

# Glass and Quartz Trimmer Capacitors

## General Specifications

### DESIGN FEATURES

The unique Voltronics non-rotating precision trimmer capacitor design offers the following advantages over conventional rotating types:

- Linear tuning with no reversals
- A true high frequency device with high Q's, low RF losses, low constant inductance and high self-resonant frequencies
- A superior seal because the screw head and O-ring do not move in and out
- Greater life - 10,000 cycles minimum
- Much smaller sealed MIL sizes
- Ability to provide extended metal or plastic shafts

### GENERAL SPECIFICATIONS (where not specified on detail pages)

#### PISTON ACTION

Non-rotating

#### BLIND HOLE TUNING

Screw head does not move in and out

#### LINEARITY

±1% with no capacitance reversals

#### RESOLUTION

#2-72 tuning screw or fine tuning - approximate picofarads per turn in active tuning range:

- |                                |            |
|--------------------------------|------------|
| 1. Annular band glass          | .6 to .8   |
| 2. Embedded band glass         | 2.3 to 3.0 |
| 3. Quartz                      | .3 to .36  |
| 4. "H" Series high range glass | 3.9 to 4.2 |

#### INSULATION RESISTANCE

Annular band glass and quartz:

10<sup>6</sup> Megohms at 25° C to 125° C

Embedded band glass: 10<sup>6</sup> Megohms at 25° C

10<sup>5</sup> Megohms at 125° C

#### TUNING TORQUE

1 to 8 inch ounces

#### LIFE

over 10,000 cycles

#### TEMPERATURE COEFFICIENT

Annular Band Glass: ±50 ppm/°C

Embedded Band Glass: ±150 ppm/°C

Quartz: 0 to +50 ppm/°C

#### DIELECTRIC WITHSTANDING VOLTAGE

Twice DC working voltage (listed with each part)

### DIELECTRIC

The dielectric is a tube which has been precision drawn in a vacuum so that its inner diameter is held within +0.0002". The choices are:

1. **Annular Band Glass:** A solid tube of a specially selected formulation of glass which is metallized on the outside.
2. **Embedded Band Glass:** Two tubes of glass fired together with a metallized silver band embedded between them. The inner tube is only 0.005" thick to provide much higher capacitance values.
3. **Quartz:** A pure-grade silicon oxide offering higher Q and voltage ratings in each size with the trade-off of lower capacitance and higher cost.

#### CAPACITANCE TUNING RANGE

From below minimum to above maximum value listed for each part. Capacitance measured at 1 MHz on Boonton Electronics 7600 bridge using Voltronics V1265 guarded test jig. **All measurements taken with leads perpendicular to unit regardless of final configuration.**

#### TEMPERATURE RANGE

All glass dielectrics: -55 C to 125° C

Quartz dielectric: -55 C to 150° C

#### OTHER SPECIFICATIONS

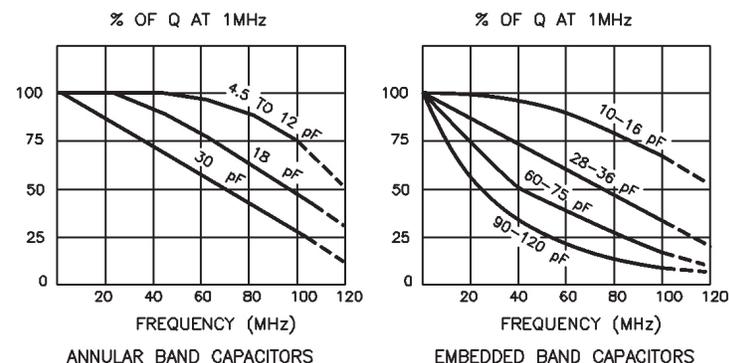
All other specifications including vibration, shock, moisture and seal (where applicable) per MIL-C-14409D

#### DRAWING TOLERANCES (WHERE NOT SPECIFIED)

Decimal: XXX ± .016"

XX ± .03"

#### QUALITY FACTOR



Recommended Tuning Tool: TT-100 or TT-600