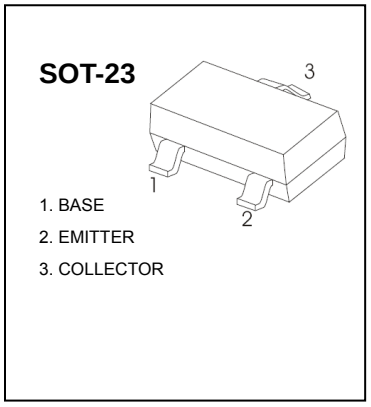
MAKOSEMI
SEMICONDUCTOR

# SOT-23 Plastic-Encapsulate Transistors

**S8050** TRANSI STOR (NPN)




## FEATURES

- Complimentary to S8550
- Collector Current: $I_C$=0.5A

## MARKING: J3Y

## MAXIMUM RATINGS ($T_a$=25℃ 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 -Continuous | 0.5 | A |
| $P_C$ | Collector Dissipation | 0.3 | W |
| $T_j$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55-150 | ℃ |

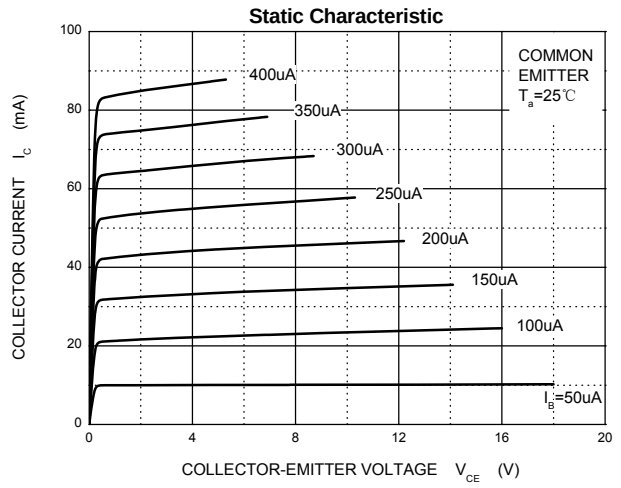
## ELECTRICAL CHARACTERISTICS ($T_a$=25℃ unless otherwise specified)

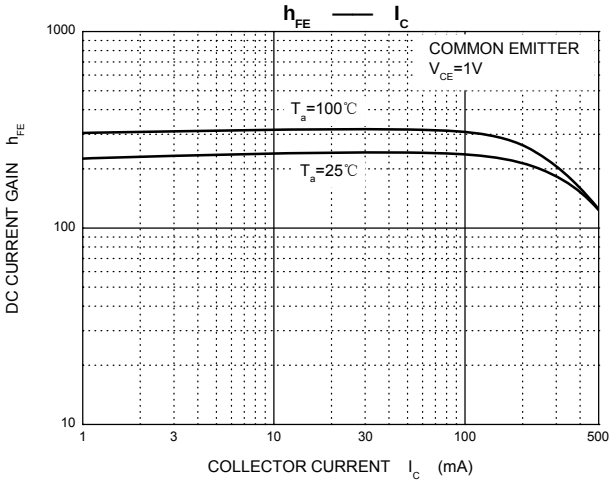
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Collector-base breakdown voltage** | $V_{(BR)CBO}$ | $I_C$= 100μA, $I_E$=0 | 40 | | | V |
| **Collector-emitter breakdown voltage** | $V_{(BR)CEO}$ | $I_C$=1mA, $I_B$=0 | 25 | | | V |
| **Emitter-base breakdown voltage** | $V_{(BR)EBO}$ | $I_E$=100μA, $I_C$=0 | 5 | | | V |
| **Collector cut-off current** | $I_{CBO}$ | $V_{CB}$=40 V , $I_E$=0 | | | 0.1 | μA |
| **Collector cut-off current** | $I_{CEO}$ | $V_{CB}$=20V , $I_E$=0 | | | 0.1 | μA |
| **Emitter cut-off current** | $I_{EBO}$ | $V_{EB}$= 5V , $I_C$=0 | | | 0.1 | μA |
| **DC current gain** | $H_{FE(1)}$ | $V_{CE}$=1V, $I_C$= 50mA | 120 | | 350 | |
| | $H_{FE(2)}$ | $V_{CE}$=1V, $I_C$= 500mA | 50 | | | |
| **Collector-emitter saturation voltage** | $V_{CE(sat)}$ | I=500 mA, $I_B$= 50mA | | | 0.6 | V |
| **Base-emitter saturation voltage** | $V_{BE(sat)}$ | $I_C$=500 mA, $I_B$= 50mA | | | 1.2 | V |
| **Transition frequency** | $f_T$ | $V_{CE}$=6V, $I_C$= 20mA f=30MHz | 150 | | | MHz |

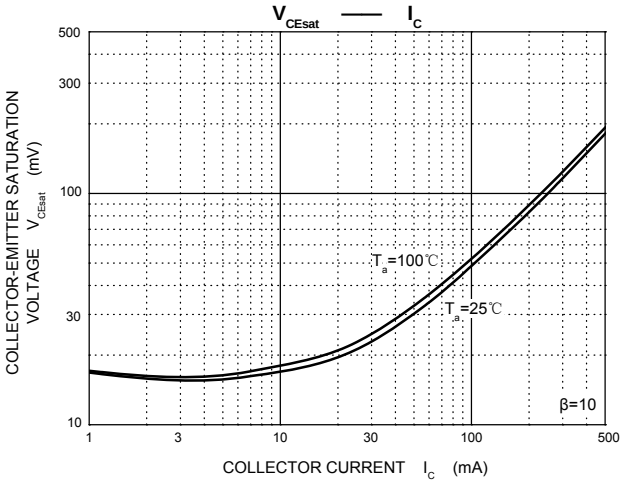
## CLASSIFICATION OF $h_{FE(1)}$

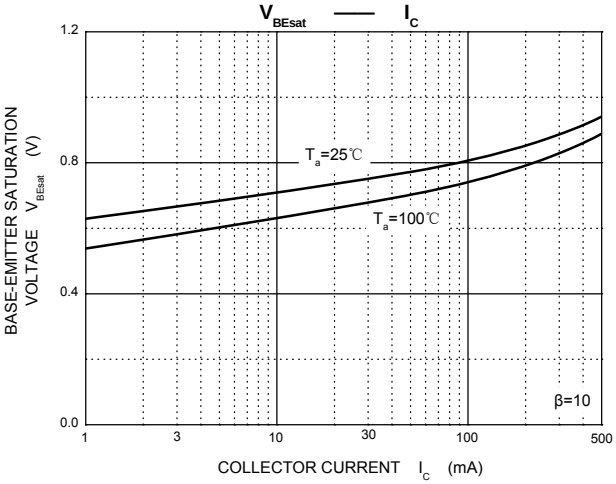
| **Rank** | L | H |
|---|---|---|
| **Range** | 120-200 | 200-350 |

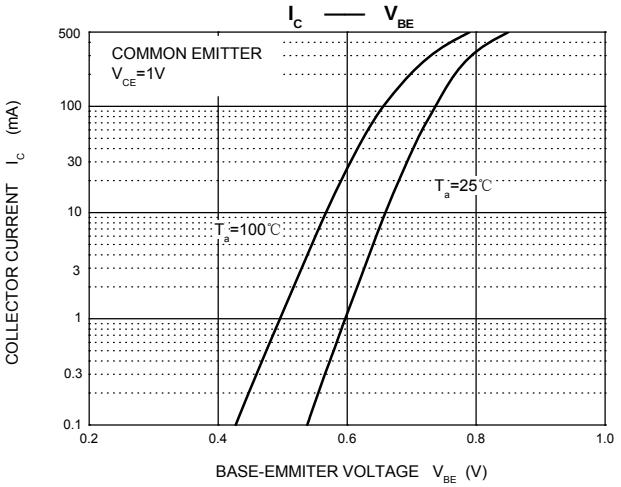
# Typical Characterisitics S8050

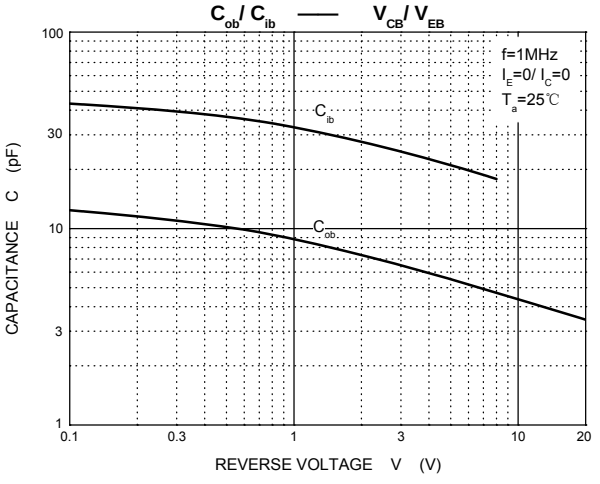


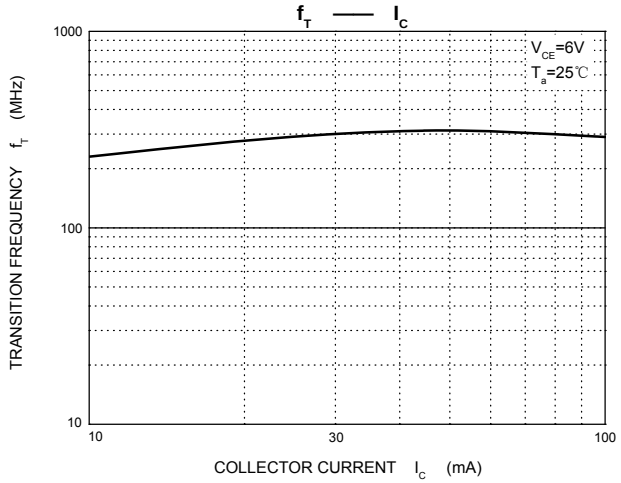



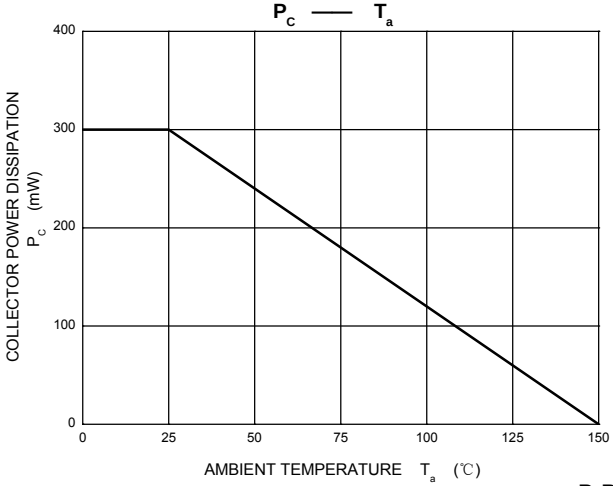




B,Dec,2011