Film dielectric trimmers 2222 809 080..

FEATURES

- High temperature type
- Housing dimensions:
  10 mm × 11 mm × 11 mm
- For a basic grid of 2.54 mm
- Vertical version with a round head
- Top and bottom adjustment.

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.

Flux absorption between the vanes is prevented.

Cleaning with solvents is not advised.

For outline drawing and dimensions see Fig.1.

QUICK REFERENCE DATA

DESCRIPTION	VALUE
C_{min}/C_{max}	4/38 to 5/57 pF
Rated voltage (DC)	250 V
Test voltage (DC) for 1 minute	500 V
Maximum contact resistance	5 mΩ
Minimum insulation resistance	10000 MΩ
Category temperature range	–40 to +125 °C
Climatic category (IEC 60068)	40/125/21
Related specification	IEC 60418-1 and 4
Minimum storage temperature	–55 °C

MECHANICAL DATA

DESCRIPTION	VALUE
Effective angle of rotation	180°
Operating torque	2 to 25 mNm
Maximum axial thrust	2 N

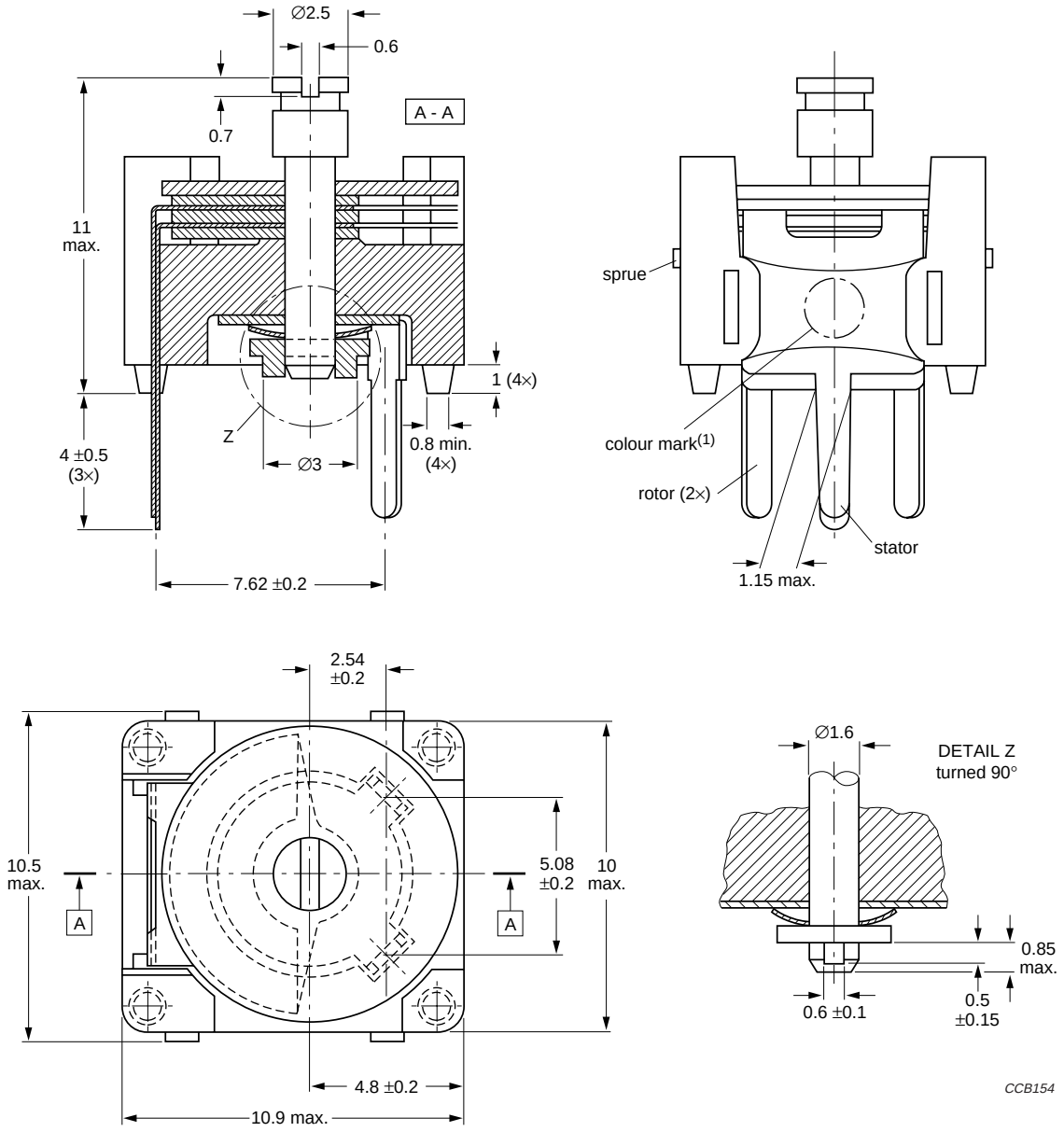
QUALITY LEVEL

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.

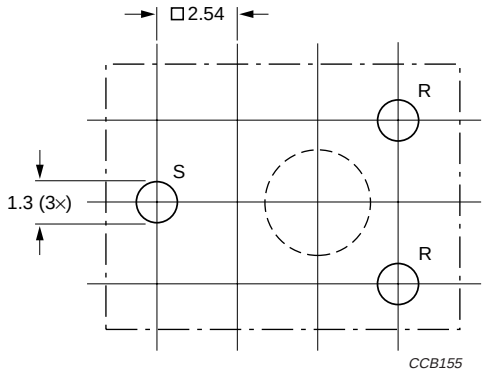


Dimensions in mm.

For hole pattern see Fig.2.

(1) For colour of dot see Table 2.

Fig.1 Trimmers 2222 809 080.. series, with round heads.



Dimensions in mm.

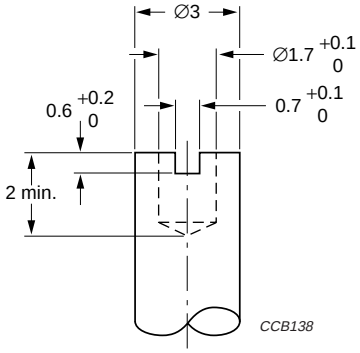
R = rotor, S = stator.

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

Fig.2 Hole pattern; see Fig.1.

Adjustment

For top adjustment a screwdriver or trimming key can be used; for bottom adjustment a key is required as shown in Fig.3.



Dimensions in mm.

Fig.3 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. For hole pattern see Fig.2.

PACKAGING

Blister packs of 70 units each. For smallest packaging quantities (SPQ) see Table 2.

ORDERING INFORMATION

Table 1 Selection chart

C_{min}/C_{max} (pF)	CATALOGUE NUMBER 2222 809 080..
	TOP AND BOTTOM ADJUSTMENT
4/38	02
5/57	03

ELECTRICAL DATA

Table 2 Electrical characteristics and catalogue numbers

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	CATALOGUE NUMBER
			1 MHz	100 MHz					
4/38	round	PTFE(1)	≤10	≤25	−200 ±250	170	yellow	350	2222 809 08002
5/57	round					150	blue	350	2222 809 08003

Notes

1. PTFE = polytetrafluorethylene.
2. C: 60% to 80% of C_{max}; T_{amb}: from +20 °C to +125 °C.

TESTS AND REQUIREMENTS

Table 3 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	$\Delta C/C$: ≤2.0%
19		thrust	axial thrust of 2 N	$\Delta C/C$: ≤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 hours at lower and 0.5 hours at upper category temperature	$\Delta C/C$: ≤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 ±10 bumps; 40 g; 6 ms	$\Delta C/C$: ≤0.5%; no mechanical damage
25	Fc	vibration	frequency 10 to 55 Hz; amplitude 0.35 mm; 1.5 hours	$\Delta C/C$: ≤0.2%; no mechanical damage
26		climatic sequence:		$\Delta C/C$: ≤2.5%
26.1	B	dry heat	16 hours at upper category temperature	tan δ: $\leq 10 \times 10^{-4}$ R_{ins}: ≥10000 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: 500 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 25 mNm

IEC 60418-1 CLAUSE	IEC 60068 TEST METHOD	TEST	PROCEDURE	REQUIREMENTS
27	Ca	damp heat steady state	21 days; +40 °C; 90 to 95% RH	$\Delta C/C$: ≤2.5% tan δ: $\leq 10 \times 10^{-4}$ R_{ins}: ≥10000 MΩ; rotor contact R: ≤5 mΩ voltage proof: 500 V for 1 minute visual examination: no mechanical damage operating torque: 1 to 25 mNm
29		mechanical endurance	25 cycles	$\Delta C/C$: ≤0.3% $\Delta C/C$ after axial thrust: ≤0.3%; rotor contact R: ≤5 mΩ voltage proof: 500 V for 1 minute visual examination: no mechanical damage operating torque: 1 to 25 mNm