
2SC4501(L)/(S)

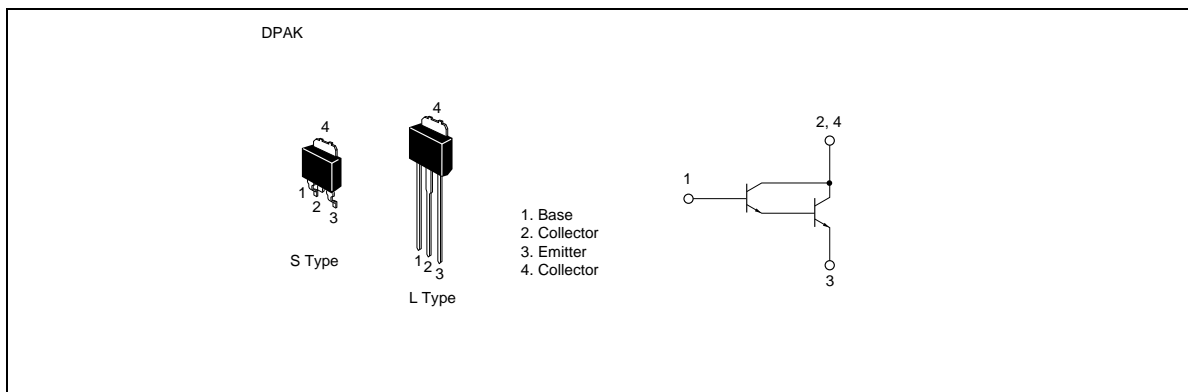
Silicon NPN Epitaxial

HITACHI

Application

High gain amplifier and medium speed switching

Outline



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Absolute Maximum Ratings (Ta = 25°C)

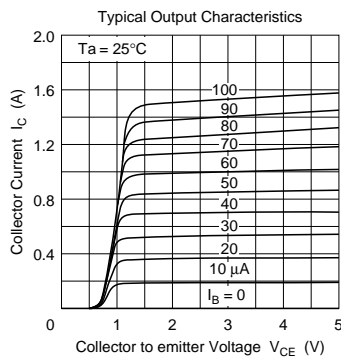
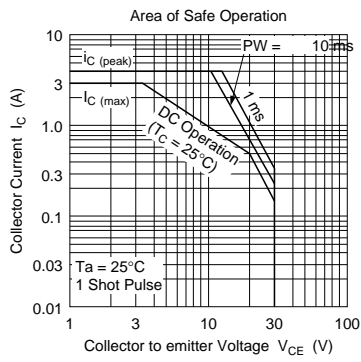
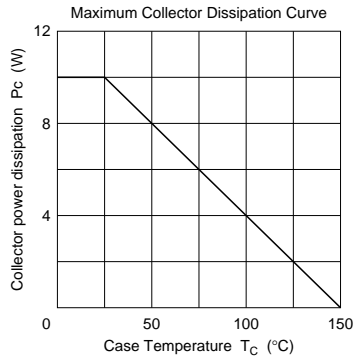
| Item | Symbol | Ratings | Unit |
|------------------------------|---------------|-------------|------|
| Collector to base voltage | V_{CBO} | 30 | V |
| Collector to emitter voltage | V_{CEO} | 30 | V |
| Emitter to base voltage | V_{EBO} | 7 | V |
| Collector current | I_C | 3 | A |
| Collector peak current | $I_{C(peak)}$ | 4 | A |
| Collector power dissipation | P_C^{*1} | 10 | W |
| Junction temperature | Tj | 150 | °C |
| Storage temperature | Tstg | -55 to +150 | °C |

Note: 1. Value at $T_C = 25^\circ\text{C}$.

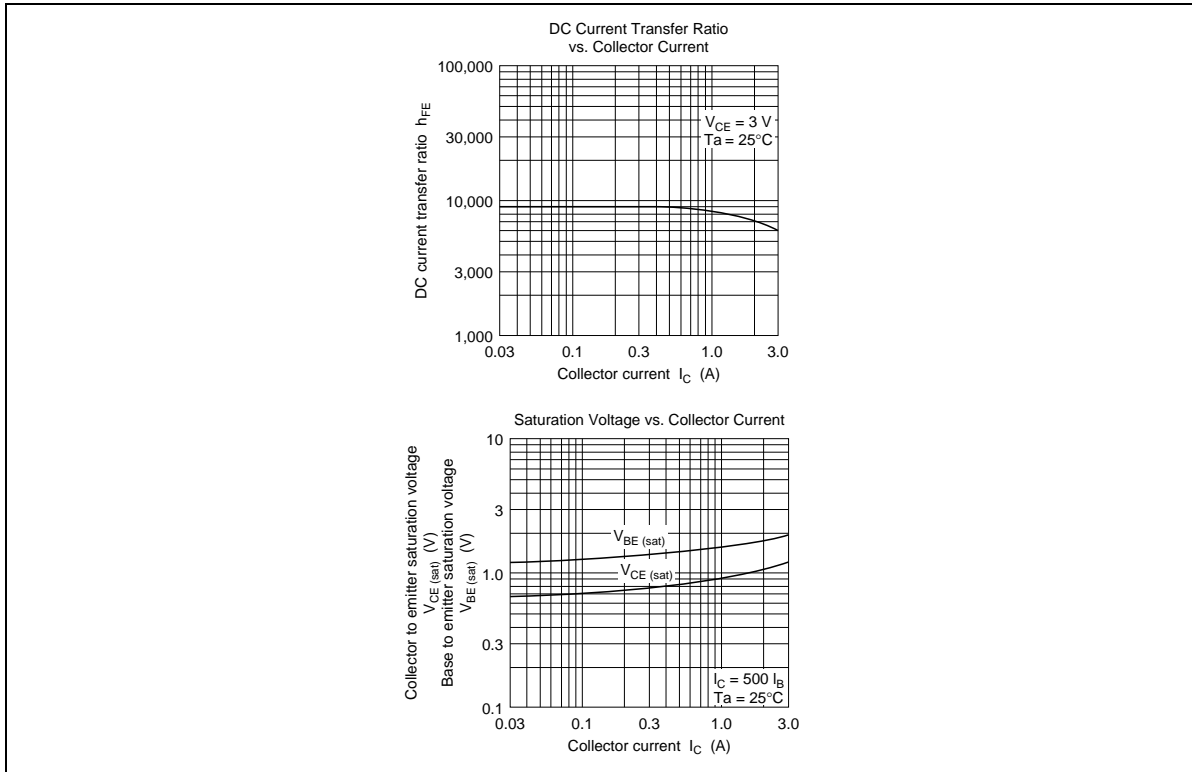
Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|---------------|------|-----|-------|---------------|--|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 30 | — | — | V | $I_C = 0.1 \text{ mA}, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 30 | — | — | V | $I_C = 1 \text{ mA}, R_{BE} = _$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | 7 | — | — | V | $I_E = 0.1 \text{ mA}, I_C = 0$ |
| Collector cutoff current | I_{CEO} | — | — | 20 | μA | $V_{CB} = 24 \text{ V}, R_{BE} = _$ |
| DC current transfer ratio | h_{FE} | 2000 | — | 50000 | | $V_{CE} = 3 \text{ V}, I_C = 1.5 \text{ A}^{*1}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | — | 1.5 | V | $I_C = 1.5 \text{ A}, I_B = 3 \text{ mA}^{*1}$ |
| | $V_{CE(sat)}$ | — | — | 2.0 | | $I_C = 3 \text{ A}, I_B = 30 \text{ mA}^{*1}$ |
| Base to emitter saturation voltage | $V_{BE(sat)}$ | — | — | 2.0 | V | $I_C = 1.5 \text{ A}, I_B = 3 \text{ mA}^{*1}$ |
| | $V_{BE(sat)}$ | — | — | 3.5 | | $I_C = 3 \text{ A}, I_B = 30 \text{ mA}^{*1}$ |
| Turn on time | t_{on} | — | 0.4 | — | μs | $I_C = 1.5 \text{ A},$ |
| Turn off time | t_{off} | — | 1.2 | — | μs | $I_{B1} = -I_{B2} = 3 \text{ mA},$ |
| Storage time | t_{stg} | — | 0.8 | — | μs | $V_{CC} = 30 \text{ V}$ |

Note: 1. Pulse test.



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