

Low frequency transistor (12V, 0.5A)

2SC5585 / 2SC5663

The transistor of 500mA class which went only into 2125 size conventionally was attained in 1608 sizes or 1208 sizes.

●Applications

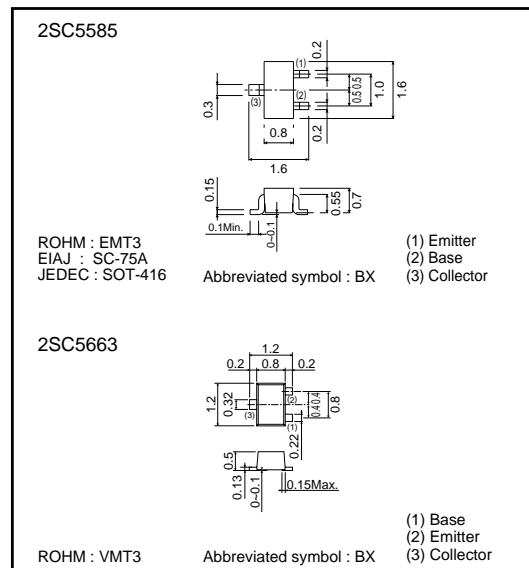
For switching
For muting

●Features

- 1) High current.
- 2) Low $V_{CE(sat)}$.

$$V_{CE(sat)} \leq 250\text{mV at } I_C = 200\text{mA} / I_B = 10\text{mA}$$

●External dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|-------------|------|
| Collector-base voltage | V_{CBO} | 15 | V |
| Collector-emitter voltage | V_{CEO} | 12 | V |
| Emitter-base voltage | V_{EBO} | 6 | V |
| Collector current | I_C | 500 | mA |
| | I_{CP} | 1 | A * |
| Collector power dissipation | P_C | 150 | mW |
| Junction temperature | T_J | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

* Single pulse $P_w = 1\text{ms}$

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|---------------|------|------|------|------|---|
| Collector-base breakdown voltage | BV_{CBO} | 15 | — | — | V | $I_C = 10\mu\text{A}$ |
| Collector-emitter breakdown voltage | BV_{CEO} | 12 | — | — | V | $I_C = 1\text{mA}$ |
| Emitter-base breakdown voltage | BV_{EBO} | 6 | — | — | V | $I_E = 10\mu\text{A}$ |
| Collector cutoff current | I_{CBO} | — | — | 100 | nA | $V_{CB} = 15\text{V}$ |
| Emitter cutoff current | I_{EBO} | — | — | 100 | nA | $V_{CB} = 6\text{V}$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | — | 90 | 250 | mV | $I_C = 200\text{mA}, I_B = 10\text{mA}$ |
| DC current transfer ratio | h_{FE} | 270 | — | 680 | — | $V_{CE} = 2\text{V}, I_C = 10\text{mA}$ |
| Transition frequency | f_T | — | 320 | — | MHz | $V_{CE} = 2\text{V}, I_E = -10\text{mA}, f = 100\text{MHz}$ |
| Output capacitance | C_{ob} | — | 7.5 | — | pF | $V_{CB} = 10\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$ |

Transistors

●Packaging specifications

| Type | hFE | Package | Taping | |
|---------|-----|--------------------------------------|--------|-----|
| | | Code Basic ordering unit (pieces) | TL | T2L |
| 2SC5585 | | | ○ | — |
| 2SC5663 | | | — | ○ |

●Electrical characteristic curves

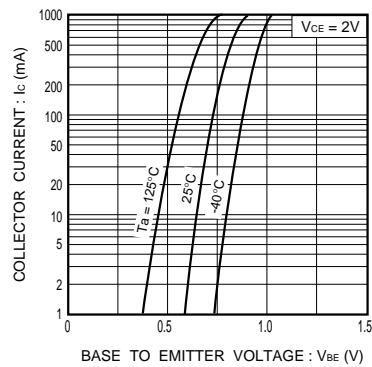


Fig.1 Grounded emitter propagation characteristics

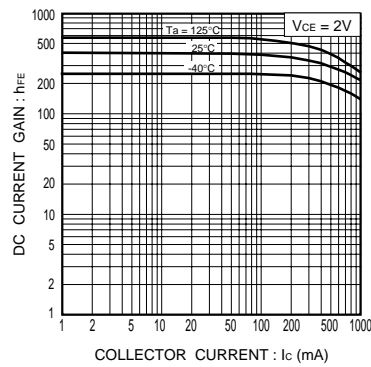


Fig.2 DC current gain vs. collector current

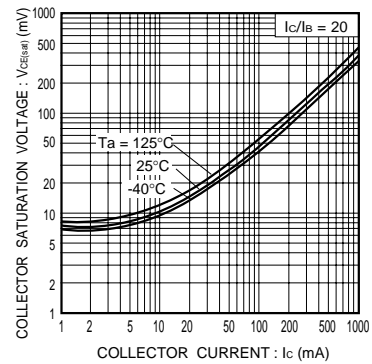


Fig.3 Collector-emitter saturation voltage vs. collector current (I)

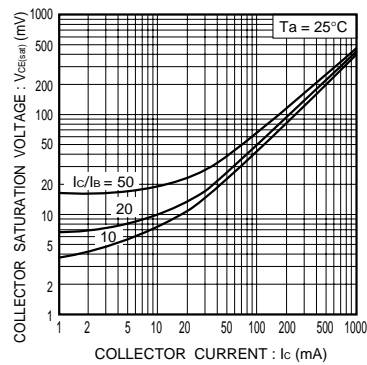


Fig.4 Collector-emitter saturation voltage vs. collector current (II)

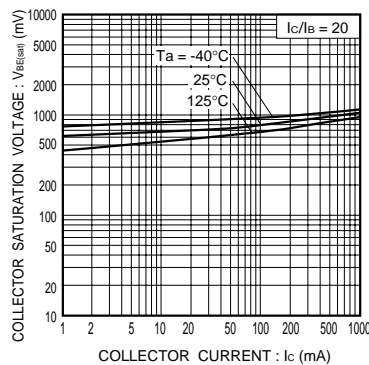
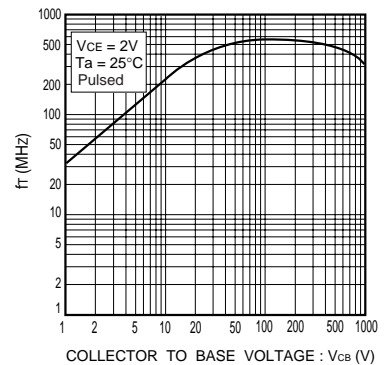
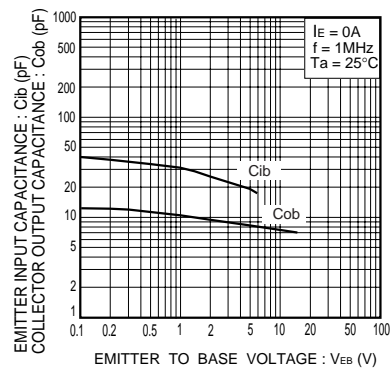


Fig.5 Base-emitter saturation voltage vs. collector current

Fig.6 Collector output capacitance
Emitter input capacitance
vs. base voltageFig.7 Collector output capacitance
vs collector-base voltage
Emitter input capacitance
vs emitter-base voltage

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