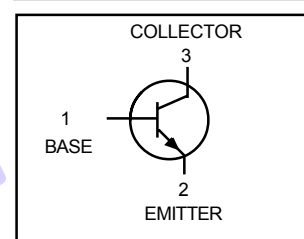


## NPN Silicon

### FEATURE

- High current capacity in compact package.  
 $I_C = 1.5A$ .
- Epitaxial planar type.
- NPN complement: 8050H
- We declare that the material of product compliance with RoHS requirements.  
**Pb-Free package is available**  
RoHS product for packing code suffix "G"  
Halogen free product for packing code suffix "H"



### DEVICE MARKING AND ORDERING INFORMATION

| Device    | Marking | Shipping       |
|-----------|---------|----------------|
| 8050HPLT1 | 1HA     | 3000/Tape&Reel |
| 8050HQLT1 | 1HC     | 3000/Tape&Reel |
| 8050HRLT1 | 1HE     | 3000/Tape&Reel |
| 8050HSLT1 | 1HG     | 3000/Tape&Reel |

### MAXIMUM RATINGS

| Rating                       | Symbol    | Max  | Unit |
|------------------------------|-----------|------|------|
| Collector-Emitter Voltage    | $V_{CEO}$ | 25   | V    |
| Collector-Base Voltage       | $V_{CBO}$ | 40   | V    |
| Emitter-Base Voltage         | $V_{EBO}$ | 5    | V    |
| Collector Current-continuoun | $I_C$     | 1500 | mAdc |

### THERMAL CHARACTERISTICS

| Characteristic                                                                                    | Symbol          | Max         | Unit                 |
|---------------------------------------------------------------------------------------------------|-----------------|-------------|----------------------|
| Total Device Dissipation FR-5 Board,(1)<br>$T_A = 25^\circ C$<br>Derate above $25^\circ C$        | $P_D$           | 225<br>1.8  | mW<br>mW/ $^\circ C$ |
| Thermal Resistance,Junction to Ambient                                                            | $R_{\theta JA}$ | 556         | $^\circ C/W$         |
| Total Device Dissipation<br>Alumina Substrate,(2) $T_A = 25^\circ C$<br>Derate above $25^\circ C$ | $P_D$           | 300<br>2.4  | mW<br>mW/ $^\circ C$ |
| Thermal Resistance,Junction to Ambient                                                            | $R_{\theta JA}$ | 417         | $^\circ C/W$         |
| Junction and Storage Temperature                                                                  | $T_J, T_{stg}$  | -55 to +150 | $^\circ C$           |



# General Purpose Transistors

### ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|----------------|--------|-----|-----|-----|------|
|----------------|--------|-----|-----|-----|------|

### OFF CHARACTERISTICS

|                                                               |               |    |   |     |    |
|---------------------------------------------------------------|---------------|----|---|-----|----|
| Collector-Emitter Breakdown Voltage<br>( $I_C=1.0\text{mA}$ ) | $V_{(BR)CEO}$ | 25 | — | —   | V  |
| Emitter-Base Breakdown Voltage<br>( $I_E=100\mu\text{A}$ )    | $V_{(BR)EBO}$ | 5  | — | —   | V  |
| Collector-Base Breakdown Voltage<br>( $I_C=100\mu\text{A}$ )  | $V_{(BR)CBO}$ | 40 | — | —   | V  |
| Collector Cutoff Current ( $V_{CB}=35\text{V}$ )              | $I_{CBO}$     | —  | — | 150 | nA |
| Emitter Cutoff Current ( $V_{EB}=4\text{V}$ )                 | $I_{EBO}$     | —  | — | 150 | nA |

### ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|----------------|--------|-----|-----|-----|------|
|----------------|--------|-----|-----|-----|------|

### ON CHARACTERISTICS

|                                                                                 |             |     |   |     |   |
|---------------------------------------------------------------------------------|-------------|-----|---|-----|---|
| DC Current Gain<br>$I_C=100\text{mA}, V_{CE}=1\text{V}$                         | $h_{FE}$    | 100 | — | 600 |   |
| Collector-Emitter Saturation Voltage<br>( $I_C=800\text{mA}, I_B=80\text{mA}$ ) | $V_{CE(S)}$ | —   | — | 0.5 | V |

### NOTE :

| *        | P       | Q       | R       | S       |
|----------|---------|---------|---------|---------|
| $h_{FE}$ | 100~200 | 150~300 | 200~400 | 300~600 |



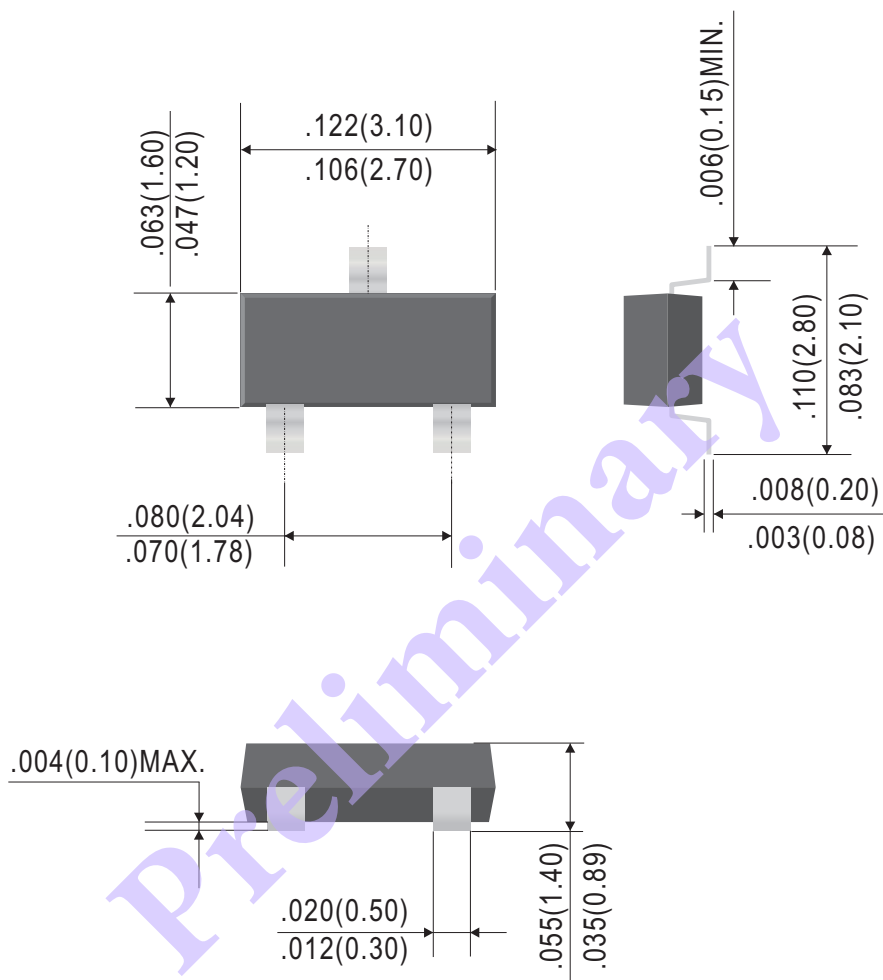
# WILLAS



## General Purpose Transistors

8050HxLT1

### SOT-23



Dimensions in inches and (millimeters)

