------|------|---------|--|
| Collector-base breakdown voltage | BV_{CBO} | 60 | — | — | V | $I_C = 50 \mu A$ |
| Collector-emitter breakdown voltage | BV_{CEO} | 50 | — | — | V | $I_C = 1mA$ |
| Emitter-base breakdown voltage | BV_{EBO} | 6 | — | — | V | $I_E = 50 \mu A$ |
| Collector cutoff current | I_{CBO} | — | — | 0.1 | μA | $V_{CB} = 60V$ |
| Emitter cutoff current | I_{EBO} | — | — | 0.1 | μA | $V_{EB} = 5V$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | — | 0.1 | 0.35 | V | $I_C / I_E = 1A / 50mA$ * |
| DC current transfer ratio | hFE | 82 | — | 270 | — | $V_{CE} = 2V, I_C = 0.5A$ * |
| Transition frequency | f_T | — | 210 | — | MHz | $V_{CE} = 2V, I_E = -0.5A, f = 100MHz$ |
| Output capacitance | C_{ob} | — | 25 | — | pF | $V_{CB} = 10V, I_E = 0A, f = 1MHz$ |

* Measured using pulse current.

●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} | 6 | V |
| Collector current | I_C | 2 | 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, $P_W = 10ms$

(96-181-D208)