

S8050 TRANSISTOR (NPN)

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR



FEATURES

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

MARKING: J3Y

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

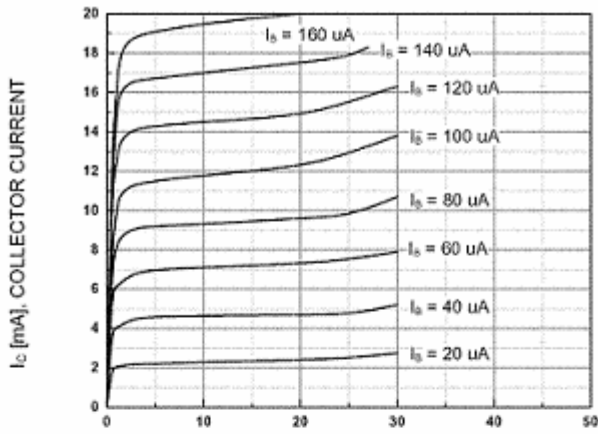
| Symbol | Parameter | Value | Units |
|-----------|-------------------------------|---------|------------|
| V_{CB0} | Collector-Base Voltage | 40 | V |
| V_{CEO} | Collector-Emitter Voltage | 25 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current -Continuous | 0.5 | A |
| P_C | Collector Dissipation | 0.3 | W |
| T_j | Junction Temperature | 150 | $^\circ C$ |
| T_{stg} | Storage Temperature | -55-150 | $^\circ C$ |

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ C$ 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 | 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 | $V_{CE(sat)}$ | $I_C=500mA, I_B=50mA$ | | | 0.6 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=500mA, I_B=50mA$ | | | 1.2 | V |
| Transition frequency | f_T | $V_{CE}=6V, I_C=20mA$ $f=30MHz$ | 150 | | | MHz |

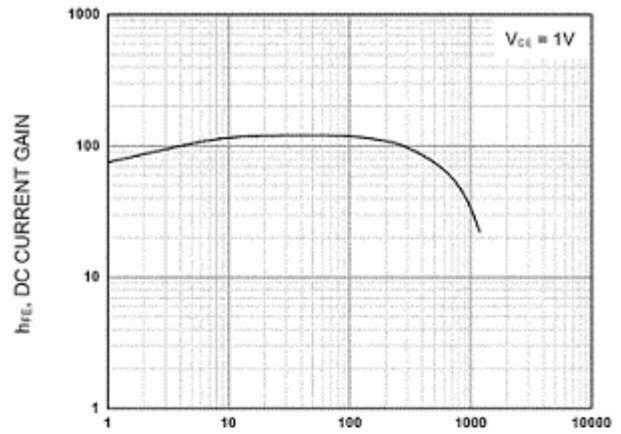
CLASSIFICATION OF $h_{FE(1)}$

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



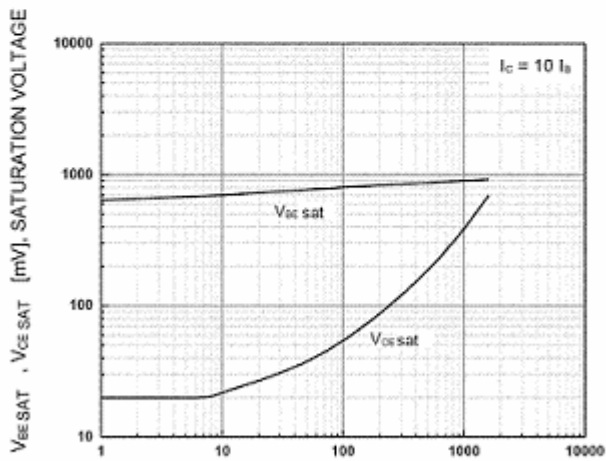
V_{CE} [V], COLLECTOR-EMITTER VOLTAGE

Static Characteristic



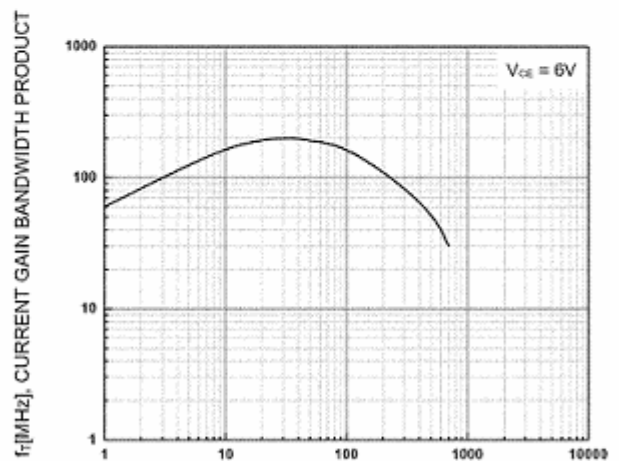
I_c [mA], COLLECTOR CURRENT

DC current Gain



I_c [mA], COLLECTOR CURRENT

**Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**



I_c [mA], COLLECTOR CURRENT

Current Gain Bandwidth Product