

Power Transistor (–50V, –3A)

2SA1797

●Features

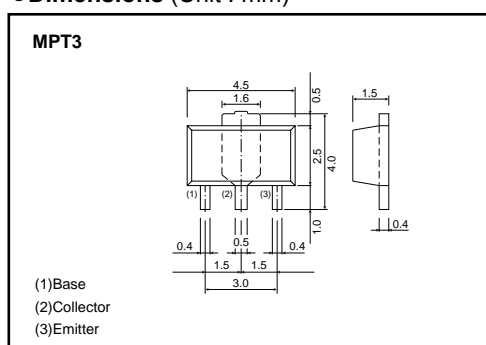
- 1) Low saturation voltage.
 $V_{CE(sat)} = -0.35V$ (Max.) at $I_C / I_B = -1A / 50mA$.
- 2) Excellent DC current gain characteristics.
- 3) Complements the 2SC4672.

●Packaging specifications

| Type | 2SA1797 |
|------------------------------|---------|
| Package | MPT3 |
| h_{FE} | PQ |
| Marking * | AG |
| Code | T100 |
| Basic ordering unit (pieces) | 1000 |

*Denotes h_{FE}

●Dimensions (Unit : mm)



●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 *1 | –3 | A (DC) |
| | | –6 | A (Pulse) |
| Collector power dissipation | P_C *2 | 0.5 | W |
| | | 2 | |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | –55 to +150 | °C |

*1 Single pulse, $P_w=10ms$

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

●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 | $I_C / I_B = -1A / -50mA$ |
| DC current transfer ratio | h_{FE1} * | 82 | – | 270 | – | $V_{CE} / I_C = -2V / -0.5A$ |
| | h_{FE2} * | 45 | – | – | – | $V_{CE} / I_C = -2V / -1.5A$ |
| 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

● Electrical characteristic curves

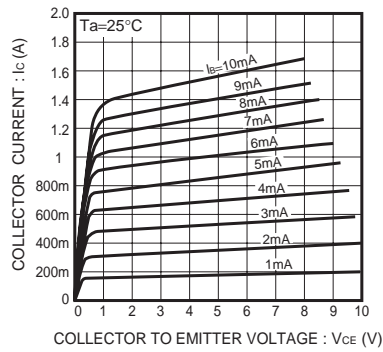


Fig.1 Grounded Emitter Output Characteristics

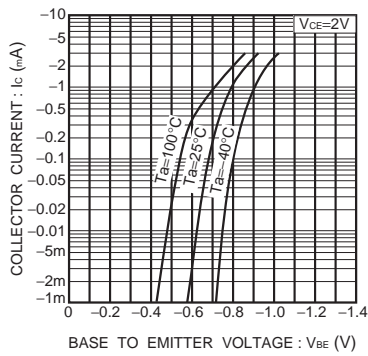


Fig.2 Grounded Emitter Propagation Characteristics

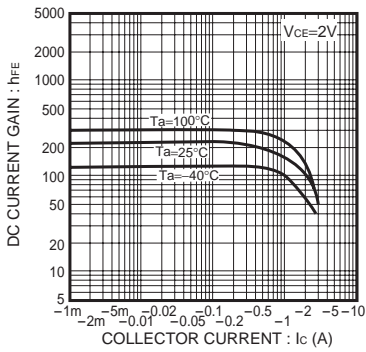


Fig.3 DC Current Gain vs. Collector Current

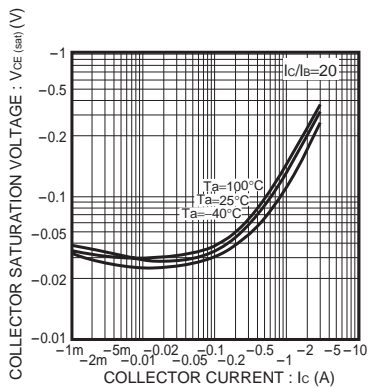


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current

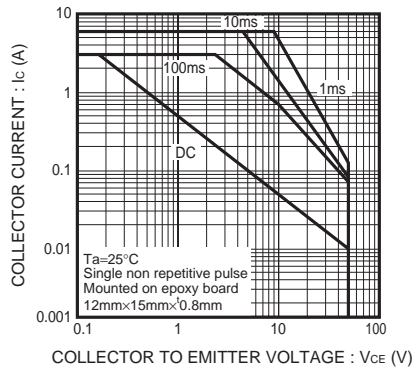


Fig.5 Safe Operating Area

Notes

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