



Micro Commercial Components



Micro Commercial Components  
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**2SA1577-P  
 2SA1577-Q  
 2SA1577-R**

**Features**

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Ideally Suited for Automatic Insertion
- Untral Small Surface Mount Package
- Pb-Free Package are Vailable
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensivity Level 1
- Halogen free available upon request by adding suffix "-HF"

**Maximum Ratings @ T<sub>a</sub> = 25°C(unless otherwise noted)**

| Symbol           | Parameter                 | Value       | Unit |
|------------------|---------------------------|-------------|------|
| I <sub>C</sub>   | Collector Current         | -0.5        | A    |
| P <sub>D</sub>   | Total Device Dissipation  | 0.2         | W    |
| T <sub>J</sub>   | Junction Temperature      | 150         | °C   |
| T <sub>STG</sub> | Storage Temperature Range | -55 to +150 | °C   |

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

| Symbol | Parameter | Min | Max | Unit |
|--------|-----------|-----|-----|------|
|--------|-----------|-----|-----|------|

**OFF CHARACTERISTICS**

|                      |  |      |    |                  |
|----------------------|--|------|----|------------------|
| V <sub>(BR)CEO</sub> | Collector-Emitter Breakdown Voltage (I <sub>C</sub> =-1mA <sub>dc</sub> , I <sub>B</sub> =0) | -32  |    | V                |
| V <sub>(BR)CBO</sub> | Collector-Base Breakdown Voltage (I <sub>C</sub> =-100μA <sub>dc</sub> , I <sub>E</sub> =0)  | -40  |    | V                |
| V <sub>(BR)EBO</sub> | Collector-Base Breakdown Voltage (I <sub>E</sub> =-100μA <sub>dc</sub> , I <sub>C</sub> =0)  | -5.0 |    | V                |
| I <sub>CB0</sub>     | Collector-Base Cutoff Current (V <sub>CB</sub> =-20V <sub>dc</sub> , I <sub>E</sub> =0)      |      | -1 | μA <sub>dc</sub> |
| I <sub>EBO</sub>     | Emitter-Base Cutoff Current (V <sub>EB</sub> =4.0V <sub>dc</sub> , I <sub>C</sub> =0)        |      | -1 | μA <sub>dc</sub> |

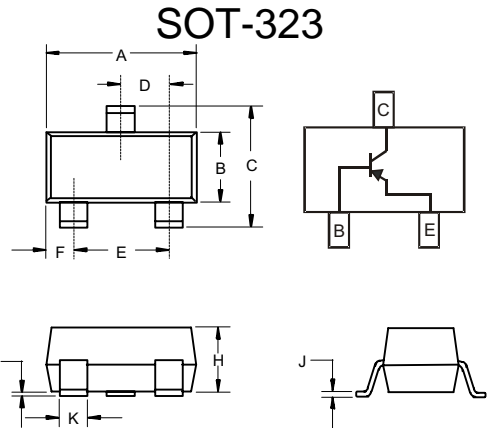
**ON CHARACTERISTICS**

|                      |  |    |          |                 |
|----------------------|--|----|----------|-----------------|
| h <sub>FE</sub>      | DC Current Gain (I <sub>C</sub> =-10mA <sub>dc</sub> , V <sub>CE</sub> =-3.0V <sub>dc</sub> )                      | 82 | 390      |                 |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage (I <sub>C</sub> =-0.1A <sub>dc</sub> , I <sub>B</sub> =-0.01A <sub>dc</sub> ) |    | -0.4     | V <sub>dc</sub> |
| f <sub>T</sub>       | Transition Frequency (V <sub>CE</sub> =-5V <sub>dc</sub> , I <sub>C</sub> =-20mA <sub>dc</sub> , f=100MHZ)         |    | 200(typ) | MHZ             |
| C <sub>ob</sub>      | Collector Output Capacitance (V <sub>CB</sub> =-10V <sub>dc</sub> , I <sub>E</sub> =0, f=1MHZ)                     |    | 7(typ)   | PF              |

**CLASSIFICATION OF h<sub>FE</sub>**

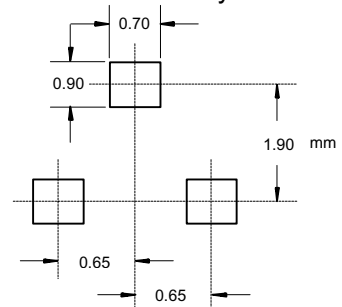
| Rank    | P      | Q       | R       |
|---------|--------|---------|---------|
| Range   | 82-180 | 120-270 | 180-390 |
| Marking | HP     | HQ      | HR      |

**PNP  
 Gneral Purpose  
 Transistors**



| DIM | DIMENSIONS   |      |             |      | NOTE |
|-----|--------------|------|-------------|------|------|
|     | INCHES       |      | MM          |      |      |
| A   | .071         | .087 | 1.80        | 2.20 |      |
| B   | .045         | .053 | 1.15        | 1.35 |      |
| C   | .083         | .096 | 2.10        | 2.45 |      |
| D   | .026 Nominal |      | 0.65Nominal |      |      |
| E   | .047         | .055 | 1.20        | 1.40 |      |
| F   | .012         | .016 | .30         | .40  |      |
| G   | .000         | .004 | .000        | .100 |      |
| H   | .035         | .039 | .90         | 1.00 |      |
| J   | .004         | .010 | .100        | .250 |      |
| K   | .006         | .016 | .15         | .40  |      |

**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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