



# SOT-23 Plastic-Encapsulate Transistors

**SS8550** TRANSISTOR (PNP)

## FEATURES

Complimentary to SS8050

MARKING: Y2

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



| Symbol    | Parameter                     | Value   | Units            |
|-----------|-------------------------------|---------|------------------|
| $V_{CB0}$ | Collector-Base Voltage        | -40     | V                |
| $V_{CE0}$ | Collector-Emitter Voltage     | -25     | V                |
| $V_{EB0}$ | Emitter-Base Voltage          | -5      | V                |
| $I_c$     | Collector Current -Continuous | -1.5    | A                |
| $P_c$     | Collector Power Dissipation   | 0.3     | W                |
| $T_j$     | Junction Temperature          | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature           | -55-150 | $^\circ\text{C}$ |

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

| Parameter                            | Symbol        | Test conditions  | MIN | 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            | $I_{CBO}$     | $V_{CB}=-40\text{V}, I_E=0$                                |     | -0.1  | $\mu\text{A}$ |
| Collector cut-off current            | $I_{CEO}$     | $V_{CE}=-20\text{V}, I_B=0$                                |     | -0.1  | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=-5\text{V}, I_C=0$                                 |     | -0.1  | $\mu\text{A}$ |
| 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 on voltage              | $V_{BE(on)}$  | $I_C=-1\text{V}, V_{CE}=-10\text{mA}$                      |     | -1    | V             |
| Base-emitter positive favor voltage  | $V_{BEF}$     | $I_B=-1\text{A}$   |     | -1.55 | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=-10\text{V}, I_C=-50\text{mA}$<br>$f=30\text{MHz}$ | 100 |       | MHz           |
| output capacitance                   | $C_{ob}$      | $(V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz})$               |     | 20    | pF            |

CLASSIFICATION OF  $h_{FE(1)}$

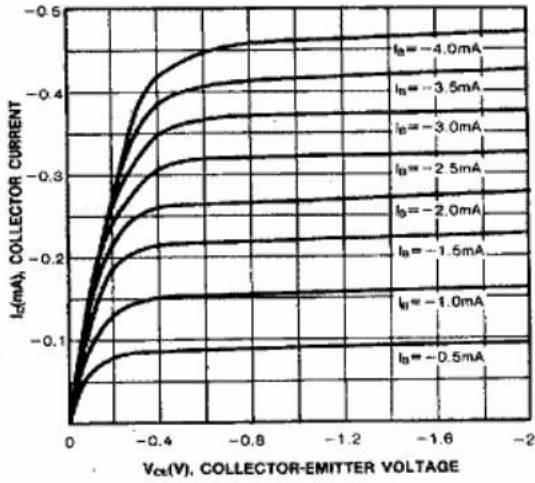
| Rank  | L       | H       | J       |
|-------|---------|---------|---------|
| Range | 120-200 | 200-350 | 300-400 |



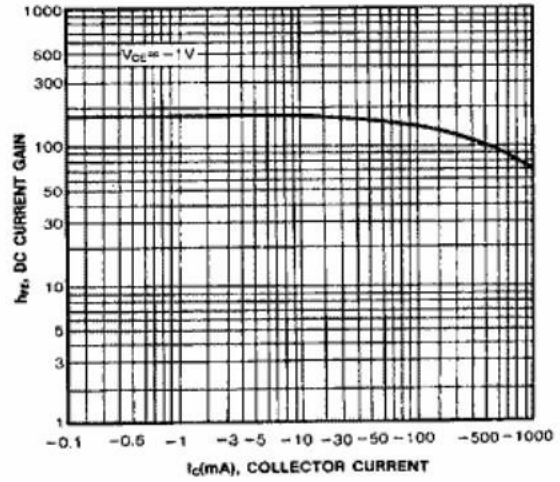
# Typical characteristics

# SS8550

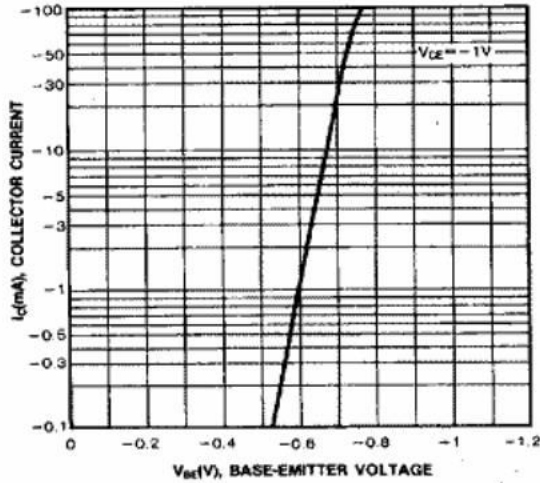
### STATIC CHARACTERISTIC



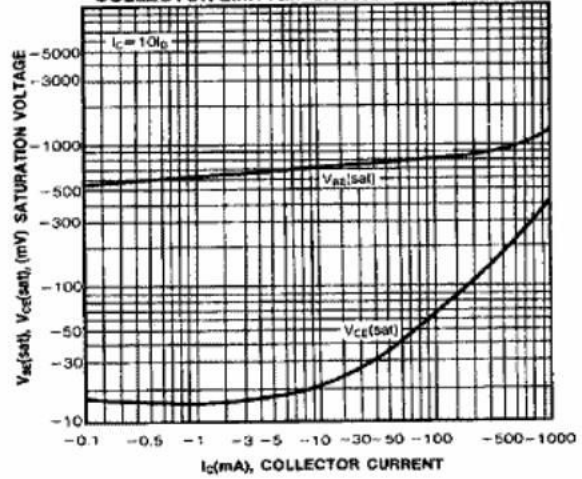
### DC CURRENT GAIN



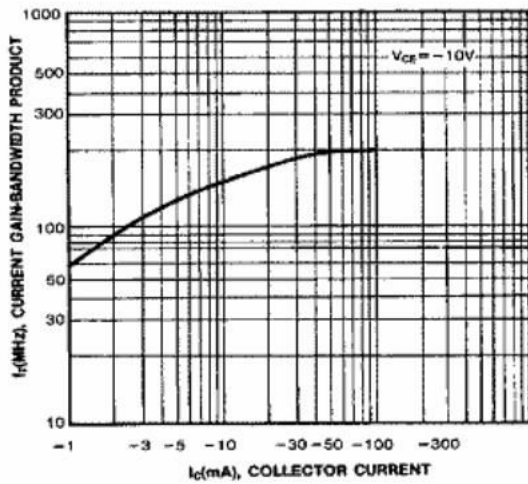
### BASE-EMITTER ON VOLTAGE



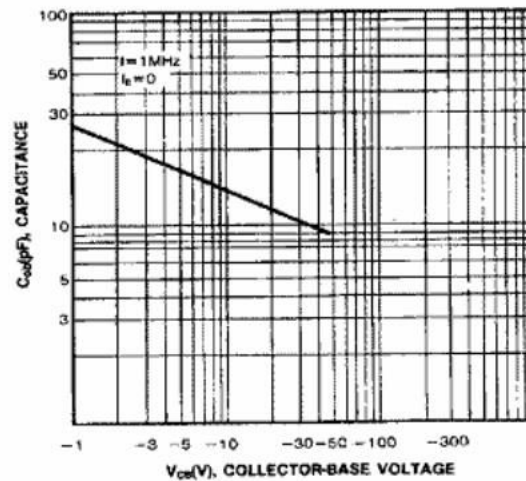
### BASE-EMITTER SATURATION VOLTAGE COLLECTOR-EMITTER SATURATION VOLTAGE



### CURRENT GAIN-BANDWIDTH PRODUCT



### COLLECTOR OUTPUT CAPACITANCE



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