

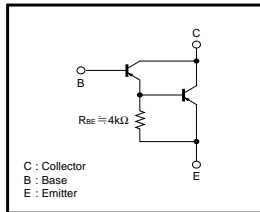
Power transistor (−40V, −2A)

2SB1183 / 2SB1239

●Features

- 1) Darlington connection for high DC current gain.
- 2) Built-in 4kΩ resistor between base and emitter.
- 3) Complements the 2SD1759 / 2SD1861.

●Equivalent circuit

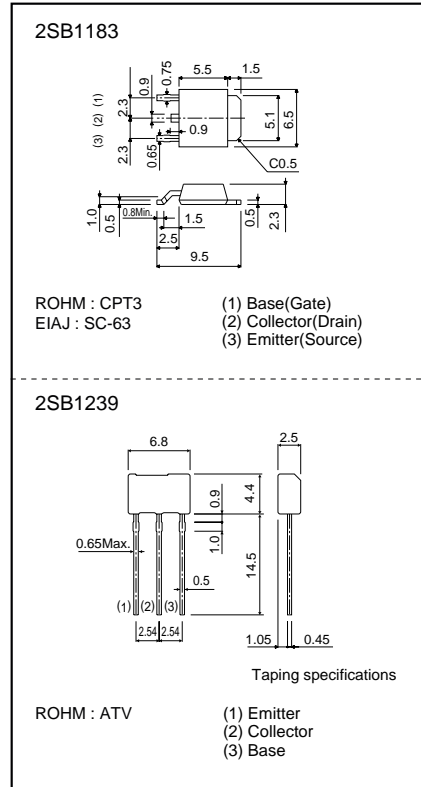


●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|------------------|----------|-------------------------|
| Collector-base voltage | V _{CB0} | −40 | V |
| Collector-emitter voltage | V _{CER} | −40 | V |
| Emitter-base voltage | V _{EBO} | −5 | V |
| Collector current | I _C | −2 | A(DC) |
| | | −3 | A(Pulse) *1 |
| Collector power dissipation | P _C | 1 | W |
| | | 10 | W(T _C =25°C) |
| Storage temperature | T _{stg} | 1 | W |
| | | −55→+150 | °C |
| Junction temperature | T _J | 150 | °C |
| Storage temperature | T _{stg} | −55→+150 | °C |

*1 Single pulse P_w=10ms
*2 Printed circuit board 1.7 mm thick, collector plating 100mm² or larger.

●External dimensions (Units : mm)



●Packaging specifications and hFE

| Type | 2SB1183 | 2SB1239 |
|------------------------------|---------|---------|
| Package | CPT3 | ATV |
| h _{FE} | 1k~200k | 1k~ |
| Code | TL | T146 |
| Basic ordering unit (pieces) | 2500 | 2500 |

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|----------------------|------|------|-------|------|---|
| Collector-base breakdown voltage | BV _{CB0} | −40 | − | − | V | I _C =−50μA |
| Collector-emitter breakdown voltage | BV _{CER} | −40 | − | − | V | I _C =−1mA, R _{SE} =10kΩ |
| Emitter-base breakdown voltage | BV _{EBO} | −5 | − | − | V | I _E =−50μA |
| Collector cutoff current | I _{CBO} | − | − | −1 | μA | V _{CB} =−24V |
| Emitter cutoff current | I _{EBO} | − | − | −1 | μA | V _{EB} =−4V |
| Collector-emitter saturation voltage | V _{CE(sat)} | − | − | −1.5 | V | I _C /I _B =−0.6A/−1.2mA |
| DC current transfer ratio | 2SB1183 | 1000 | − | 20000 | − | V _{CE} /I _C =−2V/−0.5A |
| | 2SB1239 | 1000 | − | − | − | |
| Output capacitance | C _{ob} | − | 11 | − | pF | V _{CB} =−10V, I _E =0A, f=1MHz |