

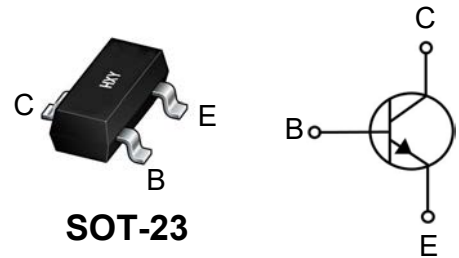


## Features

- Collector Current:  $I_C = 1A$
- Power Dissipation of 250mw

## Package Marking and Ordering Information

| Product ID | Pack   | Marking | Qty(PCS) |
|------------|--------|---------|----------|
| PBSS8110T  | SOT-23 | 493     | 3000     |



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

| Symbol          | Parameter                                        | Value    | Unit |
|-----------------|--------------------------------------------------|----------|------|
| $V_{CBO}$       | Collector-Base Voltage                           | 120      | V    |
| $V_{CEO}$       | Collector-Emitter Voltage                        | 100      | V    |
| $V_{EBO}$       | Emitter-Base Voltage                             | 5        | V    |
| $I_C$           | Collector Current                                | 1        | A    |
| $I_{CM}$        | Peak Pulse Current                               | 2        | A    |
| $P_C$           | Collector Power Dissipation                      | 250      | mW   |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient      | 500      | °C/W |
| $T_J, T_{stg}$  | Operation Junction And Storage Temperature Range | -55~+150 | °C   |

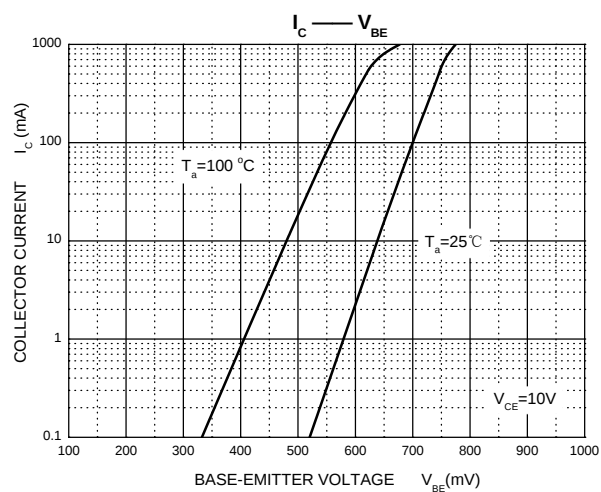
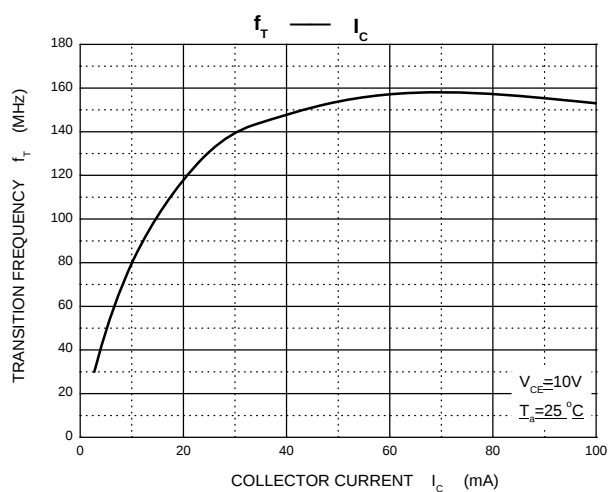
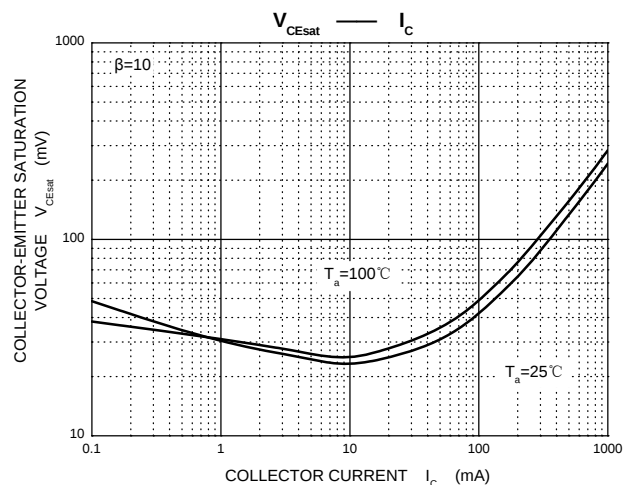
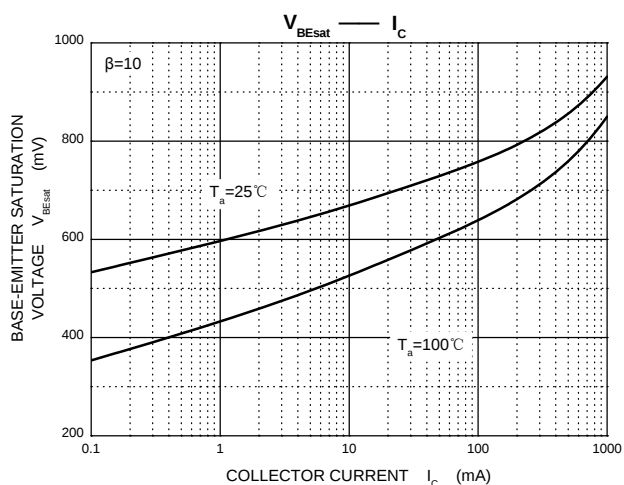
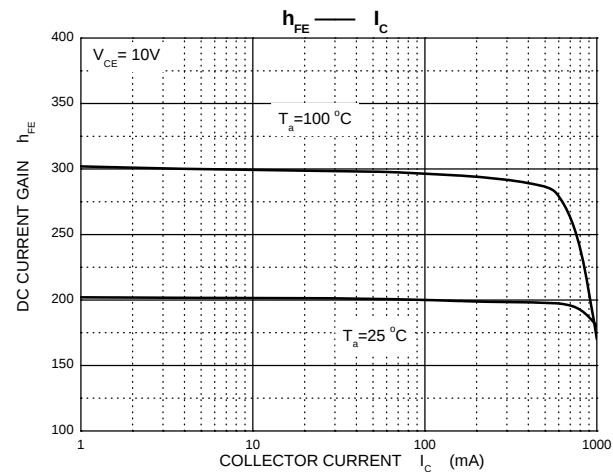
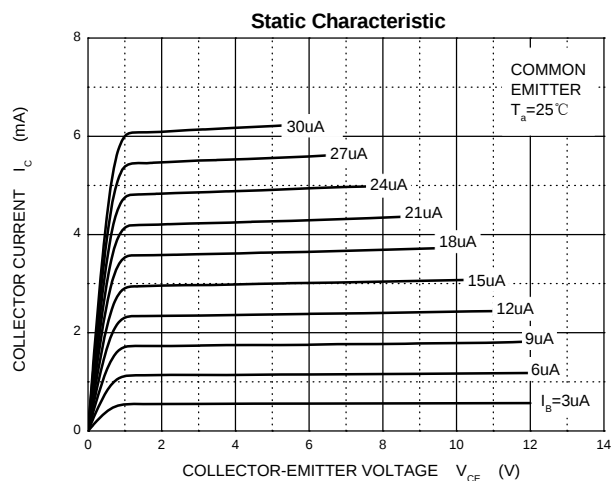
## Electrical Characteristics (Ta=25°C unless otherwise noted)

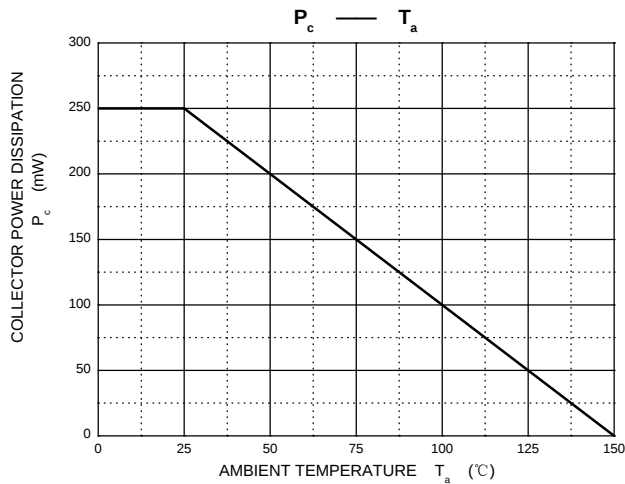
| Symbol         | Parameter                            | Test conditions                        | Min | Typ | Max  | Unit |
|----------------|--------------------------------------|----------------------------------------|-----|-----|------|------|
| $V_{(BR)CBO}$  | Collector-base breakdown voltage     | $I_C = 100\mu A, I_E = 0$              | 120 |     |      | V    |
| $V_{(BR)CEO}$  | Collector-emitter breakdown voltage  | $I_C = 10mA, I_B = 0$                  | 100 |     |      | V    |
| $V_{(BR)EBO}$  | Emitter-base breakdown voltage       | $I_E = 100\mu A, I_C = 0$              | 5   |     |      | V    |
| $I_{CBO}$      | Collector cut-off current            | $V_{CB} = 100V, I_E = 0$               |     |     | 100  | nA   |
| $I_{EBO}$      | Emitter cut-off current              | $V_{EB} = 4V, I_C = 0$                 |     |     | 100  | nA   |
| $h_{FE(1)}$    | DC current gain(1)                   | $V_{CE} = 10V, I_C = 1mA$              | 100 |     |      |      |
| $h_{FE(2)}$    | DC current gain(2)                   | $V_{CE} = 10V, I_C = 500mA$            | 100 |     | 300  |      |
| $h_{FE(3)}$    | DC current gain(3)                   | $V_{CE} = 10V, I_C = 1A$               | 60  |     |      |      |
| $h_{FE(4)}$    | DC current gain(4)                   | $V_{CE} = 10V, I_C = 2A$               | 20  |     |      |      |
| $V_{CE(sat)1}$ | Collector-emitter saturation voltage | $I_C = 500mA, I_B = 50mA$              |     |     | 0.3  | V    |
| $V_{CE(sat)2}$ | Collector-emitter saturation voltage | $I_C = 1A, I_B = 100mA$                |     |     | 0.6  | V    |
| $V_{BE(sat)}$  | Base-emitter saturation voltage      | $I_C = 1A, I_B = 100mA$                |     |     | 1.15 | V    |
| $V_{BE}$       | Base-emitter voltage                 | $V_{CE} = 5V, I_C = 1A$                |     |     | 1    | V    |
| $f_T$          | Transition frequency                 | $V_{CE} = 10V, I_C = 50mA, f = 100MHz$ | 150 |     |      | MHz  |
| $C_{ob}$       | Collector output capacitance         | $V_{CB} = 10V, f = 1MHz$               |     |     | 10   | pF   |

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

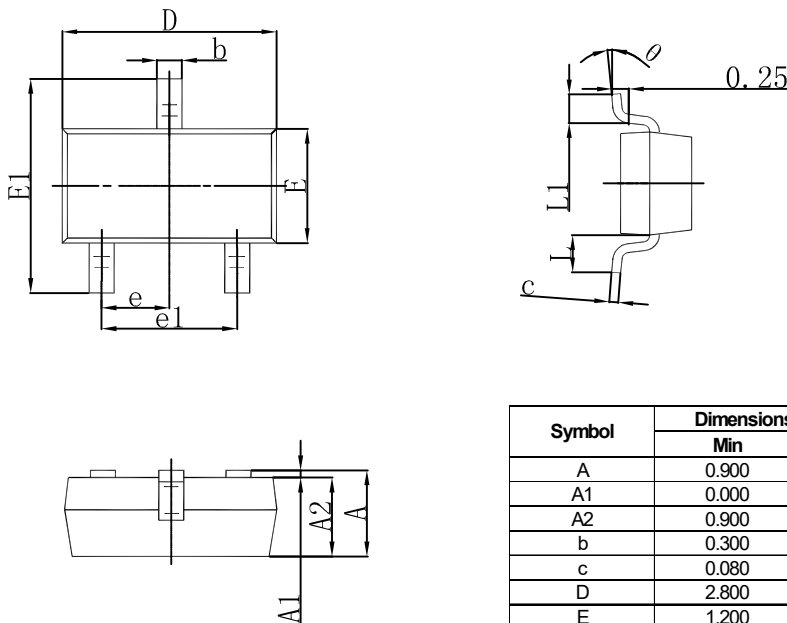


## Typical Characteristics





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      | 0.080                     | 0.150 | 0.003                | 0.006 |
| 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      | 0.950 TYP                 |       | 0.037 TYP            |       |
| e1     | 1.800                     | 2.000 | 0.071                | 0.079 |
| L      | 0.550 REF                 |       | 0.022 REF            |       |
| L1     | 0.300                     | 0.500 | 0.012                | 0.020 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |



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