

# Low frequency amplifier

## 2SD2662

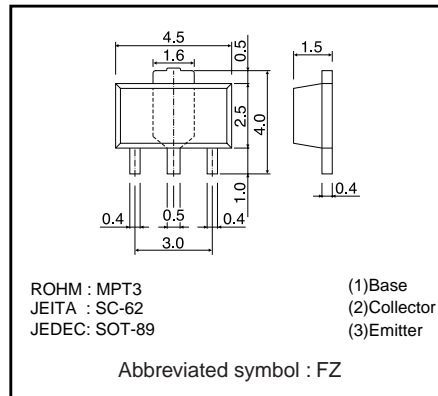
### ●Application

Low frequency amplifier  
Driver

### ●Features

- 1) A collector current is large.
- 2)  $V_{CE(sat)} \leq 350\text{mV}$   
At  $I_c = 1\text{A} / I_B = 50\text{mA}$

### ●Dimensions (Unit : mm)



### ●Absolute maximum ratings (Ta=25°C)

| Parameter                    | Symbol    | Limits          | Unit            |
|------------------------------|-----------|-----------------|-----------------|
| Collector-base voltage       | $V_{CB0}$ | 30              | V               |
| Collector-emitter voltage    | $V_{CE0}$ | 30              | V               |
| Emitter-base voltage         | $V_{EB0}$ | 6               | V               |
| Collector current            | $I_c$     | 1.5             | A               |
|                              | $I_{CP}$  | 3               | A <sup>*1</sup> |
| Power dissipation            | $P_C$     | 500             | mW              |
|                              |           | 2 <sup>*2</sup> | W               |
| Junction temperature         | $t_j$     | 150             | °C              |
| Range of storage temperature | $t_{stg}$ | -55 to +150     | °C              |

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

\*2 Mounted on a 40×40×10.7mm Ceramic substrate

### ●Packaging specifications

| Type    | Package                      | Taping |
|---------|------------------------------|--------|
|         | Code                         | T100   |
|         | Basic ordering unit (pieces) | 1000   |
| 2SD2662 |                              | ○      |

### ●Electrical characteristics (Ta=25°C)

| Parameter                            | Symbol        | Min. | Typ. | Max. | Unit | Conditions   |
|--------------------------------------|---------------|------|------|------|------|--|
| Collector-base breakdown voltage     | $BV_{CB0}$    | 30   | –    | –    | V    | $I_c=10\mu\text{A}$                                      |
| Collector-emitter breakdown voltage  | $BV_{CE0}$    | 30   | –    | –    | V    | $I_c=1\text{mA}$   |
| Emitter-base breakdown voltage       | $BV_{EB0}$    | 6    | –    | –    | V    | $I_E=10\mu\text{A}$                                      |
| Collector cut off current            | $I_{CB0}$     | –    | –    | 100  | nA   | $V_{CB}=30\text{V}$                                      |
| Emitter cut off current              | $I_{EB0}$     | –    | –    | 100  | nA   | $V_{EB}=6\text{V}$                                       |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | –    | 160  | 350  | mV   | $I_c=1\text{A}, I_B=50\text{mA}$                         |
| DC current gain                      | $h_{FE}$      | 270  | –    | 680  | –    | $V_{CE}=2\text{V}, I_c=100\text{mA}^*$                   |
| Transition frequency                 | $f_T$         | –    | 330  | –    | MHz  | $V_{CE}=2\text{V}, I_E=-100\text{mA}, f=100\text{MHz}^*$ |
| Corrector output capacitance         | $C_{ob}$      | –    | 11   | –    | pF   | $V_{CB}=10\text{V}, I_E=0\text{A}, f=1\text{MHz}$        |

\* Pulsed

Transistors

●Electrical characteristic curves

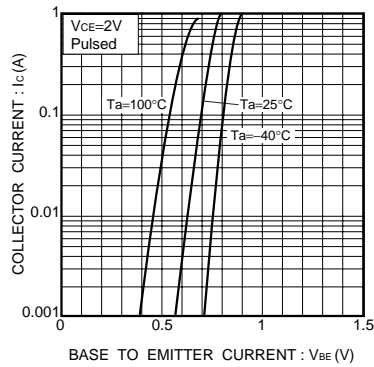


Fig.1 Grounded emitter propagation characteristics

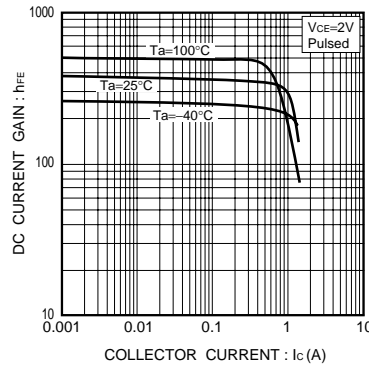


Fig.2 DC current gain vs. collector current

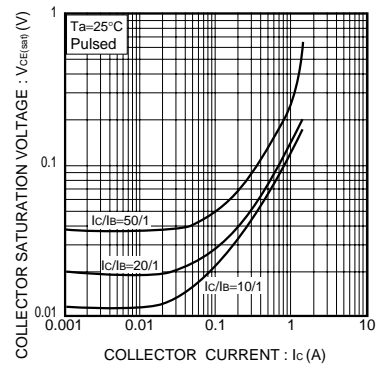


Fig.3 Collector-emitter saturation voltage vs. collector current

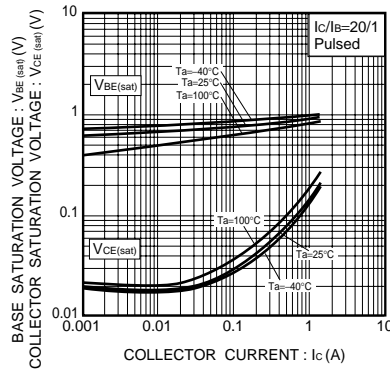


Fig.4 Collector-emitter saturation voltage base-emitter saturation voltage vs. collector current

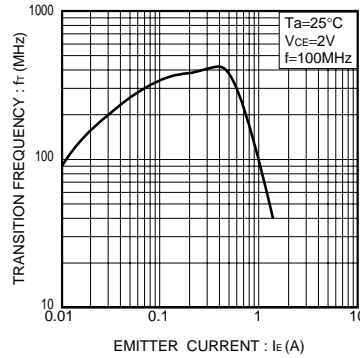


Fig.5 Gain bandwidth product vs. emitter current

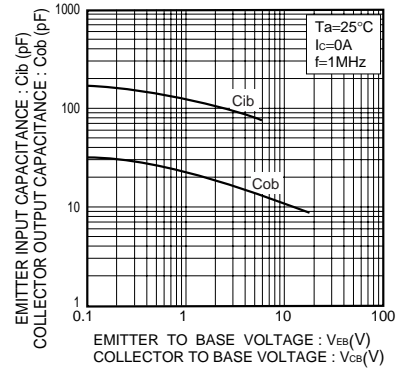


Fig.6 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

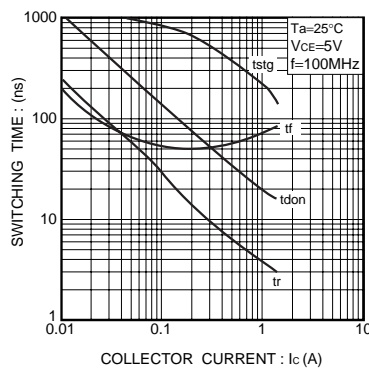


Fig.7 Switching time

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