

# 2SA1052

Silicon PNP Epitaxial

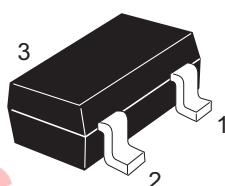
REJ03G0634-0300  
(Previous ADE-208-1006A)  
Rev.3.00  
Aug.10.2005

## Application

Low frequency amplifier

## Outline

RENESAS Package code: PLSP0003ZB-A  
(Package name: MPAK)



- 1. Emitter
- 2. Base
- 3. Collector

## Absolute Maximum Ratings

(Ta = 25°C)

| Item                         | Symbol    | Ratings     | Unit |
|------------------------------|-----------|-------------|------|
| Collector to base voltage    | $V_{CBO}$ | -30         | V    |
| Collector to emitter voltage | $V_{CEO}$ | -30         | V    |
| Emitter to base voltage      | $V_{EBO}$ | -5          | V    |
| Collector current            | $I_C$     | -100        | mA   |
| Emitter current              | $I_E$     | 100         | mA   |
| Collector power dissipation  | $P_C$     | 150         | mW   |
| Junction temperature         | $T_j$     | 150         | °C   |
| Storage temperature          | $T_{stg}$ | -55 to +150 | °C   |

## Electrical Characteristics

(Ta = 25°C)

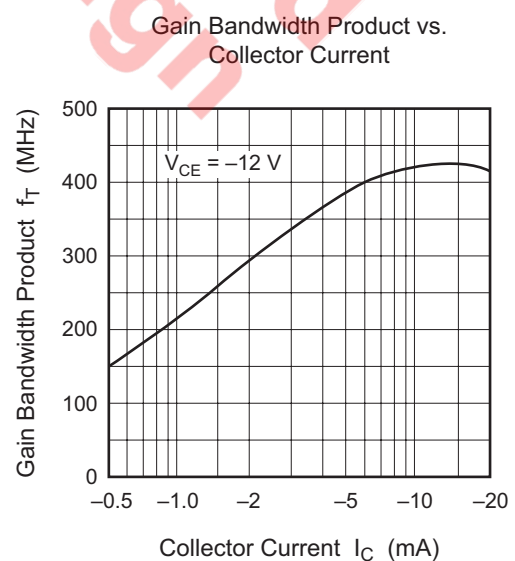
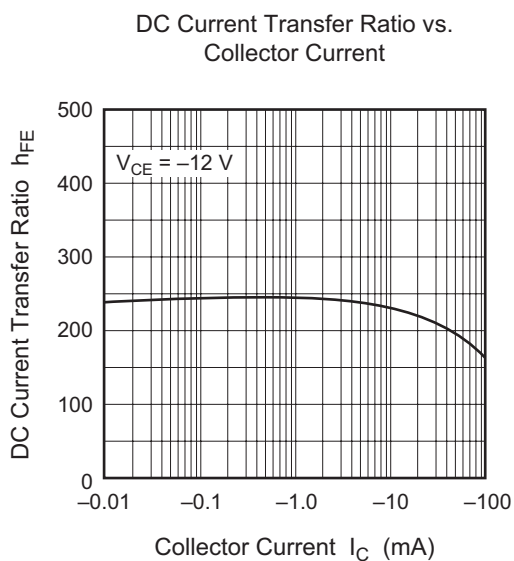
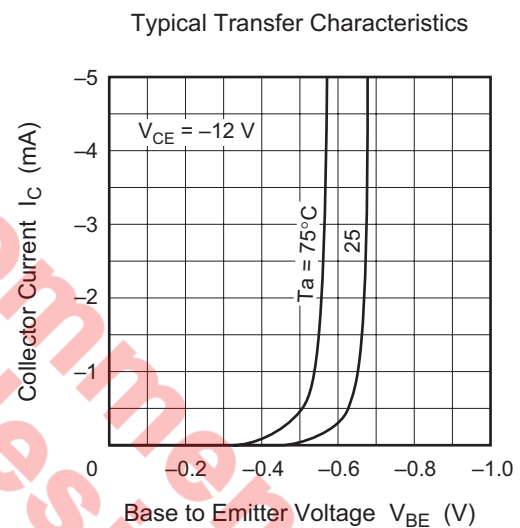
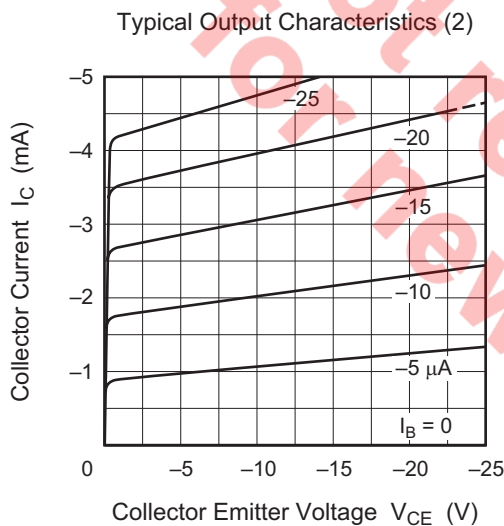
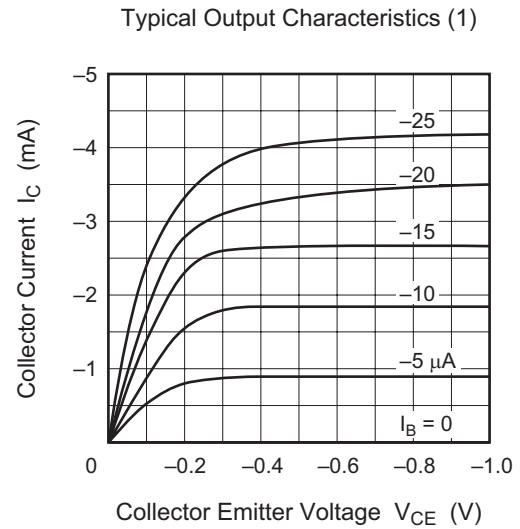
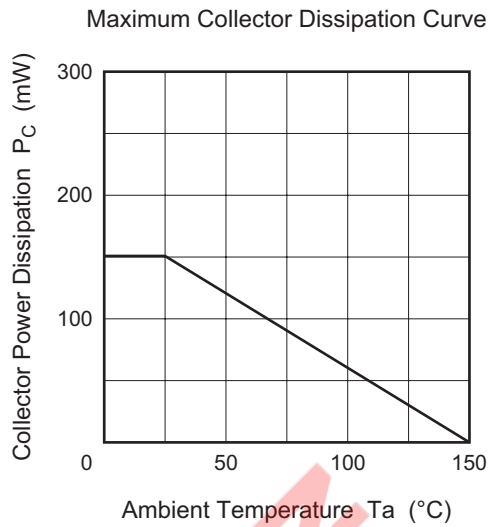
| Item                                    | Symbol        | Min | Typ | Max   | Unit    | Test conditions                 |
|-----------------------------------------|---------------|-----|-----|-------|---------|---------------------------------|
| Collector to base breakdown voltage     | $V_{(BR)CBO}$ | -30 | —   | —     | V       | $I_C = -10\ \mu A, I_E = 0$     |
| Collector to emitter breakdown voltage  | $V_{(BR)CEO}$ | -30 | —   | —     | 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                | $I_{CBO}$     | —   | —   | -0.5  | $\mu A$ | $V_{CB} = -20\ V, I_E = 0$      |
| Emitter cutoff current                  | $I_{EBO}$     | —   | —   | -0.5  | $\mu A$ | $V_{EB} = -2\ V, I_C = 0$       |
| DC current transfer ratio               | $h_{FE}^{*1}$ | 160 | —   | 500   |         | $V_{CE} = -12\ V, I_C = -2\ mA$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | —   | —   | -0.2  | V       | $I_C = -10\ mA, I_B = -1\ mA$   |
| Base to emitter voltage                 | $V_{BE}$      | —   | —   | -0.75 | V       | $V_{CE} = -12\ V, I_C = -2\ mA$ |

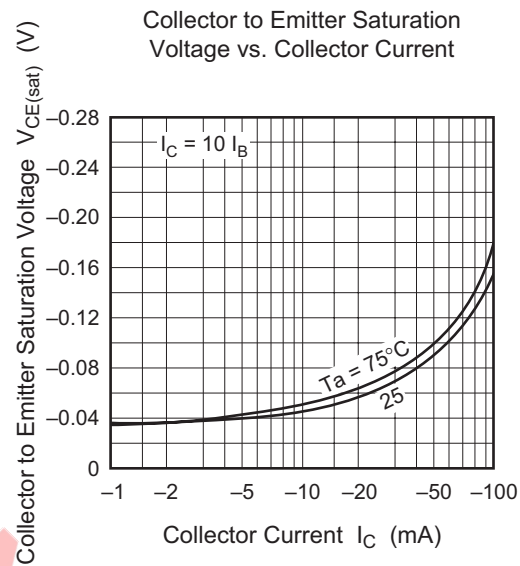
Note: 1. The 2SA1052 is grouped by  $h_{FE}$  as follows.

| Grade    | C          | D          |
|----------|------------|------------|
| Mark     | MC         | MD         |
| $h_{FE}$ | 160 to 320 | 250 to 500 |

Not recommend  
for new design

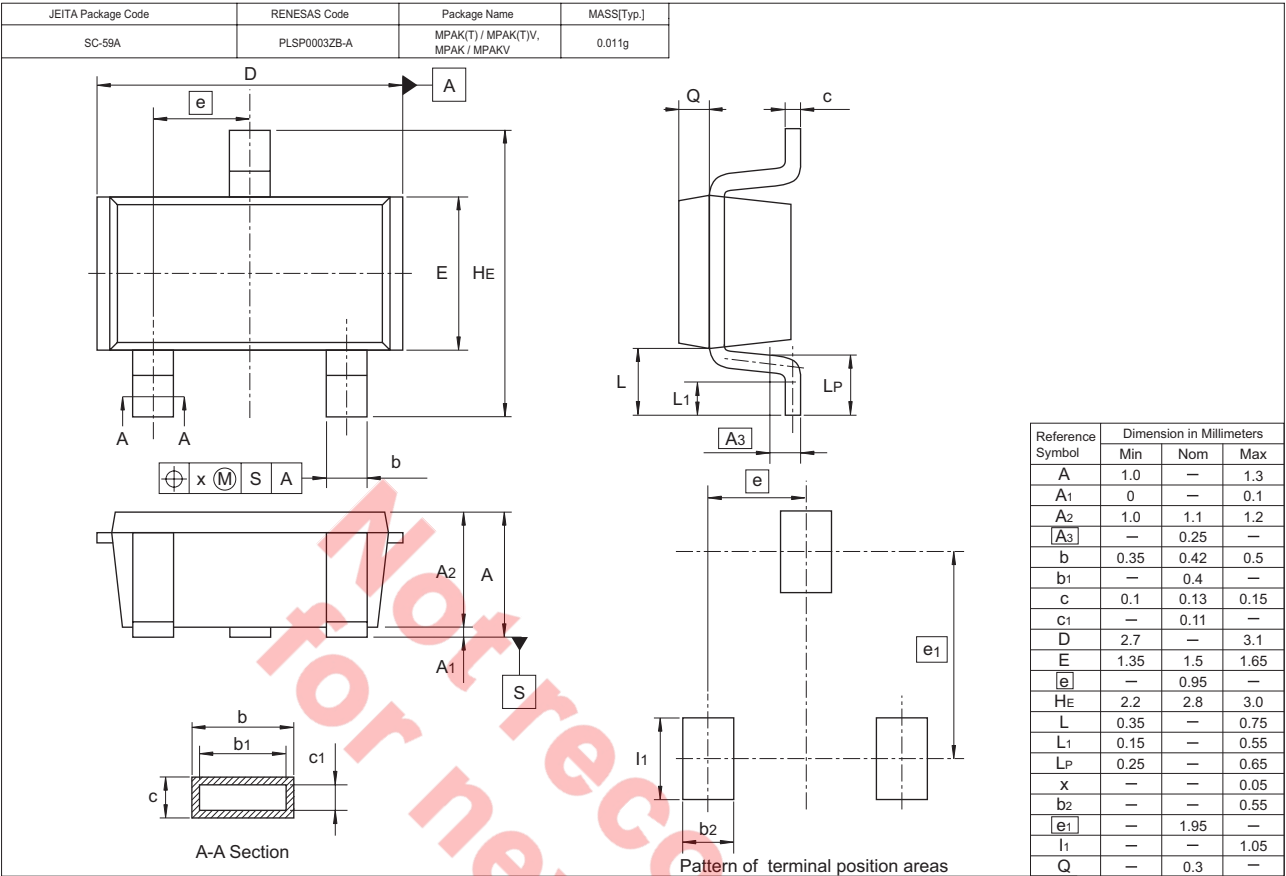
## Main Characteristics





Not recommend  
for new design

Package Dimensions



Ordering Information

| Part Name     | Quantity | Shipping Container                |
|---------------|----------|-----------------------------------|
| 2SA1052MCTR-E | 3000     | φ 178 mm Reel, 8 mm Emboss Taping |
| 2SA1052MDTR-E |          |                                   |

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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