

Ø 10 mm Film Dielectric Trimmers

TEST VOLTAGE (DC) FOR 1 MINUTE:

300 V

MAXIMUM CONTACT RESISTANCE:

10 mΩ

MINIMUM INSULATION RESISTANCE:

10 000 MΩ

CATEGORY TEMPERATURE RANGE:**PP**

- 40 to + 70 °C

PC, PTFE

- 40 to + 85 °C

CLIMATIC CATEGORY (IEC 60068):**PP**

40/070/21

PC, PTFE

40/085/21

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 to 25 mNm

MAXIMUM AXIAL THRUST:

2 N

FEATURES

- Housing diameter 10 mm
- For a basic grid of 2.54 mm (0.1") or 2.50 mm
- Top and bottom or top adjustment
- Vertical and horizontal versions
- Round head

**RoHS**
COMPLIANT**APPLICATIONS**

- For consumer and industrial equipment

DESCRIPTION:

The vanes of the trimmer are stacked on a sturdy plastic base. The color of the base indicates the maximum capacitance (see Electrical Data Table). The dielectric is a film of polypropylene (PP), polycarbonate (PC) or polytetrafluorethylene (PTFE), which supports the vanes in such a way that good stability is ensured and no microphony can occur.

Flux absorption between the vanes is prevented.

Cleaning with solvents is not advised.

Versions are available with either a vertical spindle, or a horizontal spindle.

Both versions have top adjustment by means of a screwdriver or trimming key and bottom adjustment by means of a key.

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.

 $C_{\min}/C_{\max}$:

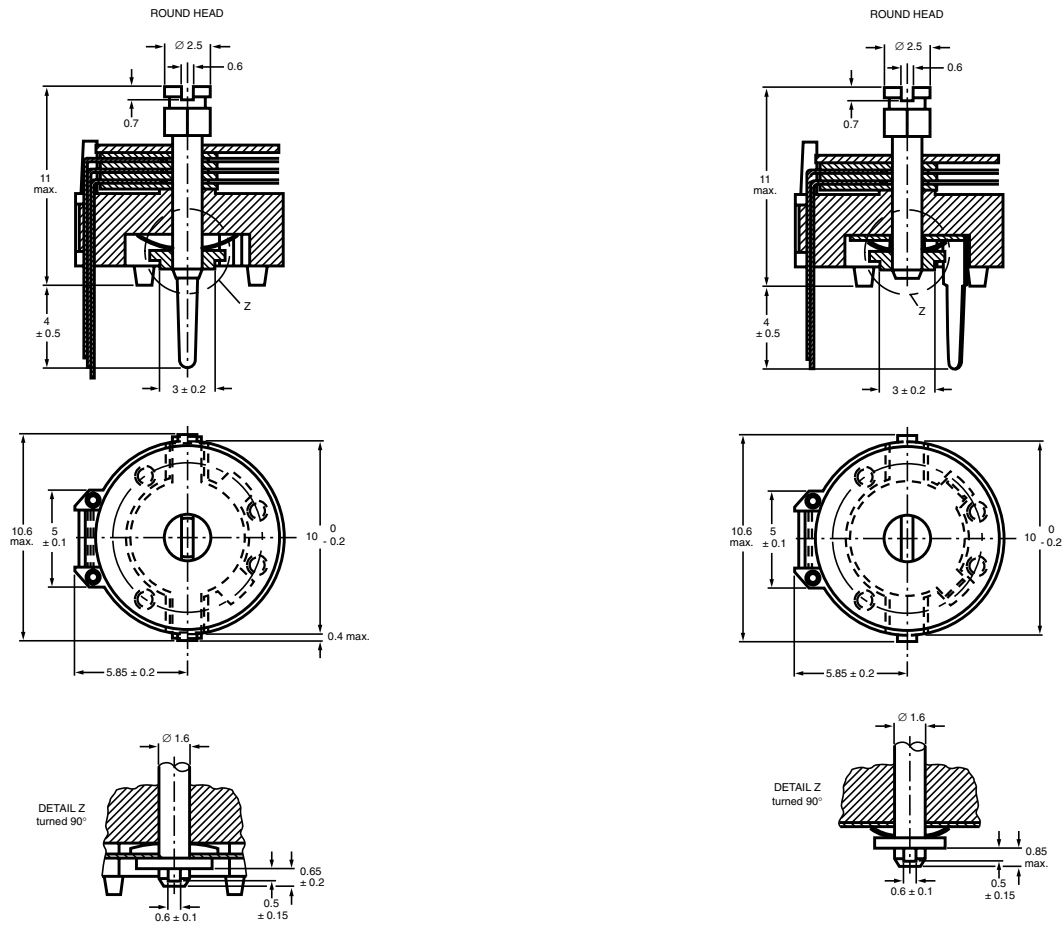
2.5/15 to 7/105 pF

RATED VOLTAGE (DC):

150 V

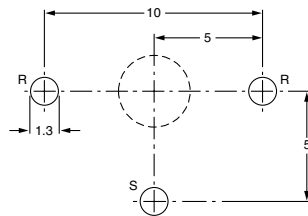
LIFE OF TRIMMER:

Maximum 10 cycles: rotation in 180° only (the electrical and mechanical performance is not guaranteed if rotated beyond 10 cycles)



Trimmers BFC2 808 series, vertical version

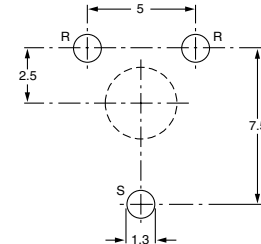
Dimensions in millimeters



R = rotor, S = stator

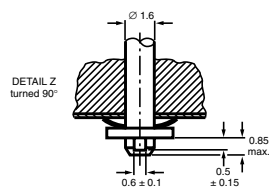
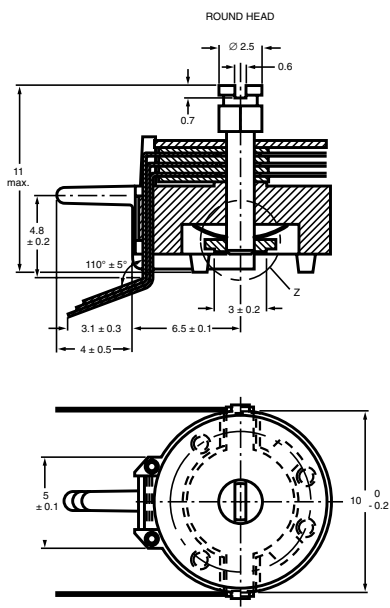
The large hole is for bottom adjustment and the diameter is determined by user's requirements.

Hole pattern



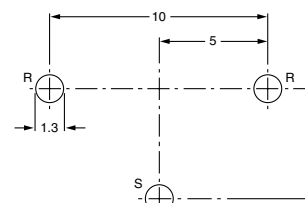
R = rotor, S = stator

Hole pattern



Trimmers BFC2 808 series, horizontal version

Dimensions in millimeters

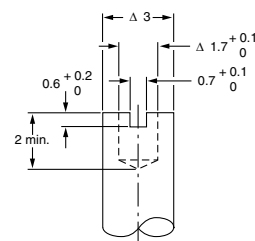


R = rotor, S = stator

Hole pattern

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

ORDERING INFORMATION

C_{min}/C_{max} (pF)	CATALOG NUMBER BFC2 808			
	HORIZONTAL VERSION	VERTICAL VERSION		
	HOLE PATTERN 5 mm x 10 mm	HOLE PATTERN 5 mm x 10 mm	HOLE PATTERN 7.5 mm x 5 mm	
	ROUND HEAD	ROUND HEAD	ROUND HEAD	ROUND HEAD
	TOP AND BOTTOM ADJUSTMENT	TOP AND BOTTOM ADJUSTMENT		TOP ADJUSTMENT
2.5/15	61159	31159	32159	-
3/22.5	61229	31229	32229	-
5.5/40	61409	31409	32409	-
5.5/50	-	01029	01006	-
5.5/65	61659	31659	32659	01001
6/80	61809	31809	32809	-
7/105	61101	31101	32101	-
6/120	-	31121	-	-

**MOUNTING**

The trimmer can be mounted on printed-circuit boards with a grid of 2.50 mm or 2.54 mm and a minimum hole diameter of 1.25 mm.

PACKAGING

Bulk packaged in cardboard boxes lined with expanded plastic. For smallest packaging quantities (SPQ) see Electrical Data Table.

ELECTRICAL DATA

GUARANTEED MAX. C _{min} / MIN. C _{max} AT 200 kHz (pF)	SPINDLE	SHAPE OF HEAD	FIG.	ADJ. MODE	DIEL.	TAN δ AT C _{max} x 10 ⁻⁴		TEMP. COEFF. (10 ⁻⁶ /K)	MIN. f _{res} AT C _{max} (MHz)	COL. OF BASE	SPQ	CATALOG NUMBER BFC2
						1 MHz	100 MHz					
2.5/15	vertical	round	1	top + bottom	PP	≤ 10	≤ 25	- 200 ± 700	420	blue	800	 808 31159
	2		800								 808 32159	
	horizontal		3								700	 808 61159
3/22.5	vertical	round	1	top + bottom	PP	≤ 10	≤ 25	- 200 ± 700	200	green	800	 808 31229
	2		800								 808 32229	
	horizontal		3								700	 808 61229
5.5/40	vertical	round	1	top + bottom	PP	≤ 10	≤ 25	- 200 ± 400	200	grey	800	 808 31409
	2		800								 808 32409	
	horizontal		3								700	 808 61409
5.5/50	vertical	round	1	top + bottom	PTFE	≤ 10	≤ 25	- 200 ± 400	170	yellow	800	 808 01029
			2								800	 808 01006
5.5/65	vertical	round	2	top	PP	≤ 10	≤ 25	- 200 ± 500	170	yellow	800	 808 01001
		round	1	top + bottom							800	 808 31659
		round	2								800	 808 32659
	horizontal	round	3								700	 808 61659
6/80	vertical	round	1	top + bottom	PC	≤ 70	-	- 50 ± 400	170	red	800	 808 31809
		round	2								800	 808 32809
	horizontal	round	3								700	 808 61809
7/105	vertical	round	1	top + bottom	PC	≤ 70	-	- 50 ± 400	170	violet	800	 808 31101
		round	2								800	 808 32101
	horizontal	round	3								700	 808 61101
6/120	vertical	round	2	top + bottom	PC	≤ 70	-	- 50 ± 400	170	violet	800	 808 31121

* ordering code for SAP system

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	$\Delta C/C: \leq 4.5\%$ for $C_{max} < 40$ pF; $\Delta C/C: \leq 2.5\%$ for $C_{max} \geq 40$ pF
19		thrust	axial thrust of 2 N	$\Delta C/C: \leq 0.3\%$
21 21.1 21.2	Ua Ub	robustness of terminations: tensile bending	1 N 1 cycle	no damage no damage
22	Na	rapid change of temperature	1 cycle; 0.5 hours at lower and 0.5 hours at upper category temperature	$\Delta C/C: \leq 1.5\%$
23	T Ta Tb	soldering: solderability resistance to heat	solder bath immersion 3 mm; 235 °C; 2 s solder bath: 260 °C; 10 s	good wetting no mechanical damage no mechanical damage
24	Eb	impact bump	4000 $\pm$ 10 bumps; 40 g; 6 ms	$\Delta C/C: \leq 0.4\%$; no mechanical damage

IEC 60418-1 CLAUSE	IEC 60068 TEST METHOD	TEST	PROCEDURE	REQUIREMENTS
25	Fc	vibration	frequency 10 to 55 Hz; amplitude 0.35 mm; 1.5 hours	$\Delta C/C: \leq 0.8 \%$; no mechanical damage
26	B	climatic sequence:		$\Delta C/C: \leq 3 \%$ for $C_{\max} < 80 \text{ pF}$; $\Delta C/C: \leq 6 \%$ for $C_{\max} \geq 80 \text{ pF}$
26.1		dry heat	16 hours at upper category temperature	$\tan \delta: \leq 15 \times 10^{-4}$ for $C_{\max} < 80 \text{ pF}$; $\tan \delta: \leq 80 \times 10^{-4}$ for $C_{\max} \geq 80 \text{ pF}$
26.2		damp heat accelerated, first cycle	1 cycle; 24 hours; + 40 °C; 95 to 100 % RH	$R_{\text{ins}}: \geq 10\,000 \text{ M}\Omega$; rotor contact R: $\leq 10 \Omega$
26.3		cold	16 hours; - 40 °C	voltage proof: 300 V for 1 minute
26.5		damp heat accelerated, remaining cycles	1 cycle; 24 hours; + 40 °C; 95 to 100 % RH	visual examination: no mechanical damage operating torque: 2 to 35 mNm
27	Ca	damp heat steady state	21 days; + 40 °C; 90 to 95 % RH	$\Delta C/C:$ $\leq 3 \%$ for $C_{\max} < 100 \text{ pF}$; $\leq 3 \%$ for $C_{\max} \geq 100 \text{ pF}$ $\tan \delta: \leq 20 \times 10^{-4}$ for $C_{\max} < 80 \text{ pF}$; $\tan \delta: \leq 80 \times 10^{-4}$ for $C_{\max} \geq 80 \text{ pF}$ $R_{\text{ins}}: \geq 10\,000 \text{ M}\Omega$; rotor contact R: $\leq 10 \text{ m}\Omega$ voltage proof: 300 V for 1 minute visual examination: no mechanical damage operating torque: 2 to 35 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)	$\Delta C/C: \leq 1 \%$ $\Delta C/C$ after axial thrust: $\leq 0.4 \%$; rotor contact R: $\leq 10 \text{ m}\Omega$ voltage proof: 300 V for 1 minute visual examination: no mechanical damage operating torque: 1.5 to 37 mNm



Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Vishay:

[BFC280832659](#) [BFC280861229](#) [BFC280801006](#) [BFC280831659](#) [BFC280832809](#) [BFC280861809](#) [BFC280831409](#)
[BFC280831809](#) [BFC280831101](#) [BFC280861409](#) [BFC280832409](#)