



Micro Commercial Components



Micro Commercial Components  
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# MMSS8050-L MMSS8050-H

## Features

- SOT-23 Plastic-Encapsulate Transistors
- Capable of 0.625Watts( $T_{amb}=25^{\circ}C$ ) of Power Dissipation.
- Collector-current 1.5A
- Collector-base Voltage 40V
- Operating and storage junction temperature range:  $-55^{\circ}C$  to  $+150^{\circ}C$
- Marking : Y1
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- Halogen free available upon request by adding suffix "-HF"

## NPN Silicon Plastic-Encapsulate Transistor

### Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol                     | Parameter  | Min | Max | Units   |
|----------------------------|--|-----|-----|---------|
| <b>OFF CHARACTERISTICS</b> |  |     |     |         |
| $V_{(BR)CBO}$              | Collector-Base Breakdown Voltage<br>( $I_C=100\mu A$ , $I_E=0$ ) | 40  | --- | Vdc     |
| $V_{(BR)CEO}$              | Collector-Emitter Breakdown Voltage<br>( $I_C=0.1mA$ , $I_B=0$ ) | 25  | --- | Vdc     |
| $V_{(BR)EBO}$              | Emitter-Base Breakdown Voltage<br>( $I_E=100\mu A$ , $I_C=0$ )   | 5.0 | --- | Vdc     |
| $I_{CBO}$                  | Collector Cutoff Current<br>( $V_{CB}=40Vdc$ , $I_E=0$ )         | --- | 0.1 | $\mu A$ |
| $I_{EO}$                   | Collector Cutoff Current<br>( $V_{CE}=20Vdc$ , $I_B=0$ )         | --- | 0.1 | $\mu A$ |
| $I_{EBO}$                  | Emitter Cutoff Current<br>( $V_{EB}=5.0Vdc$ , $I_C=0$ )          | --- | 0.1 | $\mu A$ |

### ON CHARACTERISTICS

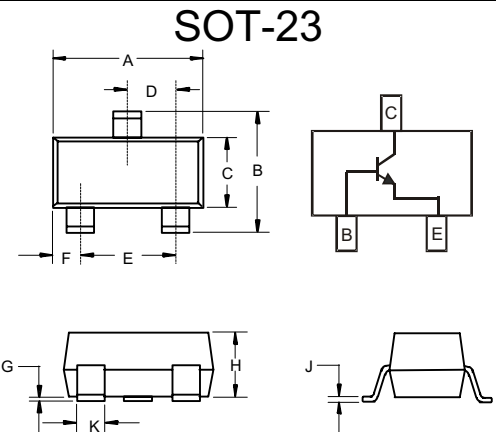
|               |  |     |     |     |
|---------------|--|-----|-----|-----|
| $h_{FE(1)}$   | DC Current Gain<br>( $I_C=100mA$ , $V_{CE}=1.0Vdc$ )                 | 120 | 350 | --- |
| $h_{FE(2)}$   | DC Current Gain<br>( $I_C=800mA$ , $V_{CE}=1.0Vdc$ )                 | 40  | --- | --- |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage<br>( $I_C=800mA$ , $I_B=80mA$ ) | --- | 0.5 | Vdc |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage<br>( $I_C=800mA$ , $I_B=80mA$ )      | --- | 1.2 | Vdc |
| $V_{EB}$      | Base- Emitter Voltage<br>( $I_E=1.5A$ )                              | --- | 1.6 | Vdc |

### SMALL-SIGNAL CHARACTERISTICS

|       |   |     |     |     |
|-------|---|-----|-----|-----|
| $f_T$ | Transistor Frequency<br>( $I_C=50mA$ , $V_{CE}=10Vdc$ , $f=30MHz$ ) | 100 | --- | MHz |
|-------|---|-----|-----|-----|

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

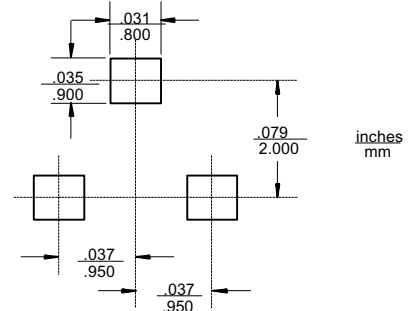
|       |         |         |
|-------|---------|---------|
| Rank  | L       | H       |
| Range | 120-200 | 200-350 |



DIMENSIONS

| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | .110   | .120  | 2.80 | 3.04 |      |
| B   | .083   | .104  | 2.10 | 2.64 |      |
| C   | .047   | .055  | 1.20 | 1.40 |      |
| D   | .035   | .041  | .89  | 1.03 |      |
| E   | .070   | .081  | 1.78 | 2.05 |      |
| F   | .018   | .024  | .45  | .60  |      |
| G   | .0005  | .0039 | .013 | .100 |      |
| H   | .035   | .044  | .89  | 1.12 |      |
| J   | .003   | .007  | .085 | .180 |      |
| K   | .015   | .020  | .37  | .51  |      |

### Suggested Solder Pad Layout





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### Ordering Information :

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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