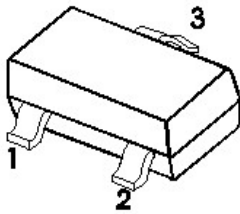


# S8550

## SOT-23 Plastic-Encapsulate Transistors

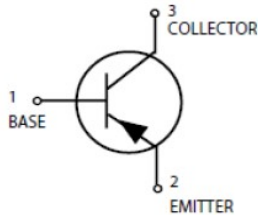
### SOT-23



1. BASE

2. EMITTER

3. COLLECTOR



### Features

- ◆ Complementary to S8050
- ◆ Power Dissipation of 300mW
- ◆ High Stability and High Reliability

### Mechanical Data

SOT-23 Small Outline Plastic Package

Epoxy UL: 94V-0

Mounting Position: Any

Marking: 2TY

### Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

| Parameters                                  | Symbol          | Value    | Unit |
|---|-----------------|----------|------|
| Collector-Base Voltage                      | $V_{CBO}$       | -40      | V    |
| Collector-Emitter Voltage                   | $V_{CEO}$       | -25      | V    |
| Emitter -Base Voltage                       | $V_{EBO}$       | -5       | V    |
| Collector Current-Continuous                | $I_C$           | -500     | mA   |
| Collector Power Dissipation                 | $P_C$           | 300      | mW   |
| Junction Temperature                        | $T_j$           | 150      | °C   |
| Storage Temperature                         | $T_{stg}$       | -55-+150 | °C   |
| Thermal resistance From junction to ambient | $R_{\theta JA}$ | 417      | °C/W |

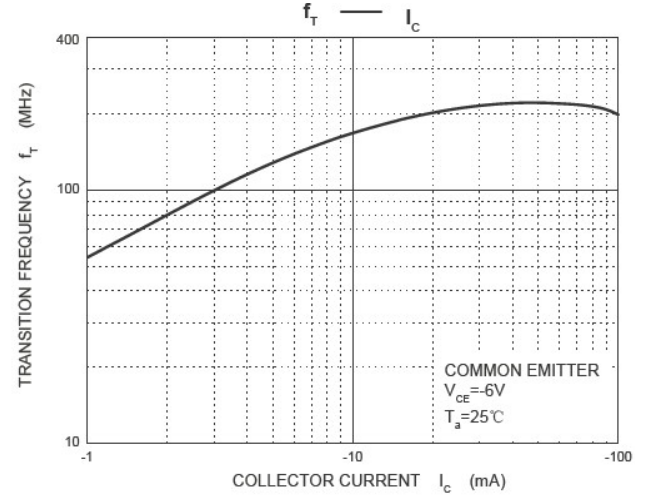
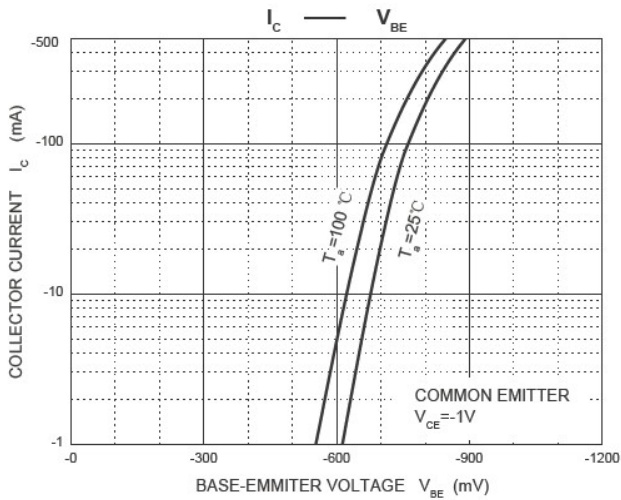
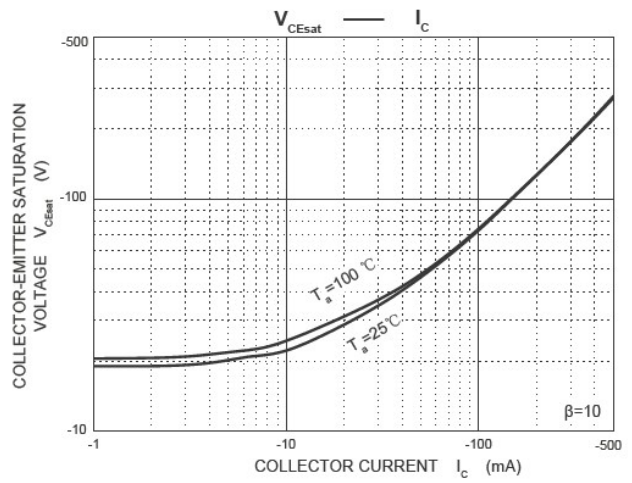
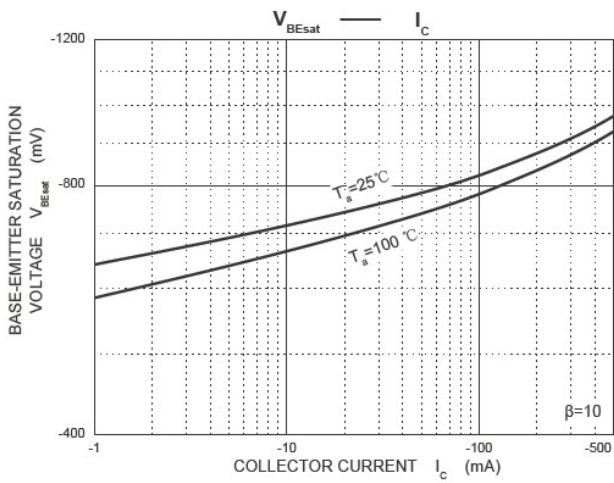
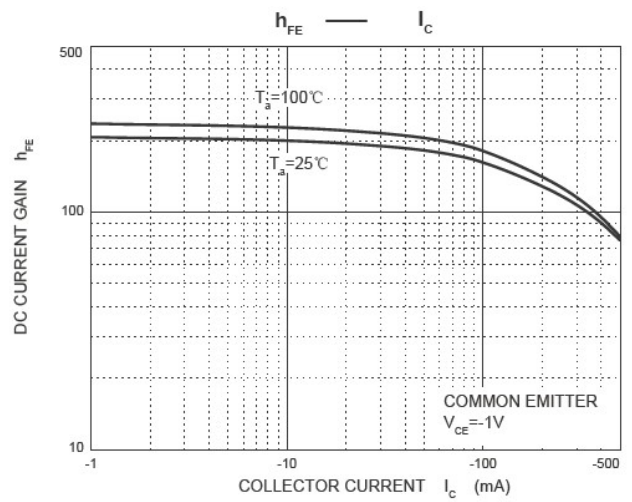
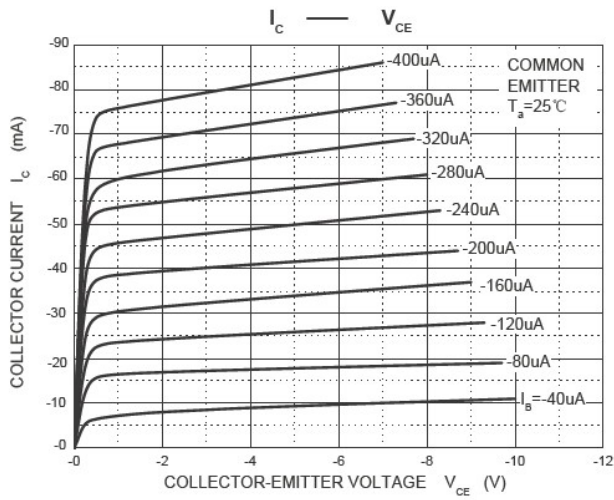
### Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

| Parameter                            | Symbols       | Test Condition                         | Limits |       | Unit |
|--------------------------------------|---------------|--|--------|-------|------|
|                                      |               |  | Min    | Max   |      |
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = -100\mu A, I_E = 0$             | -40    |       | V    |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = -1mA, I_B = 0$                  | -25    |       | V    |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = -100\mu A, I_C = 0$             | -5     |       | V    |
| Collector cut-off current            | $I_{CEO}$     | $V_{CE} = -20V, I_B = 0$               |        | -100  | nA   |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -40V, I_E = 0$               |        | -100  | nA   |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -3V, I_C = 0$                |        | -100  | nA   |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE} = -1V, I_C = -50mA$            | 120    | 400   |      |
|                                      | $h_{FE(2)}$   | $V_{CE} = -1V, I_C = -500mA$           | 50     |       |      |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -500mA, I_B = -50mA$            |        | -0.60 | V    |
| Base -emitter saturation voltage     | $V_{BE(sat)}$ | $I_C = -500mA, I_B = -50mA$            |        | -1.20 | V    |
| Transition frequency                 | $f_t$         | $V_{CE} = -6V, I_C = -20mA, f = 30MHz$ | 150    |       | MHz  |

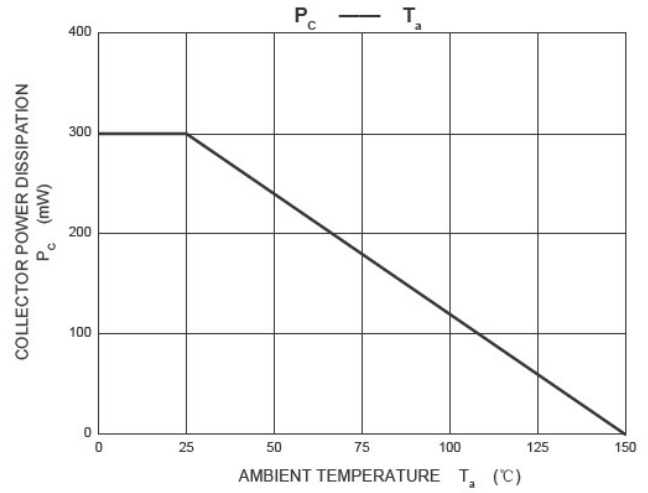
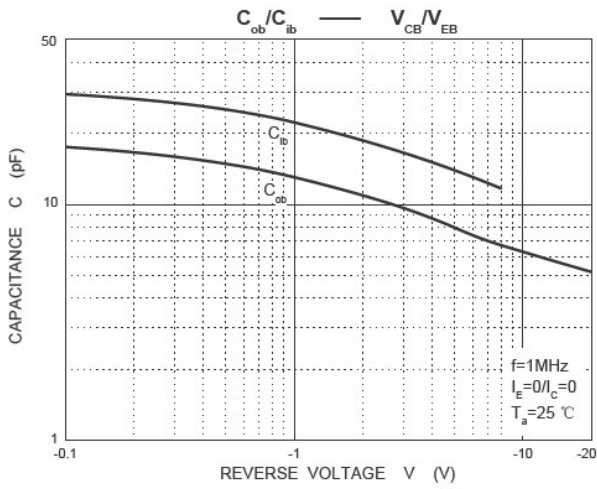
### CLASSIFICATION OF $h_{FE(1)}$

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

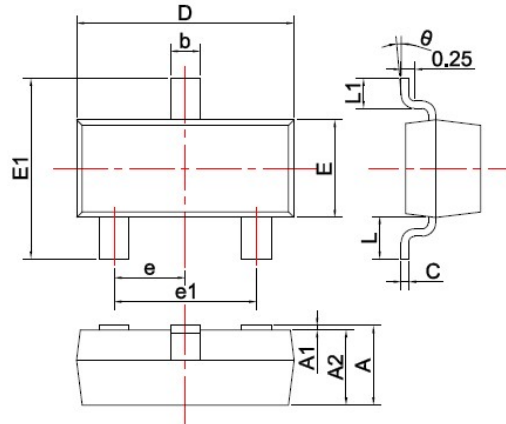
## Typical Characteristics



# RATINGS AND CHARACTERISTIC CURVES S8550



## SOT-23 PACKAGE OUTLINE Plastic surface mounted package

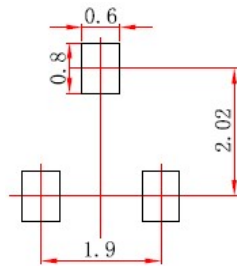


| SYMBOL   | DIMENSIONS |       |
|----------|------------|-------|
|          | MIN.       | MAX.  |
| A        | 0.900      | 1.150 |
| A1       | 0.000      | 0.100 |
| A2       | 0.900      | 1.050 |
| b        | 0.300      | 0.500 |
| c        | 0.080      | 0.150 |
| D        | 2.800      | 3.000 |
| E        | 1.200      | 1.400 |
| E1       | 2.250      | 2.550 |
| e        | 0.950TYP   |       |
| e1       | 1.800      | 2.000 |
| L        | 0.550REF   |       |
| L1       | 0.300      | 0.500 |
| $\theta$ | 0°         | 8°    |

Unit: mm

### Precautions: PCB Design

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



#### Note:

1. Controlling dimension; in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

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