



## PRODUCT DATA SHEET



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**Datasheet**



**Resources**

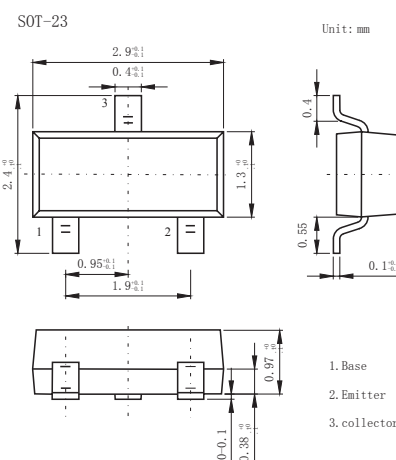


**Samples**

Please note: Please check the JINGAO Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at [www.jg-semi.cn](http://www.jg-semi.cn). Please email any questions regarding the system integration to [JINGAO\\_questions@jgsemi.com](mailto:JINGAO_questions@jgsemi.com).

## ■ Features

- High Collector-Emitter Voltage
- Complement to MMBTA94



■ Absolute Maximum Ratings Ta = 25°C

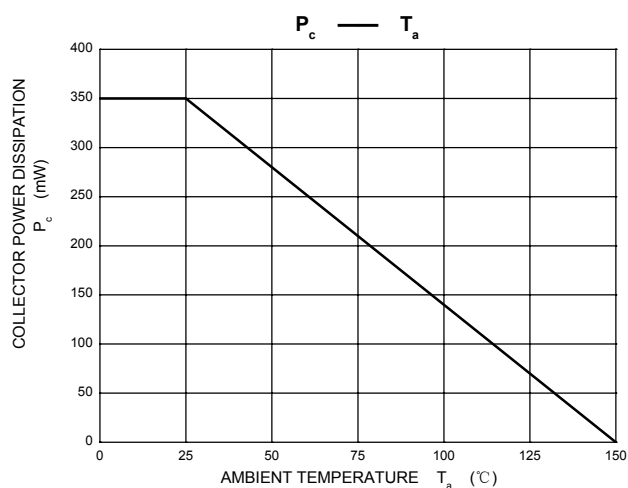
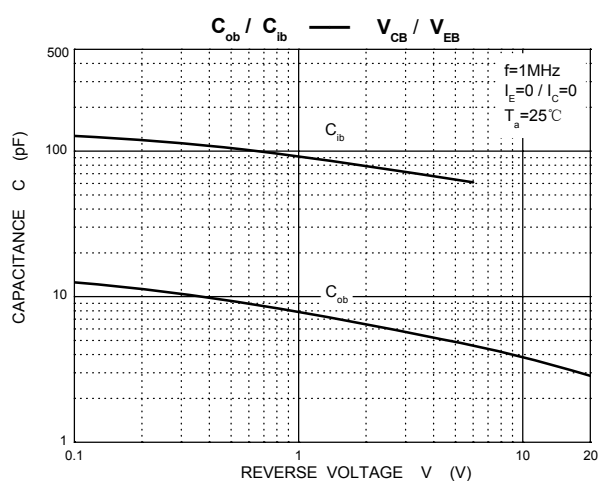
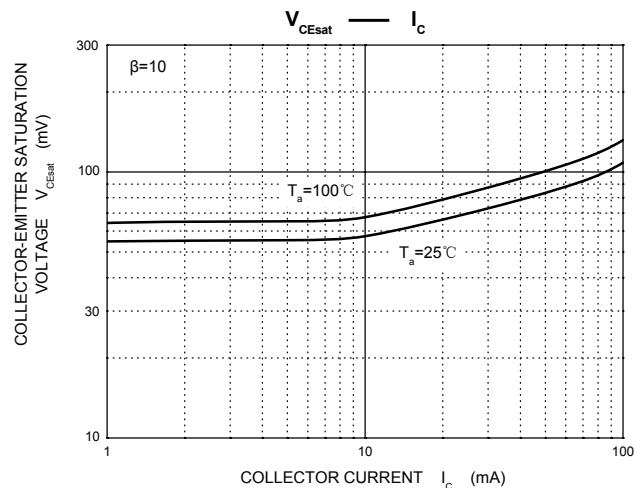
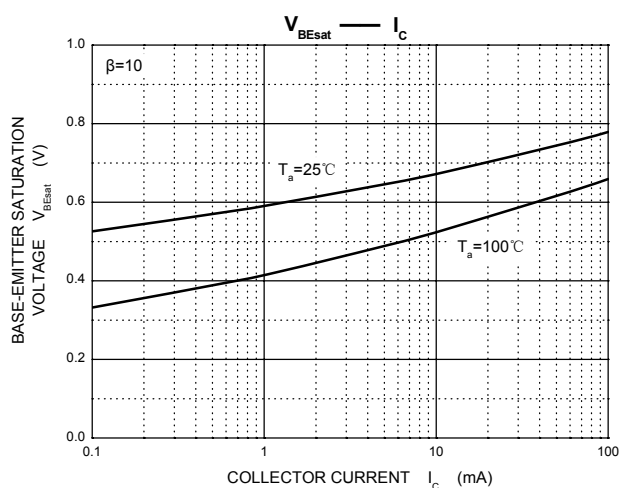
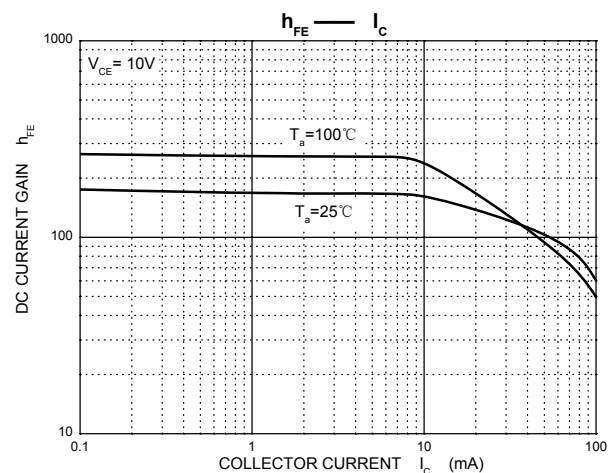
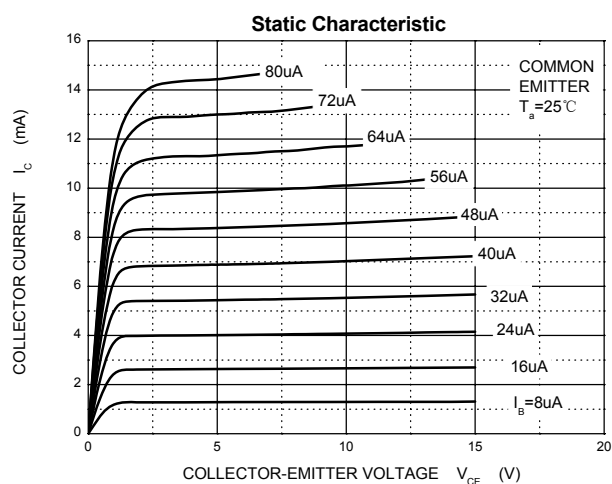
| Parameter                                   | Symbol           | Rating     | Unit |
|---|------------------|------------|------|
| Collector - Base Voltage                    | V <sub>CBO</sub> | 400        | V    |
| Collector - Emitter Voltage                 | V <sub>CEO</sub> | 400        |      |
| Emitter - Base Voltage                      | V <sub>EBO</sub> | 6          |      |
| Collector Current - Continuous              | I <sub>C</sub>   | 200        | mA   |
| Collector Current -Pulsed                   | I <sub>CM</sub>  | 300        |      |
| Collector Power Dissipation                 | P <sub>C</sub>   | 350        | mW   |
| Thermal Resistance From Junction To Ambient | R <sub>θJA</sub> | 357        | °C/W |
| Junction Temperature                        | T <sub>J</sub>   | 150        | °C   |
| Storage Temperature Range                   | T <sub>stg</sub> | -55 to 150 |      |

### ■ Electrical Characteristics Ta = 25°C

| Parameter                               | Symbol                | Test Conditions                                    | Min | Typ | Max  | Unit |
|---|-----------------------|--|-----|-----|------|------|
| Collector- base breakdown voltage       | V <sub>CB0</sub>      | I <sub>C</sub> = 100 μA, I <sub>E</sub> = 0        | 400 |     |      | V    |
| Collector- emitter breakdown voltage *1 | V <sub>CE0</sub>      | I <sub>C</sub> = 1 mA, I <sub>B</sub> = 0          | 400 |     |      |      |
| Emitter - base breakdown voltage        | V <sub>EB0</sub>      | I <sub>E</sub> = 100 μ A, I <sub>C</sub> = 0       | 6   |     |      |      |
| Collector-base cut-off current          | I <sub>CB0</sub>      | V <sub>CB</sub> = 400 V , I <sub>E</sub> = 0       |     |     | 100  | nA   |
| Emitter cut-off current                 | I <sub>EB0</sub>      | V <sub>EB</sub> = 4V , I <sub>C</sub> =0           |     |     | 100  |      |
| Collector-emitter saturation voltage *1 | V <sub>CE(sat)1</sub> | I <sub>C</sub> =10 mA, I <sub>B</sub> =1mA         |     |     | 0.2  | V    |
|   | V <sub>CE(sat)2</sub> | I <sub>C</sub> =50 mA, I <sub>B</sub> =5mA         |     |     | 0.3  |      |
| Base - emitter saturation voltage *1    | V <sub>BE(sat)</sub>  | I <sub>C</sub> =10 mA, I <sub>B</sub> =1mA         |     |     | 0.75 |      |
| DC current gain *1                      | h <sub>FE(1)</sub>    | V <sub>CE</sub> = 10V, I <sub>C</sub> = 1mA        | 50  |     |      |      |
|   | h <sub>FE(2)</sub>    | V <sub>CE</sub> = 10V, I <sub>C</sub> = 10mA       | 80  |     | 300  |      |
|   | h <sub>FE(3)</sub>    | V <sub>CE</sub> = 10V, I <sub>C</sub> = 50mA       | 40  |     |      |      |
|   | h <sub>FE(4)</sub>    | V <sub>CE</sub> = 10V, I <sub>C</sub> = 100mA      | 40  |     |      |      |
| Collector output capacitance            | C <sub>ob</sub>       | V <sub>CB</sub> = 20V, I <sub>E</sub> = 0,f=1MHz   |     |     | 7    | pF   |
| Transition frequency                    | f <sub>T</sub>        | V <sub>CE</sub> =20, I <sub>C</sub> = 10mA,f=30MHz | 50  |     |      | MHz  |

\*1: Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2.0\%$ .

■ Typical Characteristics



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