

# 2SC1214

Silicon NPN Epitaxial

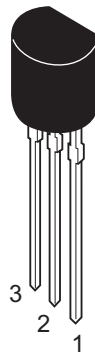
REJ03G0686-0200  
(Previous ADE-208-1050)  
Rev.2.00  
Aug.10.2005

## Application

Low frequency amplifier

## 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    | Ratings     | Unit |
|------------------------------|-----------|-------------|------|
| Collector to base voltage    | $V_{CBO}$ | 50          | V    |
| Collector to emitter voltage | $V_{CEO}$ | 50          | V    |
| Emitter to base voltage      | $V_{EBO}$ | 4           | V    |
| Collector current            | $I_C$     | 500         | mA   |
| Collector power dissipation  | $P_C$     | 600         | mW   |
| Junction temperature         | $T_j$     | 150         | °C   |
| Storage temperature          | $T_{stg}$ | -55 to +150 | °C   |

## Electrical Characteristics

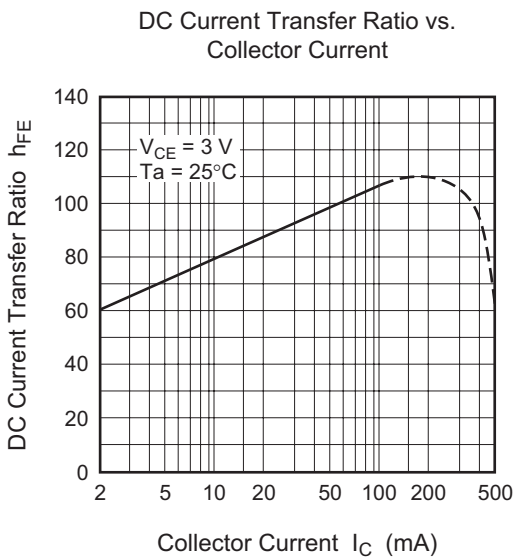
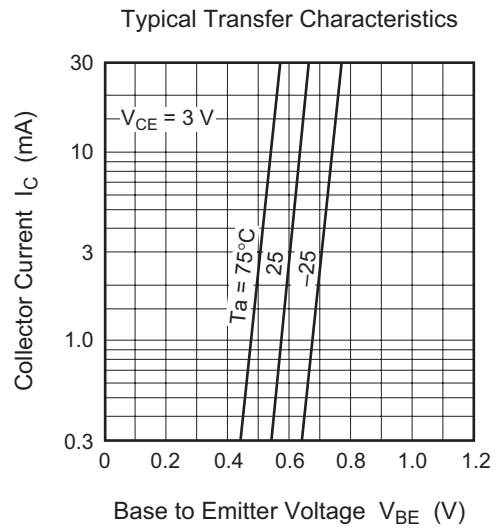
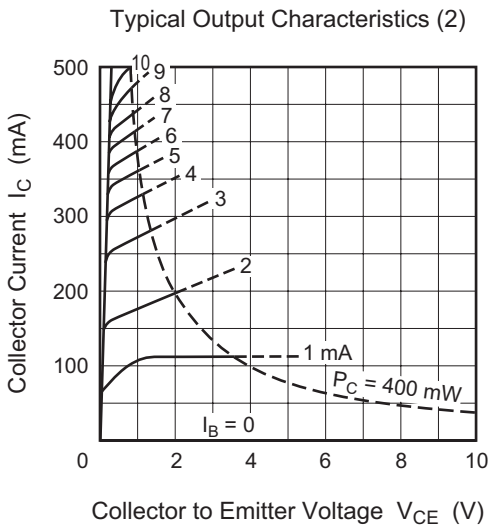
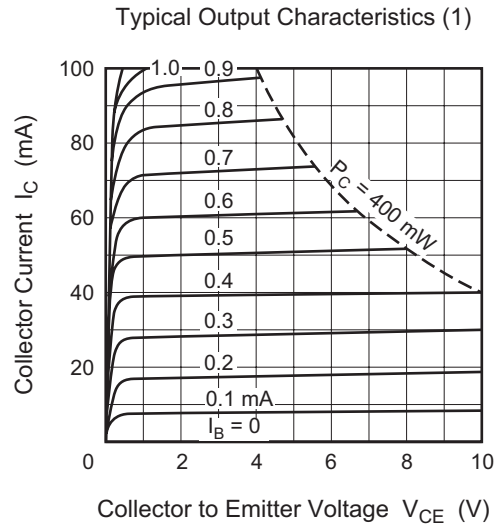
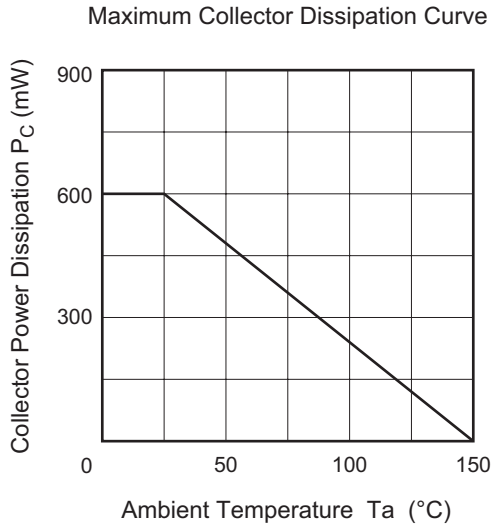
(Ta = 25°C)

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

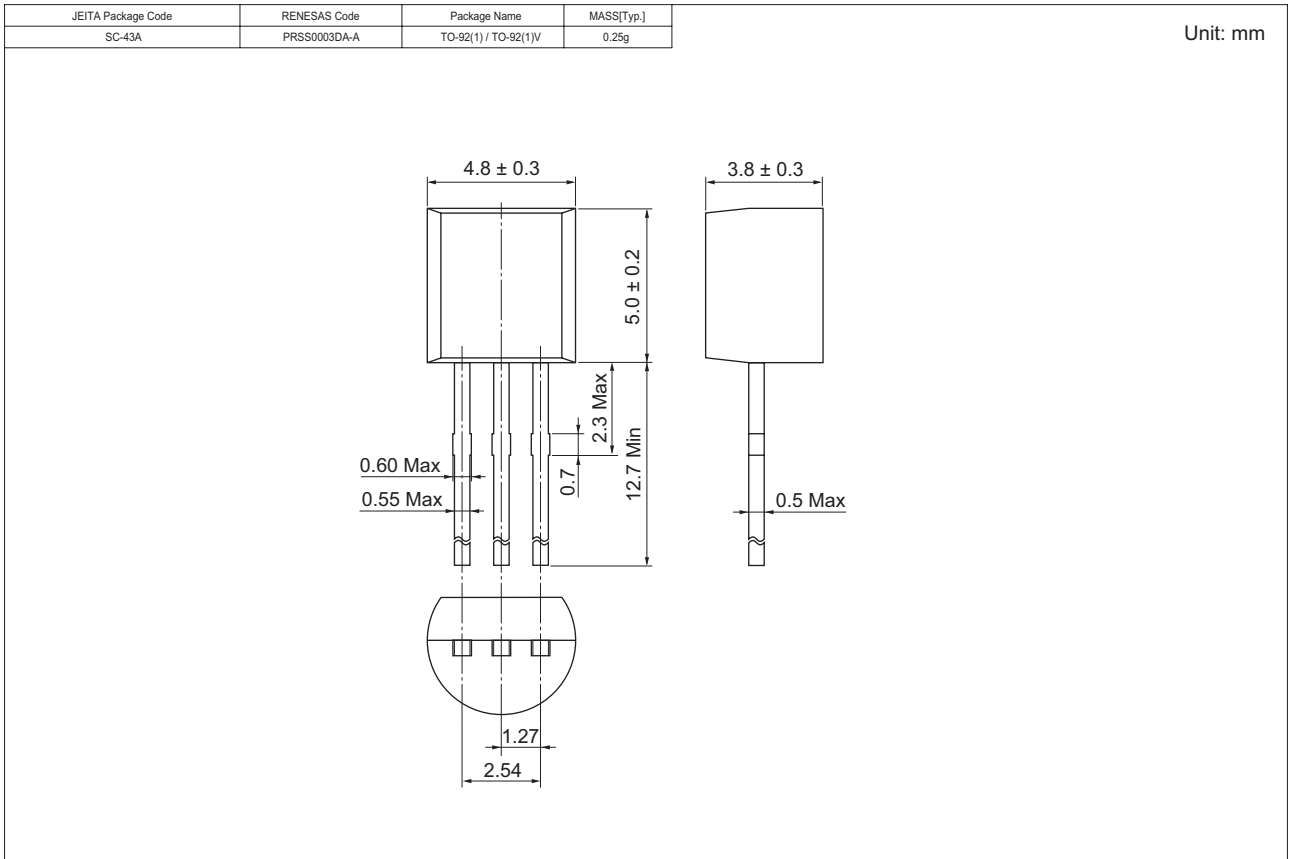
Note: 1. The 2SC1214 is grouped by  $h_{FE}$  as follows.

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

Main Characteristics



### Package Dimensions



### Ordering Information

| Part Name                    | Quantity | Shipping Container      |
|------------------------------|----------|-------------------------|
| 2SC1214CTZ-E<br>2SC1214DTZ-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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