

2SD974

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Silicon NPN Epitaxial

REJ03G0774-0300

Rev.3.00

Oct 06, 2006

Application

- Power switching
- TV horizontal deflection output

Outline

RENESAS Package code: PRSS0003DC-A
(Package name: TO-92 Mod)



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings

(Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|------------------------------|----------------|-------------|------|
| Collector to base voltage | V_{CBO} | 120 | V |
| Collector to emitter voltage | V_{CEO} | 60 | V |
| Emitter to base voltage | V_{EBO} | 5 | V |
| Collector current | I_C | 1 | A |
| Collector peak current | $i_{C(peak)}$ | 1.5 | A |
| Surge collector current | $I_{C(surge)}$ | 4 | A |
| Collector power dissipation | P_C | 0.9 | W |
| Junction temperature | T_J | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

Electrical Characteristics

(Ta = 25°C)

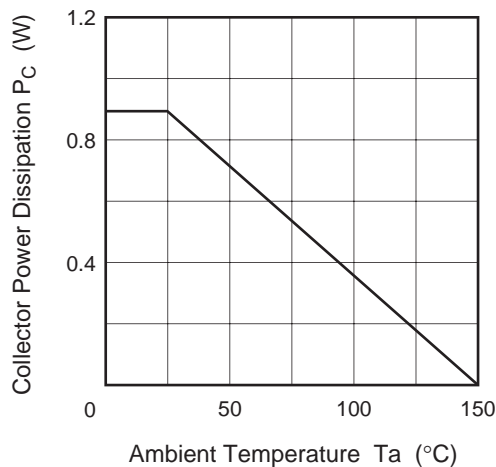
| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|---------------|-----|-----|-----|---------|---|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 120 | — | — | V | $I_C = 10 \mu A, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 60 | — | — | V | $I_C = 1 mA, R_{BE} = \infty$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | 5 | — | — | V | $I_E = 10 \mu A, I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | 1.0 | μA | $V_{CB} = 100 V, I_E = 0$ |
| DC current transfer ratio | h_{FE} | 150 | — | — | | $V_{CE} = 5 V, I_C = 1 A^{*1}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | — | 0.3 | V | $I_C = 1 A, I_B = 0.05 A^{*1}$ |
| Base to emitter saturation voltage | $V_{BE(sat)}$ | — | — | 1.2 | V | |
| Fall time | t_f | — | 0.4 | — | pF | $I_{CP} = 1 A, I_{B1} = -I_{B2} = 50 mA^{*1}$ |

Note: 1. Pulse test

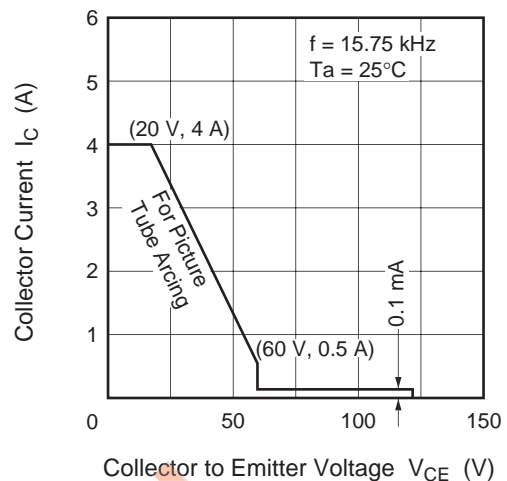
Not recommend
for new design

Main Characteristics

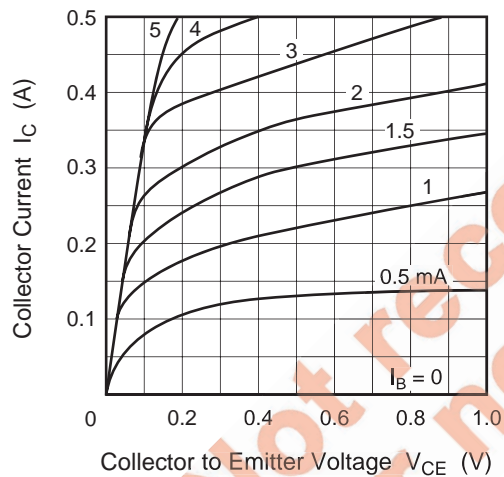
Maximum Collector Dissipation Curve



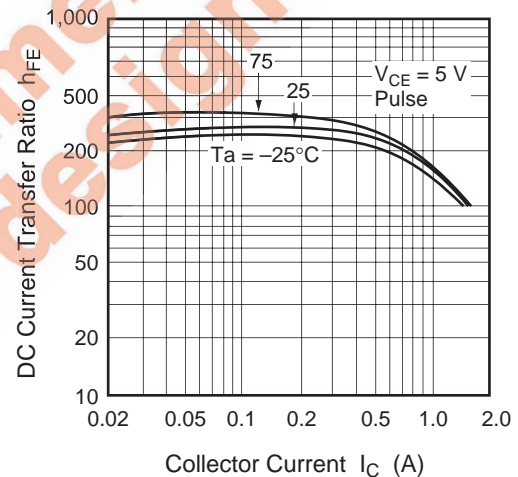
Area of Safe Operation



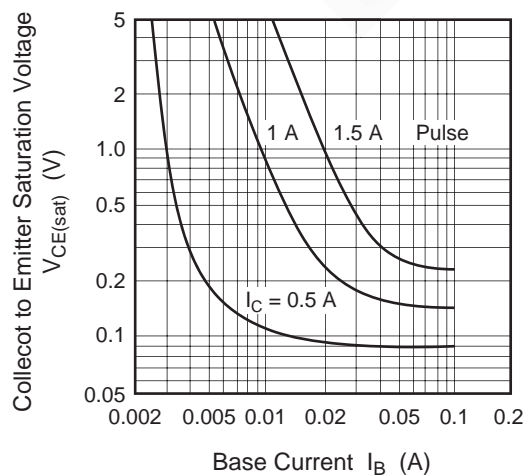
Typical Output Characteristics



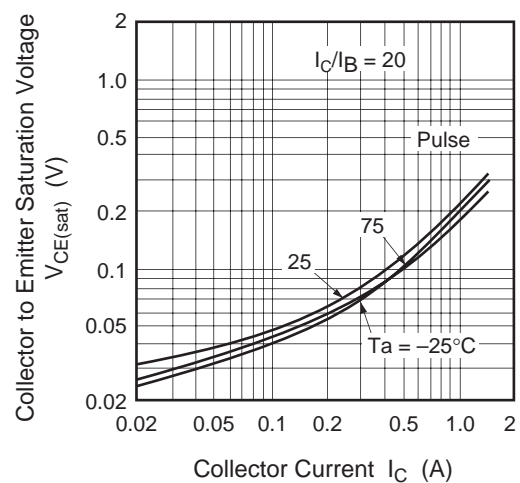
DC Current Transfer Ratio vs. Collector Current

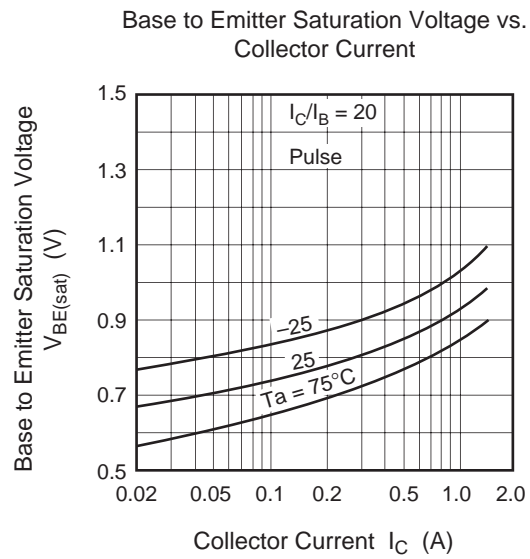


Collector to Emitter Saturation Voltage vs. Base Current



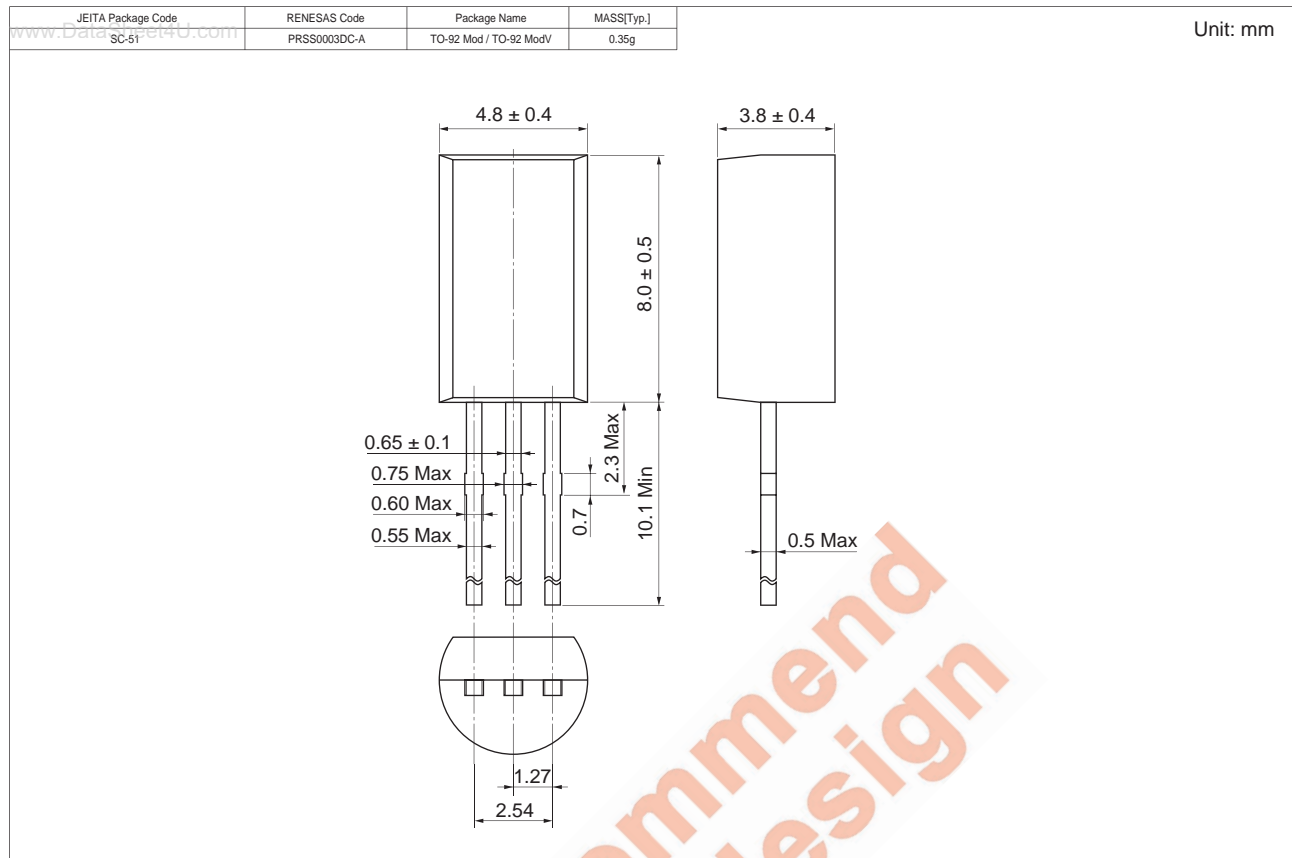
Collector to Emitter Saturation Voltage vs. Collector Current





Not recommended
for new design

Package Dimensions



Ordering Information

| Part Name | Quantity | Shipping Container |
|------------|----------|-------------------------|
| 2SD974TZ-E | 2500 | Hold Box, Radial Taping |

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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