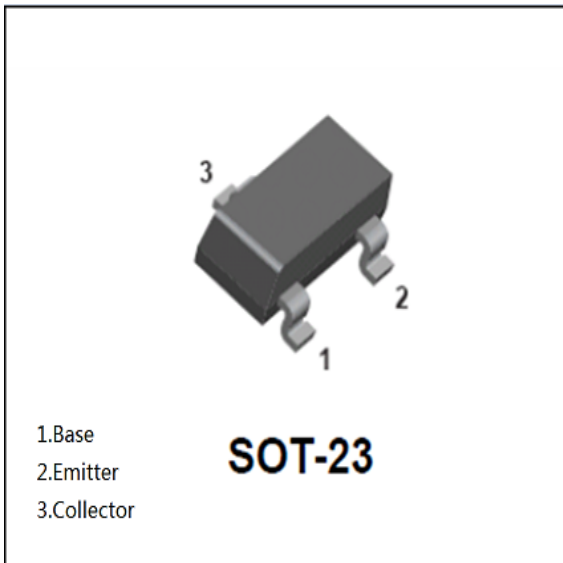


## PNP Silicon High Voltage Transistor



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- Surface mount package ideally Suited for Automatic Insertion
- PNP

### Mechanical Data

- **Package:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 2D

### ■ Maximum Ratings (Ta=25°C unless otherwise noted)

| Item                           | Symbol    | Unit | Conditions                 | Value       |
|--------------------------------|-----------|------|----------------------------|-------------|
| Collector-Base Voltage         | $V_{CBO}$ | V    | $I_C = -100\mu A, I_E = 0$ | -300        |
| Collector-Emitter Voltage      | $V_{CEO}$ | V    | $I_C = -1mA, I_B = 0$      | -300        |
| Emitter-Base Voltage           | $V_{EBO}$ | V    | $I_E = -100\mu A, I_C = 0$ | -5          |
| Collector Current              | $I_C$     | mA   |                            | -300        |
| Collector Power Dissipation    | $P_C$     | mW   |                            | 300         |
| Operation Junction Temperature | $T_j$     | °C   |                            | -55 to +150 |
| Storage Temperature            | $T_{stg}$ | °C   |                            | -55 to +150 |

### ■ Electrical Characteristics (Ta=25°C Unless otherwise specified)

| Item                                 | Symbol         | Unit | Conditions                   | Min  | Max  |
|--------------------------------------|----------------|------|------------------------------|------|------|
| Collector-base breakdown voltage     | $V_{CBO}$      | V    | $I_C = -100\mu A, I_E = 0$   | -300 |      |
| Collector-emitter breakdown voltage  | $V_{CEO}$      | V    | $I_C = -1mA, I_B = 0$        | -300 |      |
| Emitter-base breakdown voltage       | $V_{EBO}$      | V    | $I_E = -100\mu A, I_C = 0$   | -5   |      |
| Collector-base cut-off current       | $I_{CBO}$      | nA   | $V_{CB} = -200V, I_E = 0$    |      | -250 |
| Emitter-base cut-off current         | $I_{EBO}$      | nA   | $V_{EB} = -5V, I_C = 0$      |      | -100 |
| DC current gain                      | $h_{FE}$       |      | $V_{CE} = -10V, I_C = -1mA$  | 60   |      |
|                                      | $h_{FE}$       |      | $V_{CE} = -10V, I_C = -10mA$ | 100  | 200  |
|                                      | $h_{FE}$       |      | $V_{CE} = -10V, I_C = -30mA$ | 60   |      |
| Collector-emitter saturation voltage | $V_{CE(sat)}$  | V    | $I_C = -20mA, I_B = -2mA$    |      | -0.2 |
| Base-emitter saturation voltage      | $V_{BE(sat)*}$ | V    | $I_C = -20mA, I_B = -2mA$    |      | -0.9 |



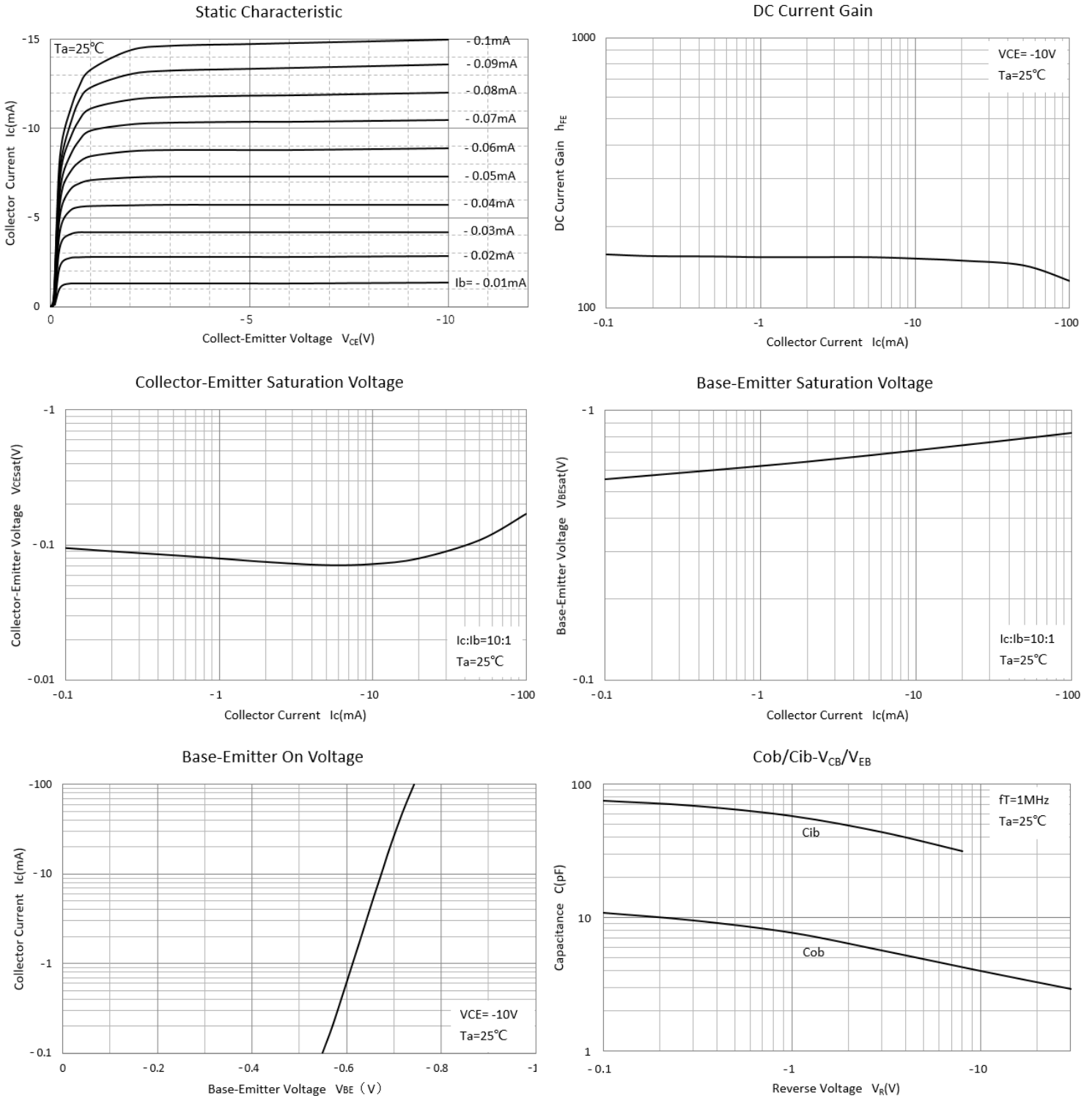
## Other Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| Item                 | Symbol         | Unit | Conditions  | Min | Max |
|----------------------|----------------|------|---|-----|-----|
| Transition frequency | f <sub>t</sub> | MHz  | V <sub>CE</sub> =-20V, I <sub>C</sub> =-10mA, f=30MHz | 50  |     |

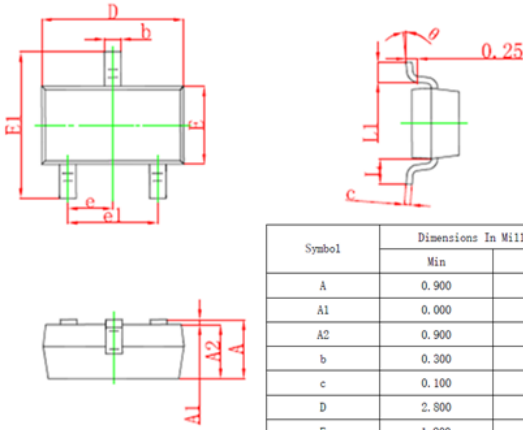
## Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| MMBTA92       | F2           | Approximate 0.009 | 3000                 | 30000                   | 120000                     | 7" reel       |

## Characteristics(Typical)

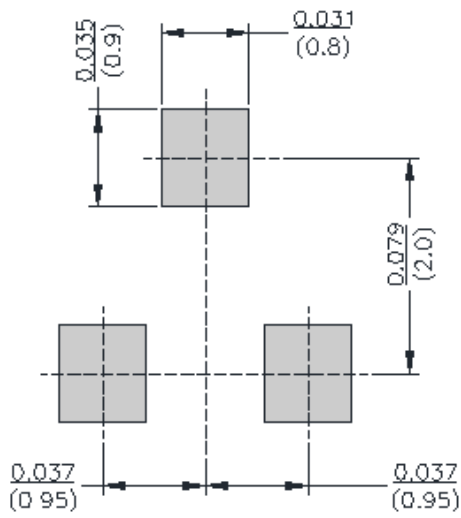


## ■SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In 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 |
| b      | 0.300                     | 0.500 | 0.012                | 0.020 |
| c      | 0.100                     | 0.200 | 0.004                | 0.008 |
| D      | 2.800                     | 3.000 | 0.110                | 0.118 |
| E      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E1     | 2.250                     | 2.550 | 0.089                | 0.100 |
| e      | 0.950TYP                  |       | 0.037TYP             |       |
| e1     | 1.800                     | 2.000 | 0.071                | 0.079 |
| L      | 0.550REF                  |       | 0.022REF             |       |
| L1     | 0.300                     | 0.500 | 0.012                | 0.020 |
| ø      | 0°                        | 8°    | 0°                   | 8°    |

## ■SOT-23 Soldering Footprint





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