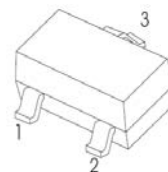


## SS8550 TRANSISTOR (PNP)

### FEATURES

- High Collector Current
- Complementary to SS8050

SOT - 23



1. BASE
2. EMITTER
3. COLLECTOR

### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol          | Parameter                                        | Value    | Unit                 |
|-----------------|--------------------------------------------------|----------|----------------------|
| $V_{CBO}$       | Collector-Base Voltage                           | -40      | V                    |
| $V_{CEO}$       | Collector-Emitter Voltage                        | -25      | V                    |
| $V_{EBO}$       | Emitter-Base Voltage                             | -5       | V                    |
| $I_C$           | Collector Current                                | -1.5     | A                    |
| $P_C$           | Collector Power Dissipation                      | 300      | mW                   |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient      | 417      | $^{\circ}\text{C/W}$ |
| $T_J, T_{stg}$  | Operation Junction and Storage Temperature Range | -55~+150 | $^{\circ}\text{C}$   |

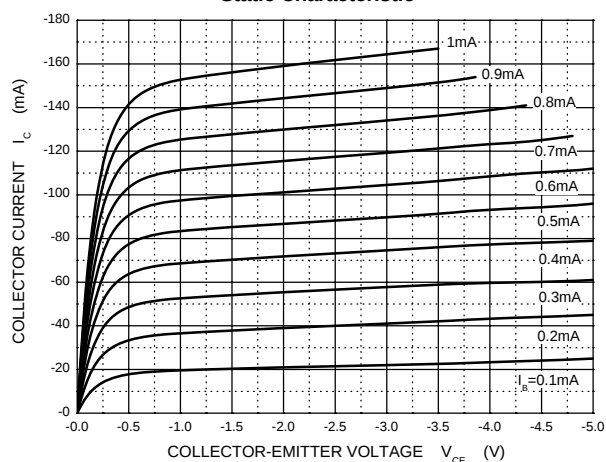
### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                                        | Min | Typ | Max  | Unit |
|--------------------------------------|---------------|--------------------------------------------------------|-----|-----|------|------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=-100\mu\text{A}, I_E=0$                           | -40 |     |      | V    |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=-0.1\text{mA}, I_B=0$                             | -25 |     |      | V    |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=-100\mu\text{A}, I_C=0$                           | -5  |     |      | V    |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=-40\text{V}, I_E=0$                            |     |     | -100 | nA   |
| Collector cut-off current            | $I_{CEO}$     | $V_{CE}=-20\text{V}, I_B=0$                            |     |     | -100 | nA   |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=-5\text{V}, I_C=0$                             |     |     | -100 | nA   |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=-1\text{V}, I_C=-100\text{mA}$                 | 120 |     | 400  |      |
|                                      | $h_{FE(2)}$   | $V_{CE}=-1\text{V}, I_C=-800\text{mA}$                 | 40  |     |      |      |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-800\text{mA}, I_B=-80\text{mA}$                  |     |     | -0.5 | V    |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=-800\text{mA}, I_B=-80\text{mA}$                  |     |     | -1.2 | V    |
| Base-emitter voltage                 | $V_{BE}$      | $V_{CE}=-1\text{V}, I_C=-10\text{mA}$                  |     |     | -1   | V    |
| Transition frequency                 | $f_T$         | $V_{CE}=-10\text{V}, I_C=-50\text{mA}, f=30\text{MHz}$ | 100 |     |      | MHz  |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$             |     |     | 20   | pF   |

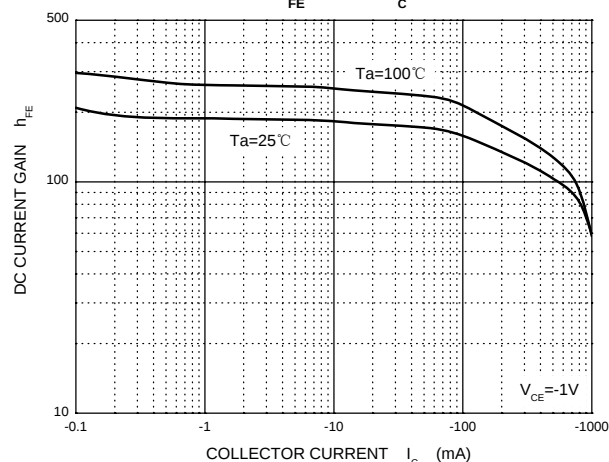
### CLASSIFICATION OF $h_{FE(1)}$

| RANK    | L         | H         | J         |
|---------|-----------|-----------|-----------|
| RANGE   | 120 - 200 | 200 - 350 | 300 - 400 |
| MARKING | SS8550    |           |           |

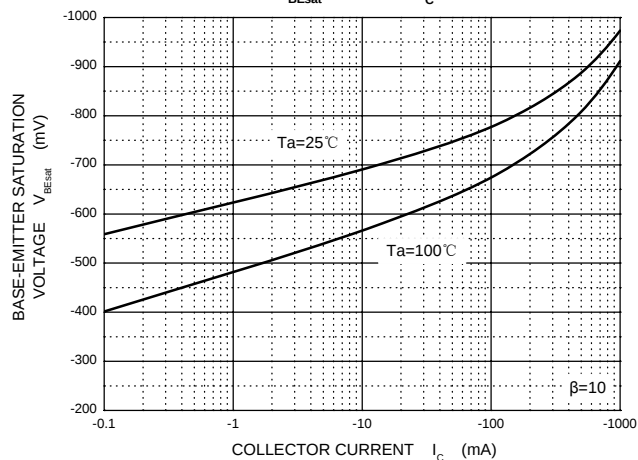
Static Characteristic



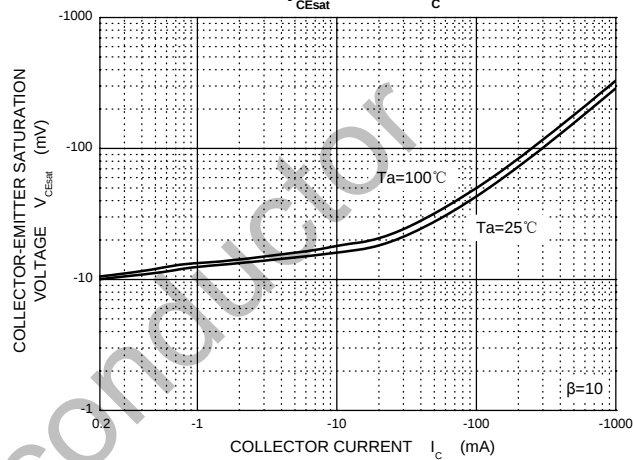
$h_{FE}$  —  $I_C$



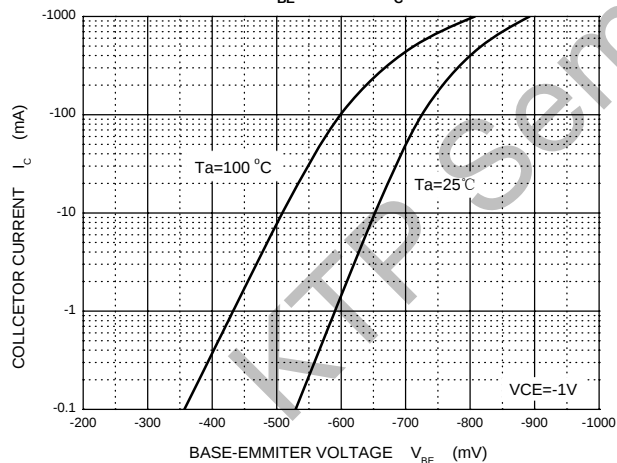
$V_{BEsat}$  —  $I_C$



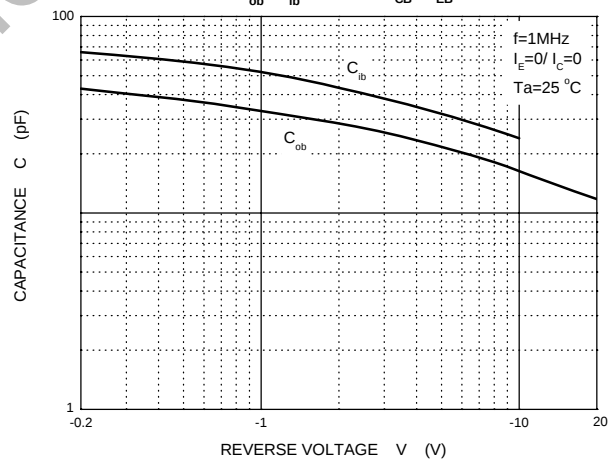
$V_{CEsat}$  —  $I_C$



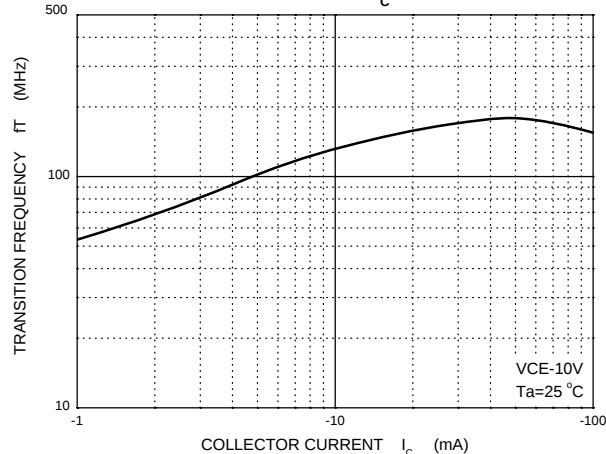
$V_{BE}$  —  $I_C$



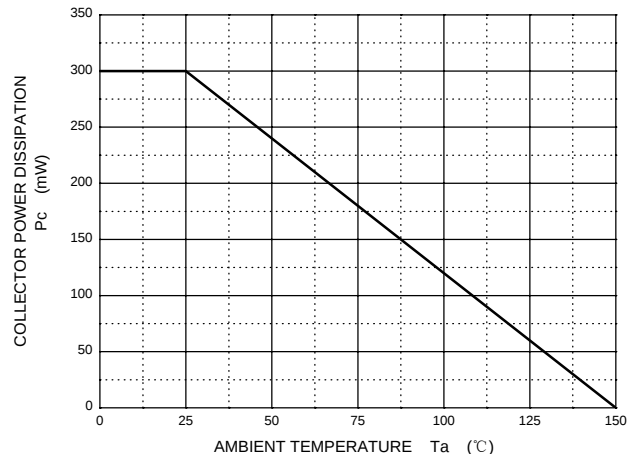
$C_{ob}/C_{ib}$  —  $V_{CB}/V_{EB}$



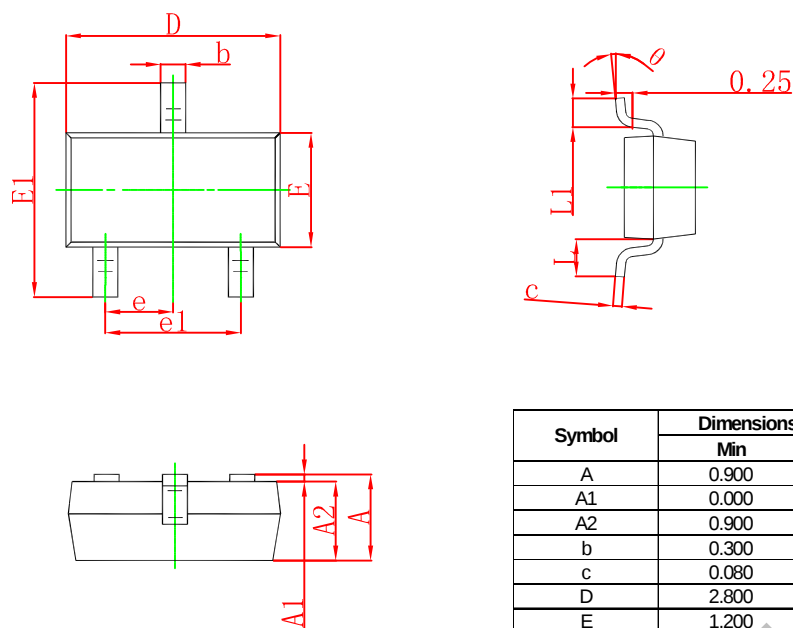
$f_T$  —  $I_C$



$P_c$  —  $T_a$

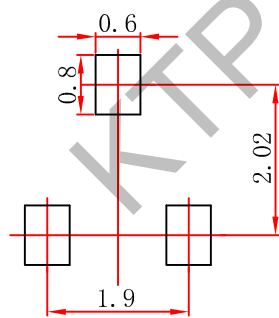


SOT-23 Package Outline Dimensions



| 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°    |

SOT-23 Suggested Pad Layout



Note:  
1.Controlling dimension;in millimeters.  
2.General tolerance:± 0.05mm.  
3.The pad layout is for reference purposes only.