

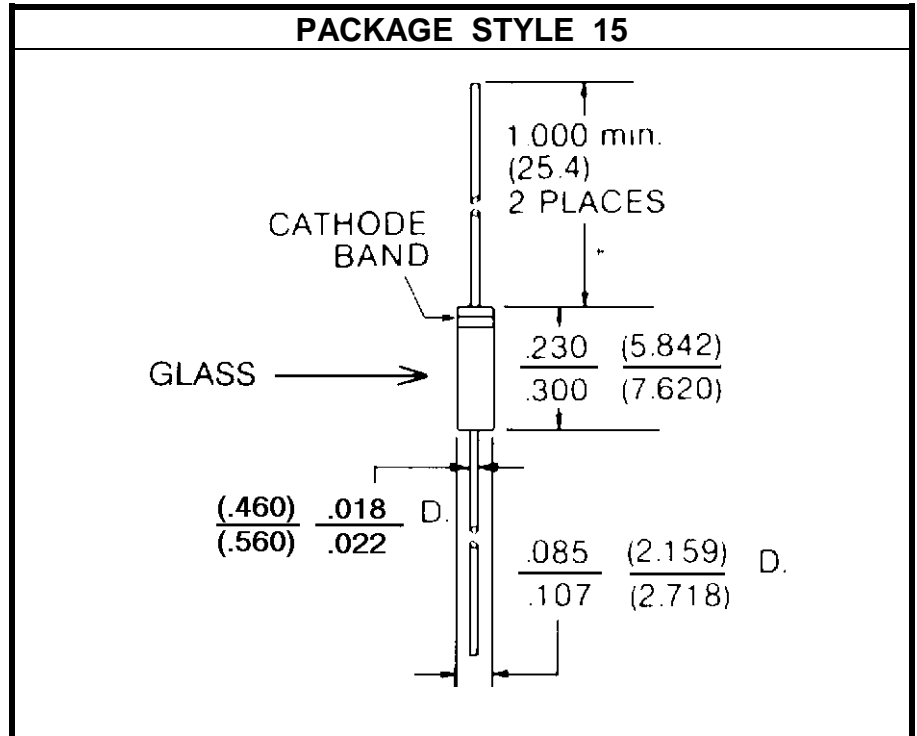
# SILICON ABRUPT JUNCTION TUNING VARACTOR

**DESCRIPTION:**

The **AT6020** is an Epitaxial Silicon Abrupt Junction Microwave Tuning Varactor. This Device is Passivated With Silicon Dioxide Which Results in Very Low Leakage Current. The Capacitance Voltage Relationship Closely Approximates Square Law ( $n = 0.5$ ).

**MAXIMUM RATINGS**

|                         |                                 |
|-------------------------|---------------------------------|
| <b>I<sub>C</sub></b>    | 100 mA                          |
| <b>V<sub>CE</sub></b>   | 70 V                            |
| <b>P<sub>DISS</sub></b> | 250 mW @ T <sub>C</sub> = 25 °C |
| <b>T<sub>J</sub></b>    | -65 °C to +150 °C               |
| <b>T<sub>STG</sub></b>  | -65 °C to +150 °C               |


**CHARACTERISTICS** T<sub>C</sub> = 25 °C

| SYMBOL                | TEST CONDITIONS   | MINIMUM | TYPICAL | MAXIMUM | UNITS          |
|-----------------------|---|---------|---------|---------|----------------|
| <b>V<sub>B</sub></b>  | I <sub>R</sub> = 10 μA                                      | 70      |         |         | <b>V</b>       |
| <b>C<sub>T</sub></b>  | V <sub>R</sub> = 4.0 V<br>f = 1.0 MHz                       | 35.1    | 39.0    | 42.9    | <b>pF</b>      |
| <b>ΔC<sub>T</sub></b> | C <sub>T</sub> = 0 V / C <sub>T</sub> = 60 V<br>f = 1.0 MHz | 7.4     |         |         | <b>RATIO</b>   |
| <b>Q</b>              | V <sub>R</sub> = 4.0 V<br>f = 50 MHz                        | 800     |         |         |                |
| <b>T<sub>C</sub></b>  | V <sub>R</sub> = 4.0 V                                      |         |         | 300     | <b>Ppm/ °C</b> |