RF Power Barrel Capacitors, Class 1 and Class 2 Ceramic

LINKS TO ADDITIONAL RESOURCES

3D Models

QUICK REFERENCE DATA			
DESCRIPTION	VALUE		
Ceramic class	1	1	2
Ceramic dielectric	NP0 (C0G)	N750 (U2J)	X5U
Type	7FAA	7FAU	5FAE
Voltage (V_{DC})	7500	7500	5000
Min. capacitance (pF)	10	75	500
Max. capacitance (pF)	50	100	1000
Mounting	Screw terminal		

MATERIAL

Capacitor elements made from class 1 or class 2 ceramic dielectric with noble metal electrodes.

Connection terminals:
thread terminal, brass, tin plated.

Allowable torque: 1.47 Nm (13 lbf in)

FINISH

Capacitor finished with protective lacquer.

MARKING

Type designator, capacitance value and tolerance, rated peak voltage, ceramic material code, production date code, manufacturer logo.

FEATURES

- Small size
- Geometry minimizes inductance, and maximizes voltage and heat dissipation capability

APPLICATIONS

- Industrial and medical RF power supplies
- Low power broadcasting equipment
- Antenna coupling
- Induction heating equipment

CAPACITANCE RANGE

10 pF to 1.0 nF

CAPACITANCE TOLERANCE

± 10 %; ± 20 %

CERAMIC DIELECTRICS

- Class 1: NP0 (C0G), N750 (U2J)
- Class 2: X5U

RATED VOLTAGE

- 5.0 kV_{DC}
- 7.5 kV_{DC}

DIELECTRIC STRENGTH TEST

150 % of rated DC voltage

DISSIPATION FACTOR

- Class 1: max. 0.2 % (1 MHz)
- Class 2: max. 2.0 % (1 kHz)

INSULATION RESISTANCE

- Class 1: 100 000 MΩ (at 25 °C)
- Class 2: 10 000 MΩ (at 25 °C)

OPERATING TEMPERATURE RANGE

- Class 1: -55 °C to +100 °C
- Class 2: -55 °C to +85 °C

SAP PART NUMBER AND ELECTRICAL DATA

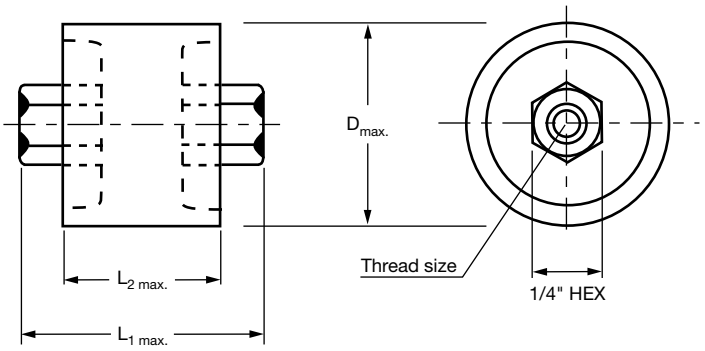
PART NUMBER	CERAMIC	CAP. VALUES (pF)	RATED VOLTAGE (kV_{DC})	MAX. POWER RATING (1) (kvar)			MAXIMUM CURRENT RATING (1) (A_{RMS})		
				1 MHz	10 MHz	30 MHz	1 MHz	10 MHz	30 MHz
TYPE 7FAA, 7FAU									
7FAA100K	NP0 (C0G)	10	7.5	1.7	10	10	0.3	2.5	4.5
7FAA200K		20		3.2	10	10	0.8	3.5	7.0
7FAA250K		25		4.4	10	10	0.9	4.0	7.0
7FAA300K		30		5.3	10	10	1.0	2.4	7.5
7FAA500K		50		8.8	10	7.6	1.7	5.7	8.0
7FAU750K	N750 (U2J)	75		10	10	6.3	2.2	7.0	9.5
7FAU101K		100		10	10	4.8	2.5	8.0	0.5
TYPE 5FAE									
5FAE501M	X5U	500	5.0	0.4	0.4	0.2	0.9	1.9	1.9
5FAE801M		800		0.6	0.3	0.2	1.7	3.5	3.5
5FAE102M		1000		0.4	0.2	0.15	1.7	3.7	3.7

Notes

- # 8th digit of the part number: capacitance tolerance code ± 10 % = K, ± 20 % = M
- RoHS-compliant parts on request

(1) At rated voltage. Data presented is based on a minimum body temperature rise of 30 °C at +25 °C

DIMENSIONS in millimeters (inches)



TYPE	5FAE, 7FAA, 7FAU
Diameter $D_{max.}$	20.7 (0.815)
Thread size	6-32 UNC-2B thread; 4.0 (0.157) depth
Length $L_{1\ max.}$ (1)	22.6 (0.890)
Length $L_{2\ max.}$ (1)	17.0 (0.670)

Note

(1) Dimension L will vary depending upon capacitance value

RELATED DOCUMENTS

General Information	www.vishay.com/doc?22071

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