

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:

10⁶ Megohms at 25° C to 125° C

Embedded band glass: 10⁶ Megohms at 25° C

10⁵ 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

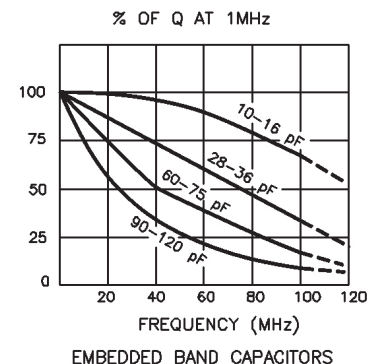
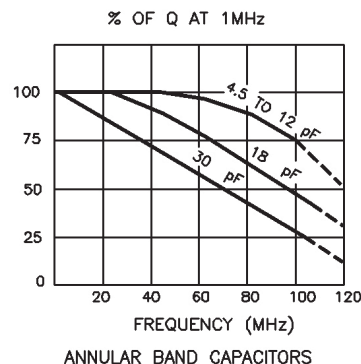
All other specifications including vibration, shock, moisture and seal (where applicable) per MIL-C-14409D

DRAWING TOLERANCES (WHERE NOT SPECIFIED)

Decimal: XXX ± .016"

XX ± .03"

QUALITY FACTOR



Recommended Tuning Tool: TT-100 or TT-600