

Pb

Micro Commercial Components

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## **Features**

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- Marking: D882

Maximum Ratings @ 25°C Unless Otherwise Specified

| Symbol           | Rating                         | Rating      | Unit                   |
|------------------|--------------------------------|-------------|------------------------|
| $V_{CEO}$        | Collector-Emitter Voltage      | 30          | V                      |
| $V_{CBO}$        | Collector-Base Voltage         | 40          | V                      |
| $V_{EBO}$        | Emitter-Base Voltage           | 6           | V                      |
| I <sub>C</sub>   | Collector Current-Continuous   | 3           | Α                      |
| Pc               | Collector Dissipation          | 0.5         | W                      |
| $T_J$            | Operating Junction Temperature | 150         | $^{\circ}\mathbb{C}$   |
| T <sub>STG</sub> | Storage Temperature            | -55 to +150 | $^{\circ}\!\mathbb{C}$ |

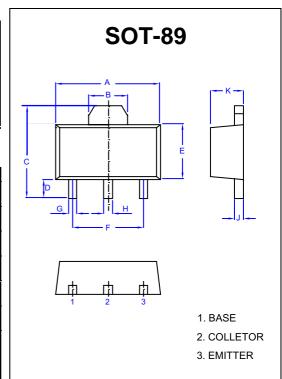
Electrical Characteristics @ 25°C Unless Otherwise Specified

| 2                    | <del>.</del>  |     |     | Opou |       |
|----------------------|---|-----|-----|------|-------|
| Symbol               | Parameter   | Min | Тур | Max  | Units |
| $V_{(BR)CEO}$        | Collector-Emitter Breakdown Voltage (I <sub>C</sub> =10mAdc, I <sub>B</sub> =0)     |     |     |      | Vdc   |
| $V_{(BR)CBO}$        | Collector-Base Breakdown Voltage (I <sub>c</sub> =100uAdc, I <sub>E</sub> =0) 40    |     |     | Vdc  |       |
| $V_{(BR)EBO}$        | Collector-Emitter Breakdown Voltage 6   |     |     | Vdc  |       |
| I <sub>CBO</sub>     | Collector Cutoff Current (V <sub>CB</sub> =40Vdc, I <sub>E</sub> =0)                |     |     | 1    | uAdc  |
| I <sub>CEO</sub>     | Collector Cutoff Current (V <sub>CB</sub> =30Vdc, I <sub>B</sub> =0)                |     |     | 10   | uAdc  |
| I <sub>EBO</sub>     | Emitter Cutoff Current (V <sub>EB</sub> =6Vdc, I <sub>C</sub> =0)                   |     |     | 1    | uAdc  |
| h <sub>FE</sub>      | DC Current Gain<br>(I <sub>C</sub> =1Adc, V <sub>CE</sub> =2Vdc)                    | 60  |     | 400  |       |
| $V_{\text{CE(sat)}}$ | Collector-Emitter Saturation Voltage (I <sub>C</sub> =2Adc, I <sub>B</sub> =0.2Adc) |     |     | 0.5  | Vdc   |
| $V_{BE(sat)}$        | Base-Emitter Saturation Voltage 1.5   |     | Vdc |      |       |
| f <sub>t</sub>       | Transition frequency (V <sub>CE</sub> =5Vdc, f=10MHz, I <sub>C</sub> =0.1A)         | 50  |     |      | MHz   |

## CLASSIFICATION OF hFE

| Rank  | R      | 0       | Υ       | GR      |
|-------|--------|---------|---------|---------|
| Range | 60-120 | 100-200 | 160-320 | 200-400 |

# Silicon NPN epitaxial planer Transistors



|     |        | DIME | UOINIO |      |       |
|-----|--------|------|--------|------|-------|
|     |        |      | NSINS  |      |       |
| DIM | INCHES |      | MM     |      | NOTES |
|     | MIN    | MAX  | MIN    | MAX  |       |
| Α   | .173   | .181 | 4.39   | 4.60 |       |
| В   | .061   |      | 1.55   |      | REF.  |
| С   | .154   | .165 | 3.91   | 4.25 |       |
| D   | .031   | .039 | 0.80   | 1.00 |       |
| E   | .092   | .100 | 2.34   | 2.54 |       |
| F   | .118   |      | 3.00   |      | TYP   |
| G   | .013   | .019 | 0.33   | 0.48 |       |
| Н   | .015   | .021 | 0.38   | 0.53 |       |
| J   | .015   | .016 | 0.38   | 0.41 |       |
| K   | .055   | .063 | 1.40   | 1.60 |       |



## Typical characteristics

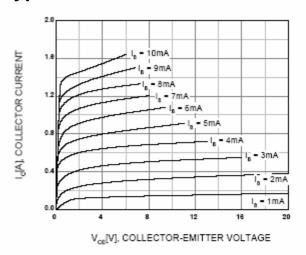


Figure 1. Static Characteristic

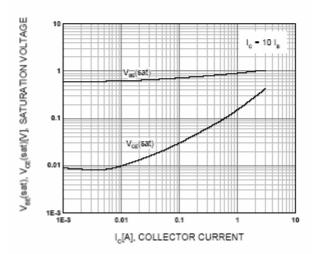


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

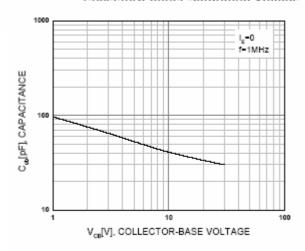
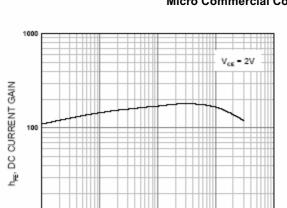


Figure 5. Collector Output Capacitance



Ic[A], COLLECTOR CURRENT

Figure 2. DC current Gain

10 └ 1E-3

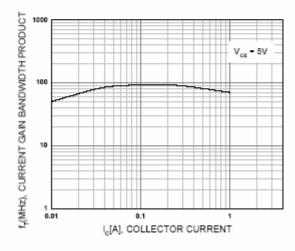


Figure 4. Current Gain Bandwidth Product



## Ordering Information:

| Device         | Packing             |
|----------------|---------------------|
| Part Number-TP | Tape&Reel1Kpcs/Reel |

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

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