Film Dielectric Trimmers

TEST VOLTAGE (DC) FOR 1 MINUTE:

600 V

MAXIMUM CONTACT RESISTANCE:

5 mΩ

MINIMUM INSULATION RESISTANCE BETWEEN STATOR AND ROTOR:

10 000 MΩ

CATEGORY TEMPERATURE RANGE:

- 40 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:

C_{max} < 3.5 pF

1 to 15 mNm

$C_{max} \geq$ 3.5 pF

1 to 20 mNm

MAXIMUM AXIAL THRUST:

2 N

FEATURES

- High temperature type
- Housing dimensions: 6 mm x 8 mm x 9 mm
- For a basic grid of 2.54 mm
- Top and bottom adjustment
- Round head
- Vertical version

Pb-free

e3

RoHS COMPLIANT

APPLICATIONS

- For fine adjustment in professional applications

DESCRIPTION:

The trimmers consist of a polysulphone housing, brass rotor and plated brass stator with PTFE film as the dielectric. The stator plate tags are heat sealed to the housing.

The rotor contact surfaces are plated to ensure a long life and a stable contact even under severe climatic conditions. A coloured dot indicates the maximum capacitance.

Cleaning with solvents is not advised.

Versions are available with either a round head or hexagonal head.
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}:

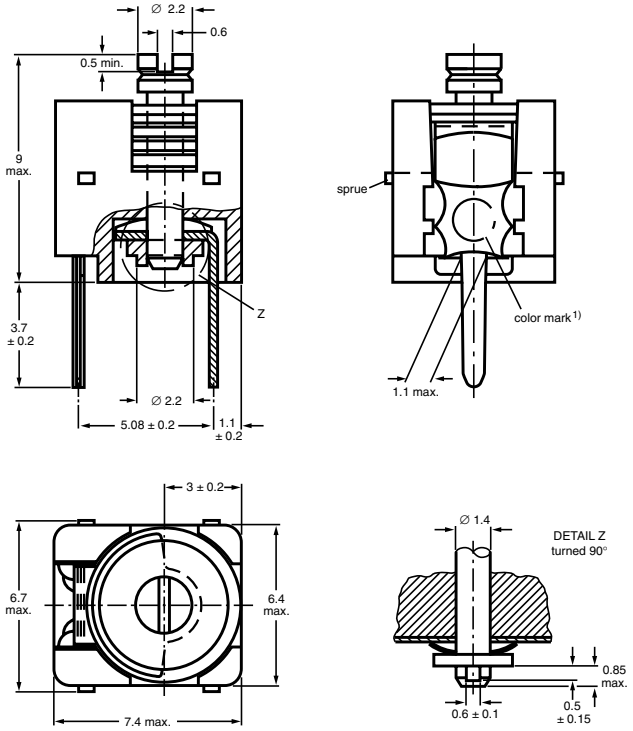
0.5/2 to 2/18 pF

RATED VOLTAGE (DC):

300 V

LIFE OF TRIMMER:

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

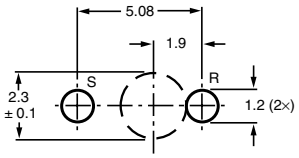


Trimmers BFC2 809 05... series, with round heads

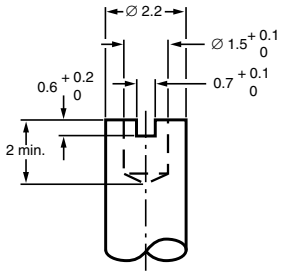
Dimensions in millimeters

ADJUSTMENT

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



Hole pattern



Bottom adjustment key

ORDERING INFORMATION

C_{min}/C_{max} (pF)	CATALOG NUMBER BFC2 809 05...	
	TOP AND BOTTOM ADJUSTMENT	
	ROUND HEAD	ROUND HEAD AND FLUX GUARD
0.5/2	011	-
1.2/3.5	215	001
1.8/10	216	002
2/18	217	003

MOUNTING

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

PACKAGING

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

ELECTRICAL DATA

GUARANTEED MAX. C_{min}/ MIN. C_{max} AT 200 kHz (pF)	SHAPE OF HEAD	FIG.	TAN δ AT C_{max} x 10^{-4}		TEMP. COEFF. [1] (10^{-6}/K)	MIN. f_{res} AT C_{max} (MHz)	COL. OF DOT	SPQ	CATALOG NUMBER BFC2 ... .
			1 MHz	100 MHz					
0.5/2	round	1	≤ 10	≤ 20	- 250 ± 350	1200	none	700	.... 809 05011
1.2/3.5	round	1	≤ 10	≤ 20	- 250 ± 350	850	orange	700	.... 809 05001
								700	.... 809 05215
1.8/10	round	1	≤ 10	≤ 20	- 250 ± 350	1200	none	700	.... 809 05002
						580	white	700	.... 809 05216
2/18	round	1	≤ 10	≤ 25	- 250 ± 350	360	red	700	.... 809 05217
								700	.... 809 05003

Note:

1. 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	ΔC/C: ≤ 2.5 %; 4 % for 2 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: ≤ 2.5 %

IEC 60418-1 CLAUSE	IEC 60068 TEST METHOD	TEST	PROCEDURE	REQUIREMENTS
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 ± 10 bumps; 40 g; 6 ms	$\Delta C/C$: ≤ 0.6 %; no mechanical damage
25	Fc	vibration	frequency 10 to 55 Hz; amplitude 0.35 mm; 1.5 hours	$\Delta C/C$: ≤ 0.6 %; no mechanical damage
26		climatic sequence:		$\Delta C/C$: ≤ 2.5
26.1	B	dry heat	16 hours at upper category temperature	tan δ: ≤ 10 x 10^{-4} for C_{max} < 18 pF; tan δ: ≤ 40 x 10^{-4} for C_{max} ≥ 18 pF R_{ins}: ≥ 10 000 MΩ; rotor contact R: ≤ 5 mΩ
26.2	D	damp heat accelerated, first cycle	1 cycle; 24 hours; + 40 °C; 95 to 100 % RH	voltage proof: 600 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: 1 to 20 mNm
27	Ca	damp heat steady state	21 days; + 40 °C; 90 to 95 % RH	$\Delta C/C$: ≤ 2.5 % tan δ: ≤ 10 x 10^{-4} for C_{max} < 18 pF; tan δ: ≤ 25 x 10^{-4} for C_{max} ≥ 18 pF R_{ins}: ≥ 10 000 MΩ; rotor contact R: ≤ 5 mΩ voltage proof: 600 V for 1 minute visual examination: no mechanical damage operating torque: 1 to 20 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)	$\Delta C/C$: ≤ 0.3 %; ≤ 2.5 % for 2 pF $\Delta C/C$ after axial thrust: ≤ 0.3 %; rotor contact R: ≤ 5 mΩ voltage proof: 600 V for 1 minute visual examination: no mechanical damage operating torque: 1 to 20 mNm

Disclaimer

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

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