

2SC1213, 2SC1213A

Silicon NPN Epitaxial

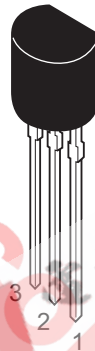
REJ03G0684-0200
 (Previous ADE-208-1048)
 Rev.2.00
 Aug.10.2005

Application

- Low frequency amplifier
- Complementary pair with 2SA673 and 2SA673A

Outline

RENESAS Package code: PRSS0003DA-A
 (Package name: TO-92 (1))



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings

(Ta = 25°C)

| Item | Symbol | 2SC1213 | 2SC1213A | Unit |
|------------------------------|------------------|-------------|-------------|------|
| Collector to base voltage | V _{CBO} | 35 | 50 | V |
| Collector to emitter voltage | V _{CEO} | 35 | 50 | V |
| Emitter to base voltage | V _{EBO} | 4 | 4 | V |
| Collector current | I _C | 500 | 500 | mA |
| Collector power dissipation | P _C | 400 | 400 | mW |
| Junction temperature | T _j | 150 | 150 | °C |
| Storage temperature | T _{stg} | -55 to +150 | -55 to +150 | °C |

Electrical Characteristics

(Ta = 25°C)

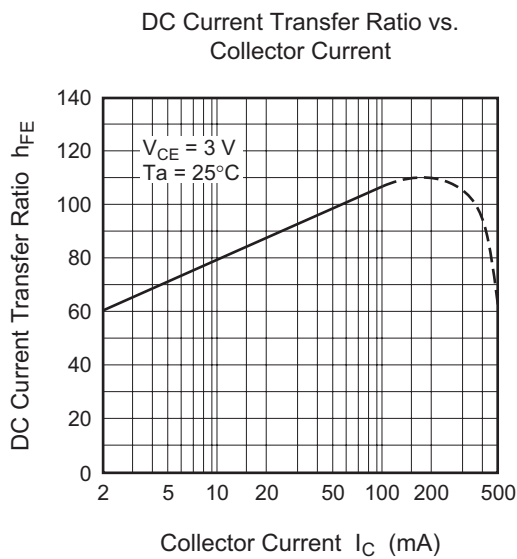
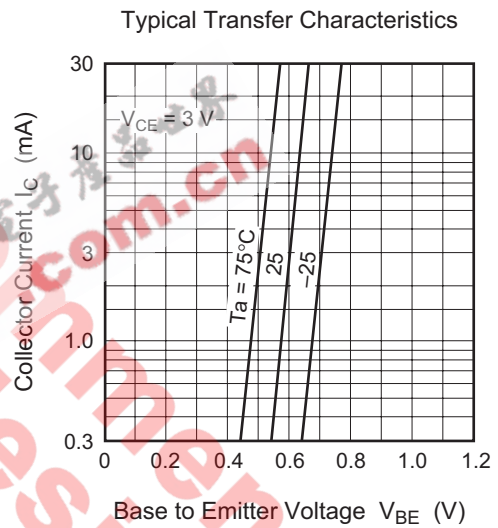
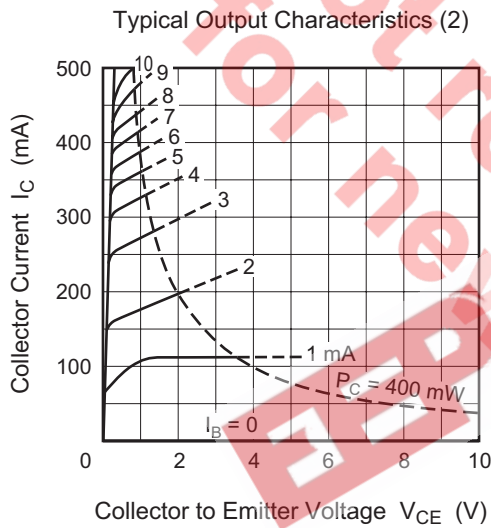
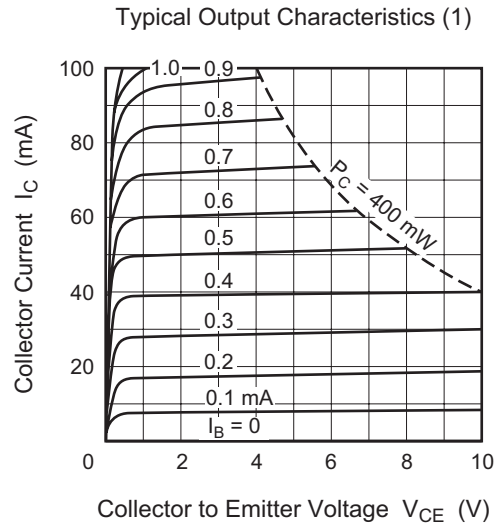
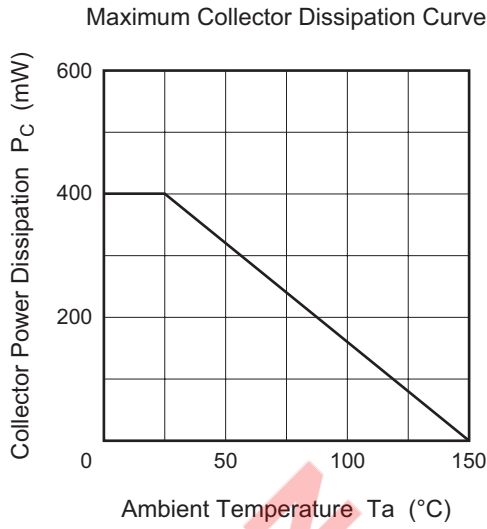
| Item | Symbol | 2SC1213 | | | 2SC1213A | | | Unit | Test conditions |
|---|---------------|---------|------|-----|----------|------|-----|---------|---|
| | | Min | Typ | Max | Min | Typ | Max | | |
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 35 | — | — | 50 | — | — | V | $I_C = 10 \mu A, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 35 | — | — | 50 | — | — | V | $I_C = 1 \text{ mA}, R_{BE} = \infty$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | 4 | — | — | 4 | — | — | V | $I_E = 10 \mu A, I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | 0.5 | — | — | 0.5 | μA | $V_{CB} = 20 \text{ V}, I_E = 0$ |
| DC current transfer ratio | h_{FE}^{*1} | 60 | — | 320 | 60 | — | 320 | | $V_{CE} = 3 \text{ V}, I_C = 10 \text{ mA}$ |
| | h_{FE} | 10 | — | — | 10 | — | — | | $V_{CE} = 3 \text{ V}, I_C = 500 \text{ mA}^{*2}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | 0.2 | 0.6 | — | 0.2 | 0.6 | V | $I_C = 150 \text{ mA}, I_B = 15 \text{ mA}^{*2}$ |
| Base to emitter voltage | V_{BE} | — | 0.64 | — | — | 0.64 | — | V | $V_{CE} = 3 \text{ V}, I_C = 10 \text{ mA}$ |

Notes: 1. The 2SC1213 and 2SC1213A are grouped by h_{FE} as follows.

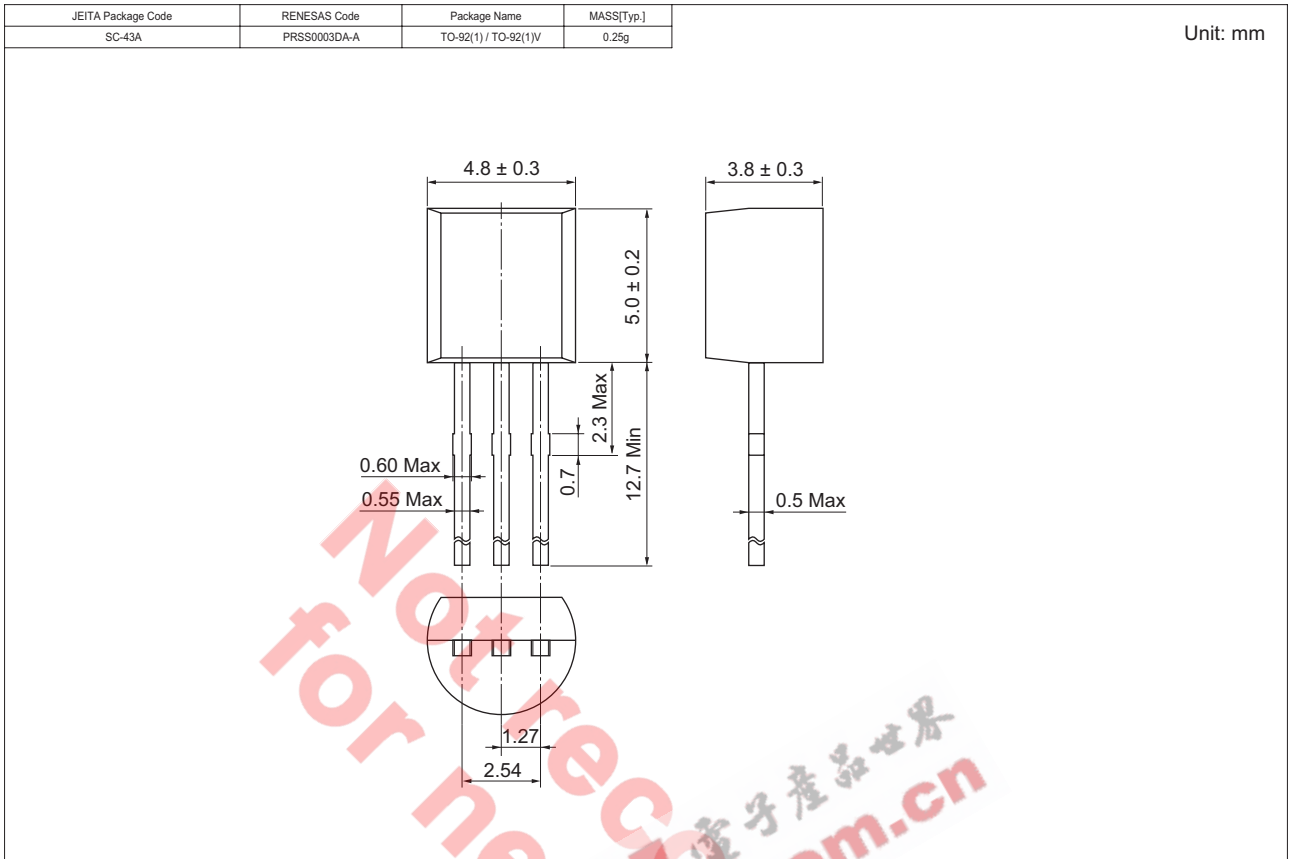
2. Pulse test

| B | C | D |
|-----------|------------|------------|
| 60 to 120 | 100 to 200 | 160 to 320 |

Main Characteristics



Package Dimensions



Ordering Information

| Part Name | Quantity | Shipping Container |
|---|----------|-------------------------|
| 2SC1213CTZ-E 2SC1213DTZ-E 2SC1213ABTZ-E 2SC1213ACTZ-E 2SC1213ADTZ-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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