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Vishay Cera-Mite

## **RF Power Barrel Capacitors**, Class 1 and Class 2 Ceramic



#### **DESIGN SUPPORT TOOLS**

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QUICK REFERENCE DATA							
DESCRIPTION	VALUE						
Ceramic class	1	1	2				
Ceramic dielectric	NP0 (C0G)	N750 (U2J)	X5U				
Туре	7FAA	7FAU	5FAE				
Voltage (V <sub>DC</sub> )	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, silver plated. Allowable torque: 1.47 Nm (13 lbf in)

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<sub>DC</sub>

7.5 kV<sub>DC</sub>

#### **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 M $\Omega$  (at 25 °C)

### **OPERATING TEMPERATURE RANGE**

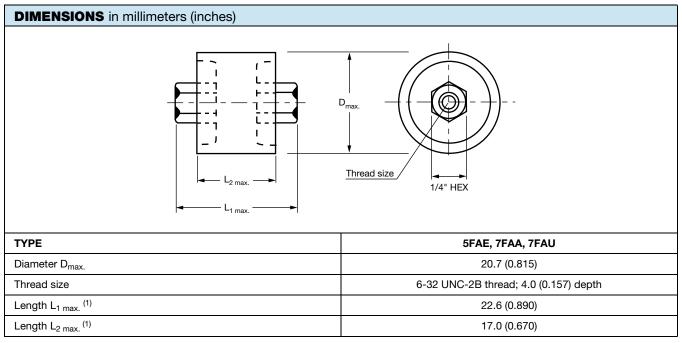
• Class 1: -55 °C to +100 °C • Class 2: -55 °C to +85 °C

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SAP PART NUMBER AND ELECTRICAL DATA									
PART NUMBER	CERAMIC	CAP. VALUES (pF)	RATED VOLTAGE (kV <sub>DC</sub> )	MAX. POWER RATING <sup>(1)</sup> (kvar)		MAXIMUM CURRENT RATING (1) (A <sub>RMS</sub> )			
				1 MHz	10 MHz	30 MHz	1 MHz	10 MHz	30 MHz
TYPE 7FAA, 7FAU									
7FAA100K	NP0 (C0G)	10		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	7.5	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		0.4	0.4	0.2	0.9	1.9	1.9
5FAE801M		800	5.0	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

- # 8<sup>th</sup> 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



#### Note

(1) Dimension L will vary depending upon capacitance value

RELATED DOCUMENTS	
General Information	www.vishay.com/doc?22071



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