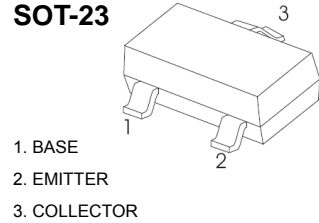




## SOT-23 Plastic-Encapsulate Transistors

### S8050 TRANSISTOR (NPN)

SOT-23



#### FEATURES

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

MARKING: J3Y

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

| Symbol    | Parameter                     | Value   | Unit       |
|-----------|-------------------------------|---------|------------|
| $V_{CB0}$ | 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     | $^\circ C$ |
| $T_{stg}$ | Storage Temperature           | -55-150 | $^\circ C$ |

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

| Parameter                            | Symbol        | Test conditions                    | Min | Typ | Max | Unit    |
|--------------------------------------|---------------|------------------------------------|-----|-----|-----|---------|
| 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            | $I_{CBO}$     | $V_{CB}=40V, I_E=0$                |     |     | 0.1 | $\mu A$ |
| Collector cut-off current            | $I_{CEO}$     | $V_{CB}=20V, I_E=0$                |     |     | 0.1 | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=5V, I_C=0$                 |     |     | 0.1 | $\mu A$ |
| 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 | $V_{CE(sat)}$ | $I=500mA, I_B=50mA$                |     |     | 0.6 | V       |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=500mA, I_B=50mA$              |     |     | 1.2 | V       |
| Transition frequency                 | $f_T$         | $V_{CE}=6V, I_C=20mA$<br>$f=30MHz$ | 150 |     |     | MHz     |

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

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

# Typical Characteristics

# S8050

