Mica capacitors, moulded axial types

General technical Data

BMC Mica capacitors of the **AG-series** are manufactured from top quality Indian Ruby muscovite mica sheets with a burned up silver coating and fitted with axial terminal wires. The outstanding features of the AG-series are:

- closest capacitance tolerances
- small temperature coefficient of capacitance
- low dissipation factor
- long life
- high insulation resistance
- high stability of capacitance through special impregnation process

The capacitors are moulded with araldit in the form of a domino. That qualifies them for various purposes in the whole RF-engineering range e.g. short-wave transmitter or receiver, communication equipment and industrial instrumentation.

The types **AG210** to **AG215** correspond to the types CM10 to CM35 of the American specification MIL-C-5A. The technical data of the AG-series is in accordance to the following specifications:

- MIL-C-5
- IEC 68/116
- DIN 41120/40040/40046
- VDE 0560 Teil 19

Climatic category:	DIN 40040 FMD 055/100/021
Working temperature:	-55°C to +100°C
Insulation resistance:	reference value for 20°C > 100.000 m-ohms
Self inductance:	10 nH for every cm capacitor and lead
Moisture resistance:	relative humidity annual mean ≤ 75%
	peak value: 95% (30 days the whole year round)
	otherwise: 93% (21 days the whole year round)
Dewing:	not permissible

Operational life:

corrersponding to an ambient temperature of +40°C

Working voltage	Operational life	Failure rate
300 V-	100 000 h	5 ‰
150 V-	100 000 h	2 ‰

Temporal inconstancy of capacitance during the operational life referred to climate according to DIN 40046 page 2, section 2,2b.

In the temperature range from: +10°C to +50°C ± (0.2% + 0.1pF)
-55°C to +100°C ± (0.4% +0.2pF)

Temperature coefficient of capacitance 10^{-6}/°C

Capacitance	BMC-value	MIL-C-5A limit value	Character
5 … 10 pF	-100 + 100	-200 … +200	C
> 10 … 50 pF	- 50 + 100	-20 … +200	E (C,D)
> 50 … 500 pF	- 20 + 70	-20 … +100	E (C,D)
> 500 … 10000pF	+20 ± 25	0 … +70	F (C,D,E)

Voltage proof U_P: 2 x U_N 5 sec

Fig. 1: Insulation resistance against rated capacitance

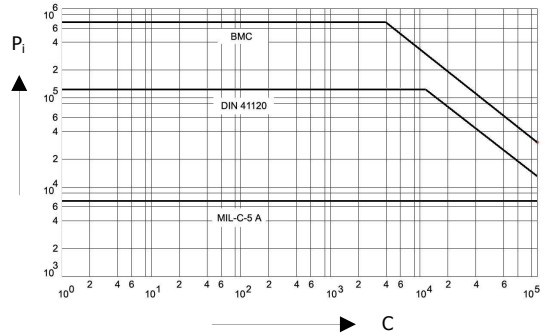


Fig. 2: Dissipation factor against rated capacitance (test frequency 1 MHz)

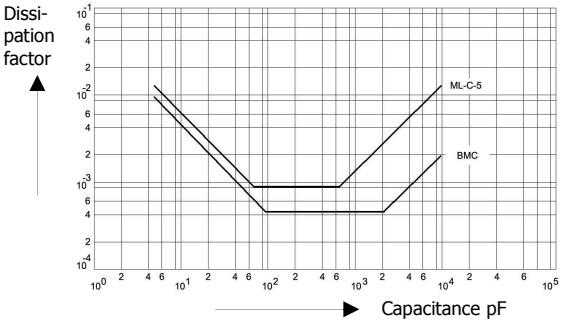
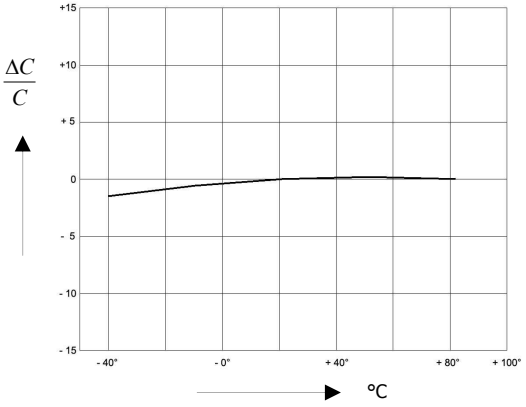
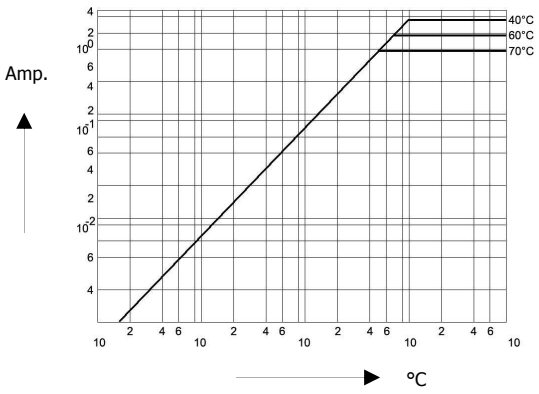


Fig. 3: Reversible alteration of capacitance against temperature
Standard value measured with a capacitance of 1000 pF; (test frequency 800 Hz)



Fid. 4: RF-loading against rated capacitance and frequency ambient temperature +40°C, +60°C und +70°C; permissible self-healing < 20°C



Vibration resistance according to MIL-C-5

Symbol	Hertz (Hz)
1	10 bis 55 Hz
3	10 bis 2000 HZ

Marking
The capacitors are marked with the capacitance, the tolerance, the working voltage and the trademark.