

**PART NUMBERING GUIDE**

Revision: 1996-C

**TABLE 1**

**TB1S 3 20 C V 10.000MHz**

**Package**  
TA1S = SMD  
TB1S = Thru Hole

**Supply Voltage**  
3 = 3.3 VDC  $\pm 5\%$   
Blank = 5.0 VDC  $\pm 5\%$

**Pin One Connection**  
Blank = No Connection  
V = External Control Voltage

**Operating Temperature**  
See Table 1 for Code/Range

**Inclusive Stability**  
See Table 1 for Code/Tolerance

| Operating Temperature |      | Frequency Stability ( $\pm$ ppm)<br>* Denotes Availability of Options |        |        |        |        |        |
|-----------------------|------|-----------------------------------------------------------------------|--------|--------|--------|--------|--------|
| Range                 | Code | 1.5ppm                                                                | 2.0ppm | 2.5ppm | 3.0ppm | 3.5ppm | 5.0ppm |
|                       |      | 15                                                                    | 20     | 25     | 30     | 35     | 50     |
| 0 to 50°C             | A    | *                                                                     | *      | *      | *      | *      | *      |
| -10 to 60°C           | B    | *                                                                     | *      | *      | *      | *      | *      |
| -20 to 70°C           | C    | *                                                                     | *      | *      | *      | *      | *      |
| -30 to 60°C           | D    |                                                                       | *      | *      | *      | *      | *      |
| -30 to 75°C           | E    |                                                                       | *      | *      | *      | *      | *      |
| -35 to 85°C           | F    |                                                                       |        | *      | *      | *      | *      |
| -40 to 80°C           | G    |                                                                       |        |        | *      | *      | *      |

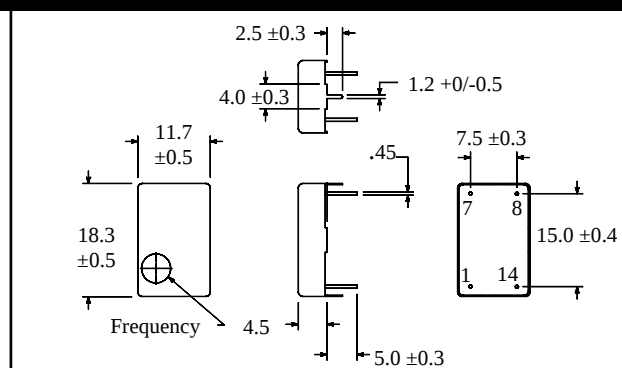
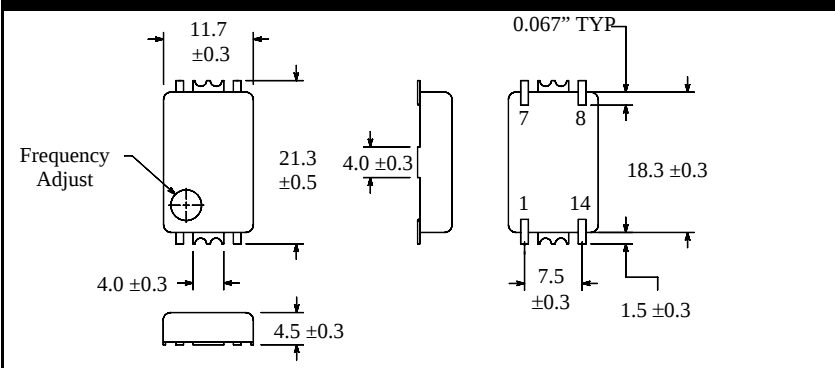
**ELECTRICAL SPECIFICATIONS**

**Environmental/Mechanical Specifications on page F5**

|                                    |                                                                            |                       |
|------------------------------------|----------------------------------------------------------------------------|-----------------------|
| <b>Frequency Range</b>             | 9.600MHz to 35.000MHz                                                      |                       |
| <b>Frequency Stability</b>         | All values inclusive of temperature, aging, and load<br>See Table 1 Above. |                       |
| <b>Operating Temperature Range</b> | See Table 1 Above.                                                         |                       |
| <b>Storage Temperature Range</b>   | -40°C to 85°C                                                              |                       |
| <b>Supply Voltage</b>              | 3.3 VDC $\pm 5\%$ / 5.0 VDC $\pm 5\%$                                      |                       |
| <b>Load Drive Capability</b>       | 10kOhms // 10pF                                                            |                       |
| <b>Output Voltage</b>              | 1Vp-p Minimum                                                              |                       |
| <b>Internal Trim (Top of Can)</b>  | $\pm 3$ ppm Minimum                                                        |                       |
| <b>Control Voltage (External)</b>  | 2.5Vdc $\pm 2.0$ Vdc<br>Positive Transfer Characteristics                  |                       |
| <b>Frequency Deviation</b>         | $\pm 5$ ppm Minimum Over Control Voltage                                   |                       |
| <b>Aging (@ 25°C)</b>              | $\pm 1$ ppm / year Maximum                                                 |                       |
| <b>Frequency Stability</b>         | Vs. Operating Temperature                                                  | See Table 1 Above.    |
|                                    | Vs. Inpput Voltage ( $\pm 5\%$ )                                           | $\pm 0.3$ ppm Maximum |
|                                    | Vs. Load ( $\pm 2$ kOhms // $\pm 2$ pF)                                    | $\pm 0.3$ ppm Maximum |
| <b>Input Current</b>               | 9.600MHz to 20.000MHz                                                      | 1.5mA Maximum         |
|                                    | 20.001MHz to 29.999MHz                                                     | 2.0mA Maximum         |
|                                    | 30.000MHz to 35.000MHz                                                     | 3.0mA Maximum         |

**MECHANICAL DIMENSIONS**

**Marking Guide on page F3-F4**



Pin 1: Control Voltage (Not present when Control Voltage is specified as "No Connect")  
Pin 7: Case Ground

Pin 8: Output  
Pin 14: Supply Voltage