

High-voltage Switching Transistor (-400V, -2A)

2SA1862

●Features

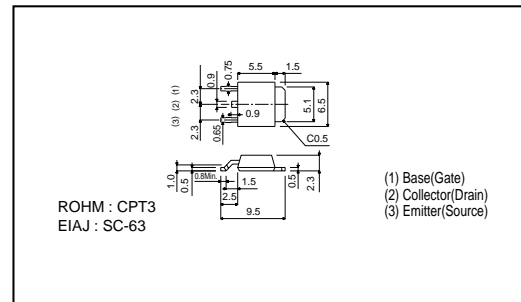
- 1) High breakdown voltage. ($BV_{CEO} = -400V$)
- 2) Low saturation voltage.
(Typ. $V_{CE(sat)} = -0.3V$ at $I_C / I_B = -500mA / -100mA$)
- 3) High switching speed, typically $t_f = 0.4\mu s$ at $I_C = -1A$.
- 4) Wide SOA (safe operating area).

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

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|----------|--------------------------|
| Collector-base voltage | V_{CBO} | -400 | V |
| Collector-emitter voltage | V_{CEO} | -400 | V |
| Emitter-base voltage | V_{EBO} | -7 | V |
| Collector current | I_C | -2 | A (DC) |
| | | -4 | A (Pulse) * |
| Collector power dissipation | P_C | 1 | W |
| | | 10 | W ($T_C = 25^\circ C$) |
| Junction temperature | T_J | 150 | $^\circ C$ |
| Storage temperature | T_{stg} | -55~+150 | $^\circ C$ |

* Single pulse, $P_w = 10ms$

●External dimensions (Units : mm)



●Packaging specifications and h_{FE}

| | |
|------------------------------|---------|
| Type | 2SA1862 |
| Package | CPT3 |
| h_{FE} | P |
| Code | TL |
| Basic ordering unit (pieces) | 2500 |

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

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|---------------|------|------|------|---------|---------------------------------------|
| Collector-base breakdown voltage | BV_{CBO} | -400 | - | - | V | $I_C = -50\mu A$ |
| Collector-emitter breakdown voltage | BV_{CEO} | -400 | - | - | V | $I_C = -1mA$ |
| Emitter-base breakdown voltage | BV_{EBO} | -7 | - | - | V | $I_E = -50\mu A$ |
| Collector cutoff current | I_{CBO} | - | - | -10 | μA | $V_{CB} = -400V$ |
| Emitter cutoff current | I_{EBO} | - | - | -10 | μA | $V_{EB} = -5V$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | - | -0.3 | -0.5 | V | $I_C/I_B = -0.5A / -0.1A$ |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | - | - | -1.2 | V | $I_C/I_B = -0.5A / -0.1A$ |
| DC current transfer ratio | h_{FE} | 82 | - | 180 | - | $V_{CE} = -5V, I_C = -0.1A$ |
| Transition frequency | f_T | - | 18 | - | MHz | $V_{CB} = -10V, I_E = 0.1A, f = 5MHz$ |
| Output capacitance | C_{ob} | - | 30 | - | pF | $V_{CE} = -10V, I_E = 0A, f = 1MHz$ |
| Turn-on time | t_{on} | - | 0.2 | - | μs | $I_C = -1A, R_L = 150\Omega$ |
| Storage time | t_{stg} | - | 1.8 | - | μs | $I_{B1} = -I_{B2} = -0.2A$ |
| Fall time | t_f | - | 0.4 | - | μs | $V_{CC} \geq 150V$ |