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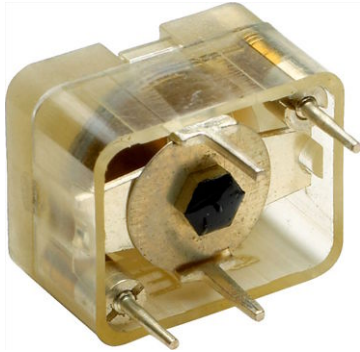
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Film Dielectric Trimmers



FEATURES

- High temperature type
- Housing dimensions:
10 mm x 11 mm x 11 mm
- For a basic grid of 2.54 mm
- Round head
- Top and bottom adjustment
- Mounting: Radial
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

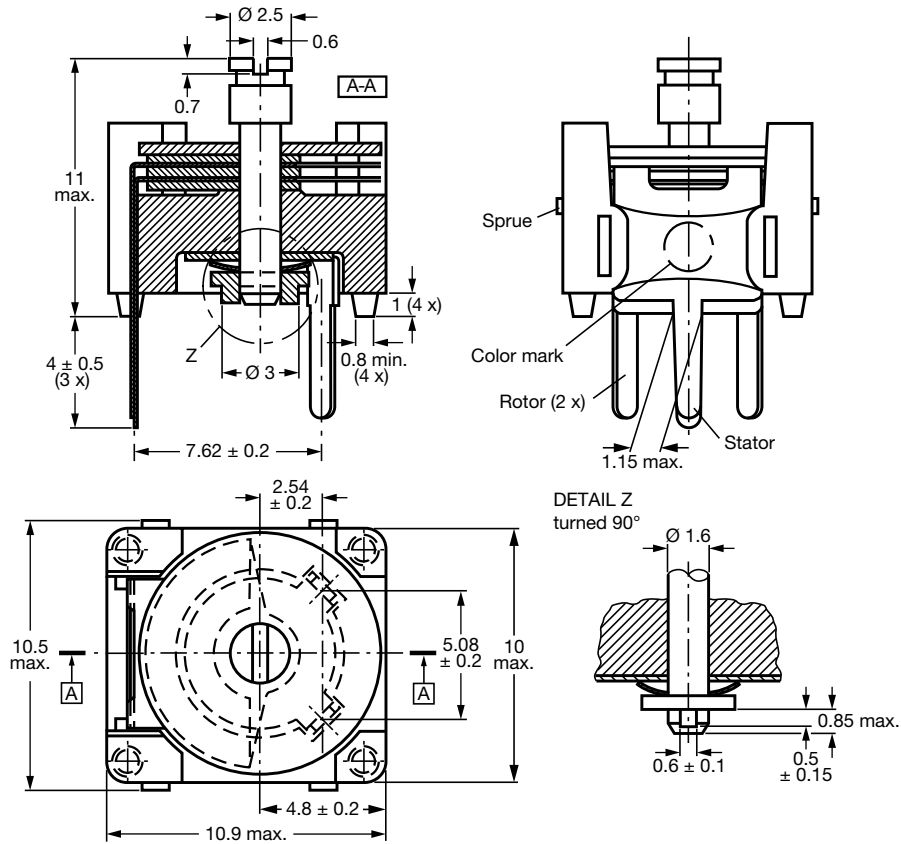


APPLICATIONS

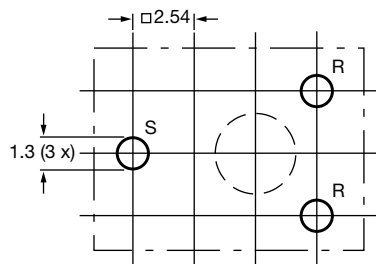
- Antennas
- Impedance matching circuits
- Medical
- RF
- For fine adjustment in professional applications

| QUICK REFERENCE DATA | |
|---|---|
| Rated DC voltage | 250 V _{DC} |
| Test DC voltage for 1 min | 500 V _{DC} |
| Maximum contact resistance | 5 mΩ |
| Minimum insulation resistance | 10 000 MΩ |
| Category temperature range | - 40 °C to + 125 °C |
| Climatic category (IEC 60068) | 40/125/21 |
| Minimum storage temperature | - 55 °C |
| Related specification | IEC 60418-1 and 4 |
| Effective angle of rotation | 180° (rotation in 180° only, see "Life of trimmer") |
| Operating torque | 2 mNm to 25 mNm |
| Maximum axial thrust | 2 N |
| Capacitance range (C _{min.} /C _{max.}) | 4 pF/38 pF to 5 pF/57 pF |
| Life of trimmer | Maximum 10 cycles: Rotation in 180° only (the electrical and mechanical performance is not guaranteed if rotated beyond 10 cycles) |
| Quality level | Sampling and data evaluation for quality level in accordance with "MIL-STD-105D" and "IEC 60410": < 0.15 % major defects < 0.65 % minor defects Each capacitor is tested for minimum C _{max.} and is also subjected to the full test voltage. |

DIMENSIONS in millimeters



Trimmers BFC2 809 080.. series, with round heads



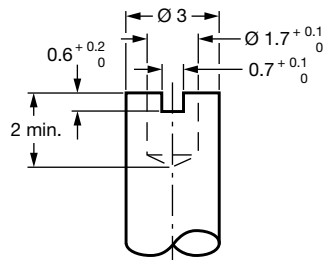
Hole pattern

R = Rotor, S = Stator

The large hole is for bottom adjustment and the diameter is determined by user's requirements.

ADJUSTMENT

For top adjustment a screwdriver or trimming key can be used; for bottom adjustment a key is required as shown below.



Bottom adjustment key

**MOUNTING**

The trimmer can be mounted on printed-circuit boards with a grid of 2.54 mm and a minimum hole diameter of 1.25 mm.

PACKAGING

Blister packs of 70 units each. For smallest packaging quantity (SPQ) see "Electrical Data" table.

| ORDERING INFORMATION | |
|-----------------------------|-------------------------------|
| $C_{min.}/C_{max.}$ (pF) | CATALOG NUMBER BFC2 809 080.. |
| | TOP AND BOTTOM ADJUSTMENT |
| 4/38 | 02 |
| 5/57 | 03 |

| ELECTRICAL DATA | | | | | | | | | |
|--|------------------|---------------------|--|-----------|---|--|-------------------|-----|----------------------------------|
| GUARANTEED MAX. $C_{min.}/$ MIN. $C_{max.}$ AT 200 kHz (pF) | SHAPE OF HEAD | DIEL. | tan δ AT $C_{max.} \times 10^{-4}$ | | TEMP. COEFF. ⁽²⁾ ($10^{-6}/K$) | MIN. f_{res} AT $C_{max.}$ (MHz) | COL. OF DOT | SPQ | CATALOG NUMBER BFC2 |
| | | | 1 MHz | 100 MHz | | | | | |
| 4/38 | Round | PTFE ⁽¹⁾ | ≤ 10 | ≤ 25 | - 200 \pm 250 | 170 | Yellow | 350 | ... 809 08002 |
| 5/57 | Round | | ≤ 10 | ≤ 25 | | 150 | Blue | 350 | ... 809 08003 |

Notes

⁽¹⁾ PTFE = Polytetrafluorethylene

⁽²⁾ C: 60 % to 80 % of $C_{max.}$; T_{amb} : From + 20 °C to + 125 °C

| TEST PROCEDURES AND REQUIREMENTS | | | | |
|---|-----------------------------|-----------------------------|---|--|
| IEC 60418-1 CLAUSE | IEC 60068 TEST METHOD | TEST | PROCEDURE | REQUIREMENTS |
| 4.2 | | Method of mounting | Method A | |
| 14 | | Capacitance drift | After TC measurement | $\Delta C/C: \leq 2.0 \%$ |
| 19 | | Thrust | Axial thrust of 2 N | $\Delta C/C: \leq 0.2 \%$ |
| 21 | | Robustness of terminations: | | |
| 21.1 | Ua | Tensile | 1 N | No damage |
| 21.2 | Ub | Bending | 1 cycle | No damage |
| 22 | Na | Rapid change of temperature | 1 cycle; 0.5 h at lower and 0.5 h at upper category temperature | $\Delta C/C: \leq 2.5 \%$ |
| 23 | T | Soldering: | | |
| | Ta | Solderability | Solder bath immersion 3 mm; 235 °C; 2 s | Good wetting, no mechanical damage |
| | Tb | Resistance to heat | Solder bath: 260 °C; 10 s | No mechanical damage |
| 24 | Eb | Impact bump | 4000 \pm 10 bumps; 40 g; 6 ms | $\Delta C/C: \leq 0.5 \%$; no mechanical damage |
| 25 | Fc | Vibration | Frequency 10 Hz to 55 Hz; amplitude 0.35 mm; 1.5 h | $\Delta C/C: \leq 0.2 \%$; no mechanical damage |



| TEST PROCEDURES AND REQUIREMENTS | | | | |
|----------------------------------|-----------------------------|---|---|--|
| IEC 60418-1 CLAUSE | IEC 60068 TEST METHOD | TEST | PROCEDURE | REQUIREMENTS |
| 26 | | Climatic sequence: | | $\Delta C/C: \leq 2.5$ |
| 26.1 | B | Dry heat | 16 h at upper category temperature | $\tan \delta: \leq 10 \times 10^{-4}$ $R_{ins.}: \geq 10\ 000\ M\Omega$; rotor contact R: $\leq 5\ m\Omega$ |
| 26.2 | D | Damp heat accelerated, first cycle | 1 cycle; 24 h; + 40 °C; 95 % to 100 % RH | Voltage proof: 500 V for 1 min |
| 26.3 | Aa | Cold | 16 h; - 40 °C | Visual examination: No mechanical damage |
| 26.5 | | Damp heat accelerated, remaining cycles | 1 cycle; 24 h; + 40 °C; 95 % to 100 % RH | Operating torque: 1 mNm to 25 mNm |
| 27 | Ca | Damp heat steady state | 21 days; + 40 °C; 90 % to 95 % RH | $\Delta C/C: \leq 2.5\ \%$ $\tan \delta: \leq 10 \times 10^{-4}$ $R_{ins.}: \geq 10\ 000\ M\Omega$; rotor contact R: $\leq 5\ m\Omega$ Voltage proof: 500 V for 1 min Visual examination: No mechanical damage Operating torque: 1 mNm to 25 mNm |
| 29 | | Mechanical endurance | 10 cycles Maximum 10 cycles: Rotation in 180° only (the electrical and mechanical performance is not guaranteed if rotated beyond 10 cycles) | $\Delta C/C: \leq 0.3\ \%$ $\Delta C/C$ after axial thrust: $\leq 0.3\ \%$; rotor contact R: $\leq 5\ m\Omega$ Voltage proof: 500 V for 1 min Visual examination: No mechanical damage Operating torque: 1 mNm to 25 mNm |



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