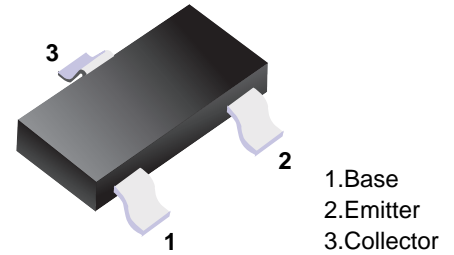


■ PNP Transistors



■ Features

- High voltage transistor
- Low collector-emitter saturation voltage
- Complementary to MMBTA42 (NPN)

■ Simplified outline(SOT-23)

■ Absolute Maximum Ratings Ta = 25°C

| Parameter                              | Symbol           | Rating     | Unit |
|--|------------------|------------|------|
| Collector - Base Voltage               | V <sub>CB0</sub> | -300       | V    |
| Collector - Emitter Voltage            | V <sub>CE0</sub> | -300       |      |
| Emitter - Base Voltage                 | V <sub>EB0</sub> | -5         |      |
| Collector Current - Continuous         | I <sub>c</sub>   | -500       | mA   |
| Collector Power Dissipation            | P <sub>c</sub>   | 350        | mW   |
| Thermal Resistance Junction to Ambient | R <sub>θJA</sub> | 417        | °C/W |
| Junction Temperature                   | T <sub>J</sub>   | 150        | °C   |
| Storage Temperature range              | T <sub>stg</sub> | -55 to 150 |      |

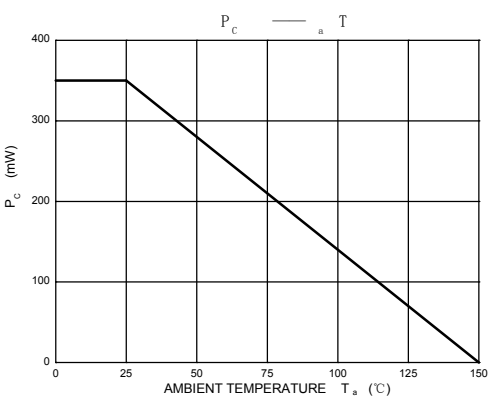
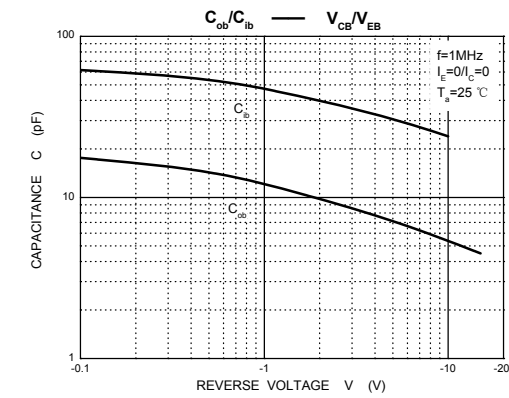
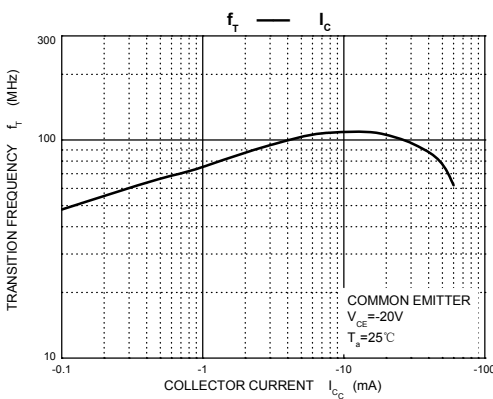
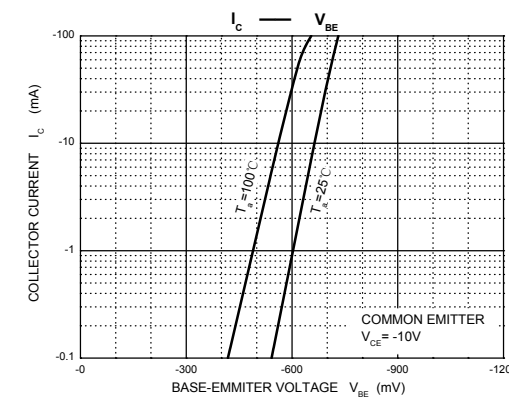
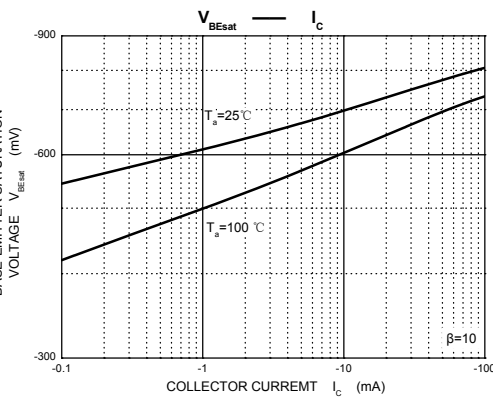
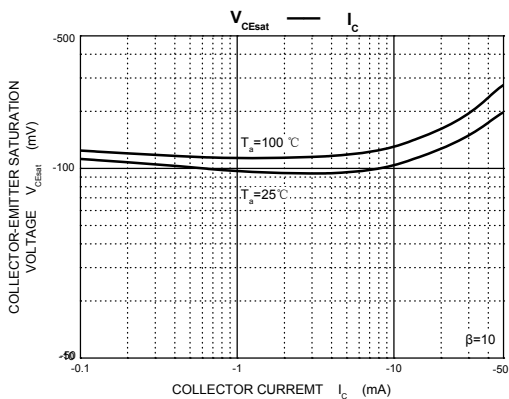
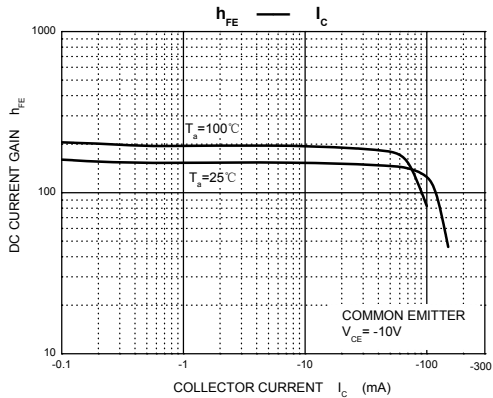
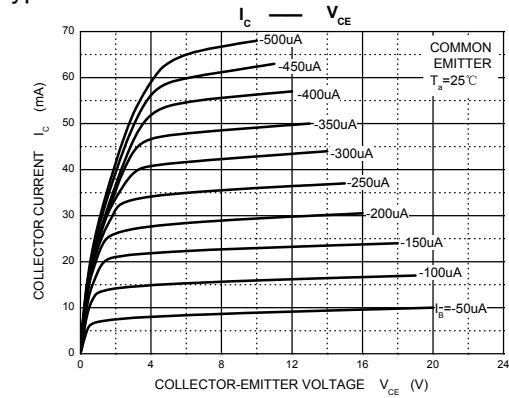
■ Electrical Characteristics Ta = 25°C

| 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             | -300 |     |       | V    |
| Collector- emitter breakdown voltage | V <sub>CE0</sub>     | I <sub>c</sub> = -1 mA, I <sub>B</sub> =0               | -300 |     |       |      |
| Emitter - base breakdown voltage     | V <sub>EB0</sub>     | I <sub>E</sub> = -100 μA, I <sub>C</sub> =0             | -5   |     |       |      |
| Collector-base cut-off current       | I <sub>CB0</sub>     | V <sub>CB</sub> = -200 V, I <sub>E</sub> =0             |      |     | -0.25 | uA   |
| Emitter cut-off current              | I <sub>EB0</sub>     | V <sub>EB</sub> = -5V, I <sub>C</sub> =0                |      |     | -0.1  |      |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> =-20 mA, I <sub>B</sub> =- 2mA           |      |     | -0.2  | V    |
| Base - emitter saturation voltage    | V <sub>BE(sat)</sub> | I <sub>C</sub> = -20mA, I <sub>B</sub> = -2mA           |      |     | -0.9  |      |
| DC current gain                      | h <sub>fe</sub> (1)  | V <sub>CE</sub> = -10V, I <sub>C</sub> = -1mA           | 60   |     |       |      |
|                                      | h <sub>fe</sub> (2)  | V <sub>CE</sub> = -10V, I <sub>C</sub> = -10mA          | 100  |     | 300   |      |
|                                      | h <sub>fe</sub> (3)  | V <sub>CE</sub> = -10V, I <sub>C</sub> =-30mA           | 60   |     |       |      |
| Transition frequency                 | f <sub>T</sub>       | V <sub>CE</sub> = -20V, I <sub>C</sub> = -10mA, f=30MHz | 50   |     |       | MHz  |

■ Classification of h<sub>fe</sub>(2)

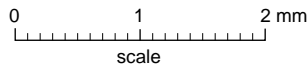
| Type    | MMBTA92 | MMBTA92-L |
|---------|---------|-----------|
| Range   | 100-300 | 100-200   |
| Marking | 2D      |           |

■ Typical Characteristics



**Package Outline**

**SOT-23**



**DIMENSIONS (mm are the original dimensions)**

| UNIT | A          | A <sub>1</sub> max. | b <sub>p</sub> | c            | D          | E          | e   | e <sub>1</sub> | H <sub>E</sub> | L <sub>p</sub> | Q            | v   | w   |
|------|------------|---------------------|----------------|--------------|------------|------------|-----|----------------|----------------|----------------|--------------|-----|-----|
| mm   | 1.1<br>0.9 | 0.1                 | 0.48<br>0.38   | 0.15<br>0.09 | 3.0<br>2.8 | 1.4<br>1.2 | 1.9 | 0.95           | 2.5<br>2.1     | 0.45<br>0.15   | 0.55<br>0.45 | 0.2 | 0.1 |

**Summary of Packing Options**

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| SOT-23  | Tape/Reel, 7" reel  | 3000             | EIA-481-1         |