Vishay BCcomponents



Ø 10 mm Film Dielectric Trimmers

TEST VOLTAGE (DC) FOR 1 MINUTE:

300 V

MAXIMUM CONTACT RESISTANCE:

10 m Ω

MINIMUM INSULATION RESISTANCE:

10 000 M Ω

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

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

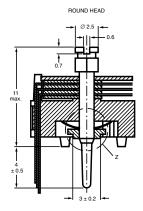
LIFE OF TRIMMER:

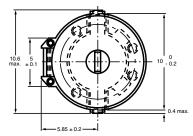
Maximum 10 cycles: rotation in 180° only (the electrical and mechanical performance is not guaranteed if rotated beyond 10 cycles)

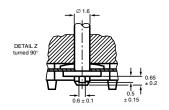


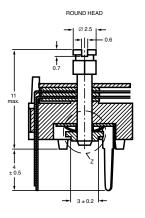
Ø 10 mm Film Dielectric Trimmers

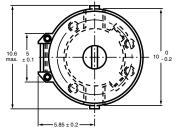
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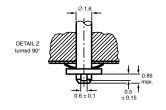






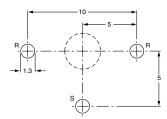






Trimmers BFC2 808 series, vertical version

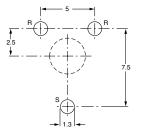
Dimensions in millimeters



R = rotor, S = stator

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

Hole pattern



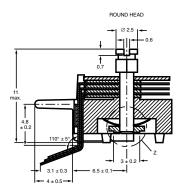
R = rotor, S = stator

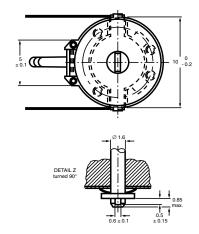
Hole pattern

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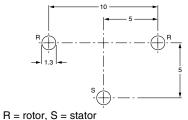






Trimmers BFC2 808 series, horizontal version

Dimensions in millimeters

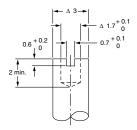


S = 10101, S = S18101

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

	CATALOG NUMBER BFC2 808							
	HORIZONTAL VERSION	VERTICAL VERSION						
C _{min} /C _{max}	HOLE PATTERN	HOLE PATTERN		PATTERN				
(pF)	5 mm x 10 mm	5 mm x 10 mm 7.5 m		m x 5 mm				
(P.)	ROUND HEAD	ROUND HEAD	ROUND HEAD	ROUND HEAD				
	TOP AND BOTTOM ADJUSTMENT	TOP AND BOTT	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	-	-				



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PACKAGING

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.

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

ELECTRICAL DATA

GUARANTEED MAX. C _{min} /		SHAPE		ADJ.			N δ AT _{1x} x 10 ⁻⁴	ТЕМР.	MIN. f _{res}	COL.		CATALOG				
MIN. C _{max} AT 200 kHz (pF)	SPINDLE	OF HEAD	FIG.	MODE	DIEL.	1 MHz	100 MHz	COEFF. (10 ⁻⁶ /K)	AT C _{max} (MHz)	OF BASE	SPQ	NUMBER BFC2				
2.5/15	vertical	round	1	top + bottom PP	PP	≤ 10	≤ 25	- 200 ± 700	420	blue	800	808 31159				
			2								800	808 32159				
	horizontal		3							700	808 61159					
	vertical	vertical	vertical	vertical	vertical		1								800	808 31229
3/22.5		round	2	top + bottom	m PP	≤ 10	≤ 25	- 200 ± 700	200	green	800	808 32229				
	horizontal		3								700	808 61229				
	vertical	vertical		1								800	808 31409			
5.5/40		round	2	top + bottom	PP	≤ 10	≤ 25	- 200 ± 400	200	grey	800	808 32409				
	horizontal		3								700	808 61409				
5.5/50	vertical	vertical rou	l round	1 to	top + bottom	PTFE	≤ 10	≤ 25	- 200 ± 400	170	yellow	800	808 01029			
5.5/50						FIFE						800	808 01006			
	vertical	round	2	top		PP ≤ 10	≤ 25	- 200 ± 500	170	yellow	800	808 01001				
5.5/65		round	1	В.	DD						800	808 31659				
5.5/65		round	2	top + bottom	PP						800	808 32659				
	horizontal	round	3								700	808 61659				
	vertical	round	1		pottom PC	≤ 70	-	- 50 ± 400	170	red	800	808 31809				
6/80		round	2	top + bottom							800	808 32809				
	horizontal	round	3								700	808 61809				
7/105	vertical	round	1					_			800	808 31101				
		round	2	top + bottom	PC	≤ 70	-	- 50 ± 400	170	violet	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	Δ C/C: \leq 4.5 % for C _{max} < 40 pF;	
				Δ C/C: \leq 2.5 % for C _{max} \geq 40 pF	
19		thrust	axial thrust of 2 N	ΔC/C: ≤ 0.3 %	
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 hours at lower and 0.5 hours at upper category temperature	ΔC/C: ≤ 1.5 %	
23	Т	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 ± 10 bumps; 40 g; 6 ms	Δ C/C: \leq 0.4 %; no mechanical damage	

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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	ΔC/C: ≤ 0.8 %; no mechanical damage
26		climatic sequence:		Δ C/C: \leq 3 % for C _{max} $<$ 80 pF; Δ C/C: \leq 6 % for C _{max} \geq 80 pF
26.1	В	dry heat	16 hours at upper category temperature	tan δ : \leq 15 x 10 ⁻⁴ for C_{max} $<$ 80 pF; tan δ : \leq 80 x 10 ⁻⁴ for C_{max} $<$ 80 pF R_{ins} : \geq 10 000 M Ω ; rotor contact R: \leq 10 Ω
26.2	D	damp heat accelerated, first cycle	1 cycle; 24 hours; + 40 °C; 95 to 100 % RH	voltage proof: 300 V for 1 minute
26.3	Aa	cold	16 hours; - 40 °C	visual examination: no mechanical damage
26.5		damp heat accelerated, remaining cycles	1 cycle; 24 hours; + 40 °C; 95 to 100 % RH	operating torque: 2 to 35 mNm
27	Ca	a damp heat steady state	21 days; + 40 °C; 90 to 95 % RH	Δ C/C: ≤ 3 % for C _{max} < 100 pF; ≤ 3 % for C _{max} ≥ 100 pF tan δ : ≤ 20 x 10 ⁻⁴ for C _{max} < 80 pF;
				$\begin{split} & tan \ \delta : \leq 80 \ x \ 10^{-4} \ for \ C_{max} \geq 80 \ pF \\ & R_{ins} : \ \geq 10 \ 000 \ M\Omega; \end{split}$
				$ \begin{array}{l} \text{rotor contact R:} \leq 10 \text{ m}\Omega \\ \text{voltage proof:} \\ 300 \text{ V for 1 minute} \end{array} $
				visual examination: no mechanical damage
29		mechanical endurance	10 cycles	operating torque: 2 to 35 mNm ΔC/C: ≤ 1 %
23	2.9		Maximum 10 cycles: rotation in 180° only (the electrical and mechanical performance is not	Δ C/C after axial thrust: \leq 0.4 %; rotor contact R: \leq 10 m Ω
				voltage proof: 300 V for 1 minute
			guaranteed if rotated beyond 10 cycles)	visual examination: no mechanical damage operating torque: 1.5 to 37 mNm



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