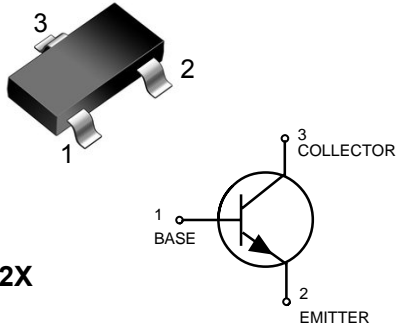


**SOT-23**



**MARKING: 2X**

**Features**

- As complementary type the PNP transistor PMBT4403 is recommended
- Epitaxial planar die construction
- Halogen free and RoHS compliant

**Mechanical Data**

SOT-23 Small Outline Plastic Package  
EpoxyUL: 94V-0

**Summary of Packing Options**

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

**Maximum Ratings & Thermal Characteristics**

(Ratings at 25°C ambient temperature unless otherwise specified.)

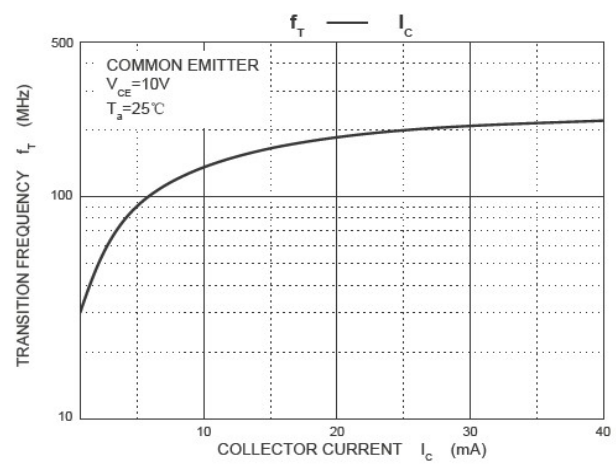
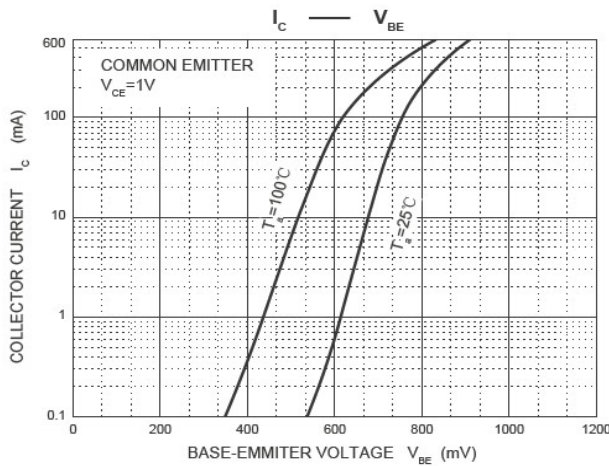
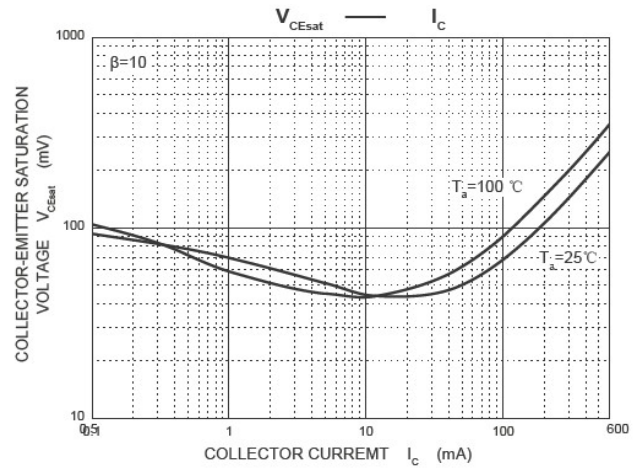
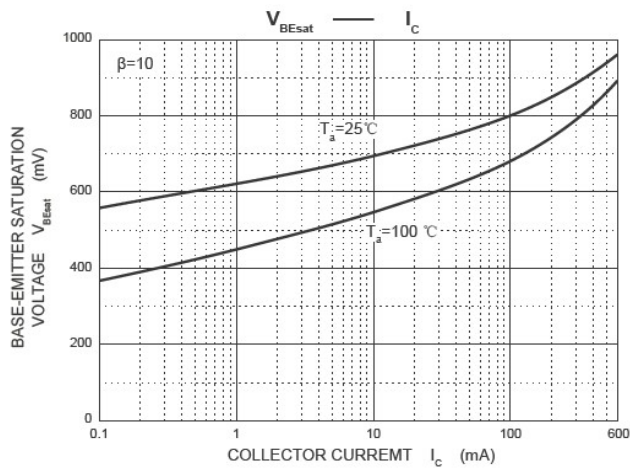
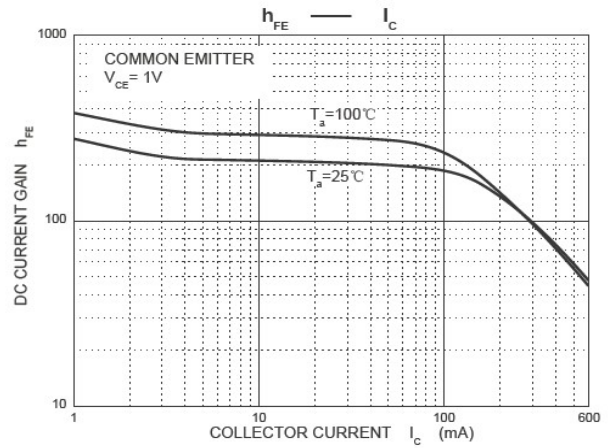
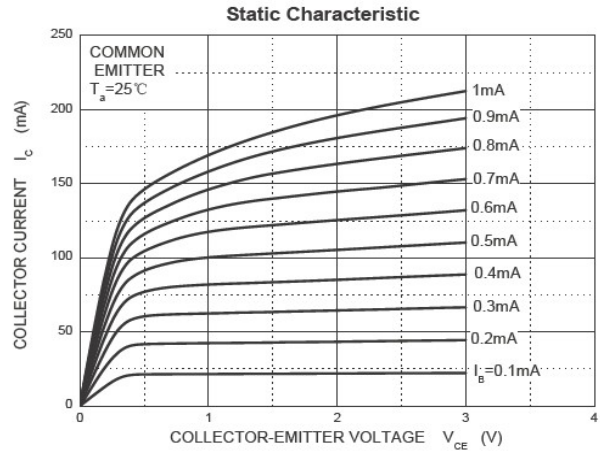
| Parameters                                  | Symbol           | Value    | Unit |
|---|------------------|----------|------|
| Collector-Base Voltage                      | V <sub>CB0</sub> | 60       | V    |
| Collector-Emitter Voltage                   | V <sub>CE0</sub> | 40       | V    |
| Emitter -Base Voltage                       | V <sub>EBO</sub> | 6        | V    |
| Collector Current-Continuous                | I <sub>c</sub>   | 600      | mA   |
| Collector Power Dissipation                 | P <sub>c</sub>   | 300      | mW   |
| Junction Temperature                        | T <sub>j</sub>   | 150      | °C   |
| Storage Temperature                         | T <sub>stg</sub> | -55-+150 | °C   |
| Thermal resistance From junction to ambient | R <sub>θJA</sub> | 417      | °C/W |

**Electrical Characteristics**

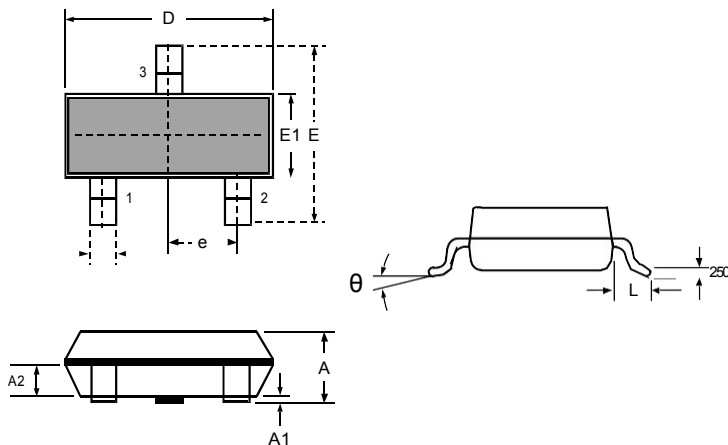
(Ratings at 25°C ambient temperature unless otherwise specified.)

| Parameter                            | Symbols  | Test Condition                            | Limits |      | Unit |
|--------------------------------------|----------|---|--------|------|------|
|                                      |          |   | Min    | Max  |      |
| Collector-base breakdown voltage     | V(BR)CBO | IC=100uA, IE=0                            | 60     |      | V    |
| Collector-emitter breakdown voltage  | V(BR)CEO | IC=1mA, IB=0                              | 40     |      | V    |
| Emitter-base breakdown voltage       | V(BR)EBO | IE=100uA, IC=0                            | 6      |      | V    |
| Collector cut-off current            | ICBO     | VCE=50V, IE=0                             |        | 100  | nA   |
| Collector cut-off current            | ICEX     | VCE=35V, VEB(off)=0.4V                    |        | 100  | nA   |
| Emitter cut-off current              | IEBO     | VEB=5V, IC=0                              |        | 100  | nA   |
| DC current gain                      | hFE(1)   | VCE=1V, IC=0.1mA                          | 20     |      |      |
|                                      | hFE(2)   | VCE=1V, IC=1mA                            | 40     |      |      |
|                                      | hFE(3)   | VCE=1V, IC=10mA                           | 80     |      |      |
|                                      | hFE(4)   | VCE=1V, IC=150mA                          | 100    | 300  |      |
|                                      | hFE(5)   | VCE=1V, IC=500mA                          | 40     |      |      |
| Collector-emitter saturation voltage | VCE(sat) | IC=150mA, IB=15mA                         |        | 0.40 | V    |
|                                      |          | IC=500mA, IB=50mA                         |        | 0.75 | V    |
| Base -emitter saturation voltage     | VBE(sat) | IC=150mA, IB=15mA                         |        | 0.95 | V    |
|                                      |          | IC=500mA, IB=50mA                         |        | 1.20 | V    |
| Transition frequency                 | fT       | VCE=10V, IC=20mA, f=100MHz                | 250    |      | MHz  |
| Delay time                           | td       | VCC=30V, VBE(off)=-2V, IC=150mA, IB1=15mA |        | 15   | nS   |
| Rise time                            | tr       |   |        | 20   | nS   |
| Storage time                         | ts       |   |        | 225  | nS   |
| Fall time                            | tf       |   |        | 60   | nS   |

## Ratings and Characteristic Curves



## Package Outline Dimensions: SOT-23



### DIMENSIONS

| SYMBOL   | MILLIMETER |           | INCHES    |           |
|----------|------------|-----------|-----------|-----------|
|          | MIN        | MAX       | MIN       | MAX       |
| A        | 0.900      | 1.150     | 0.035     | 0.045     |
| A1       | 0.000      | 0.100     | 0.000     | 0.004     |
| A2       | 0.900      | 1.050     | 0.035     | 0.041     |
| D        | 2.800      | 3.000     | 0.110     | 0.118     |
| b        | 0.300      | 0.500     | 0.012     | 0.020     |
| E        | 2.250      | 2.550     | 0.089     | 0.100     |
| E1       | 1.200      | 1.400     | 0.047     | 0.055     |
| e        | 0.950 BSC  |           | 0.037 BSC |           |
| L        | 0.300      | 0.500     | 0.012     | 0.020     |
| $\theta$ | 0          | $8^\circ$ | 0         | $8^\circ$ |

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