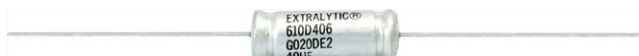


# Aluminum Capacitors +125 °C, Non-Polar, Miniature



## FEATURES

- Extended temperature range
- Exceptional capacitance stability
- Low DF
- Low DC leakage current
- Tantalum foil replacement
- Axial lead
- Material categorization: for definitions of compliance please see [www.vishay.com/doc299912](http://www.vishay.com/doc299912)



QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Nominal case size Ø D x L in inches [mm]	0.296 x 1.000 [7.518 x 25.40] to 0.390 x 2.812 [9.906 x 71.425]
Operating temperature	-55 °C to +125 °C
Rated capacitance range, C <sub>R</sub>	0.68 µF to 680 µF
Tolerance on C <sub>R</sub>	-10 %, +50 %; -10 %, +75 %
Rated voltage range, U <sub>R</sub>	7 WV <sub>DC</sub> to 250 WV <sub>DC</sub>
Termination	Axial leads
Life validation test 2000 h at +125 °C	ΔCAP < 15 % from initial measurement ΔESR < 1.3 x initial specified limit ΔDCL < initial specified limit
Shelf life 500 h at +125 °C	ΔCAP < 10 % from initial measurement ΔESR < 1.2 x initial specified limit ΔDCL < 2.0 x initial specified limit

RIPPLE CURRENT MULTIPLIERS				
TEMPERATURE				
AMBIENT TEMPERATURE			MULTIPLIERS	
+100 °C			1.5	
+85 °C			2.0	
+65 °C			2.5	
FREQUENCY (Hz)				
WV <sub>DC</sub>	50 TO 60	100 TO 120	300 TO 400	> 100K
6 to 60	0.85	1.0	1.10	1.15
61 to 250	0.83	1.0	1.15	1.20

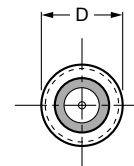
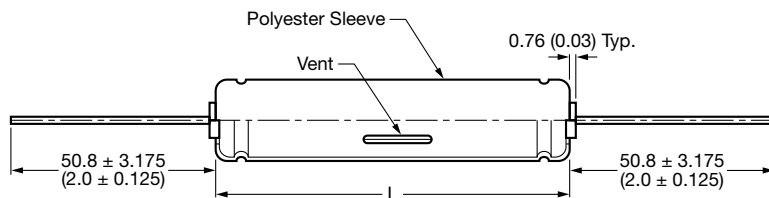
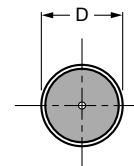
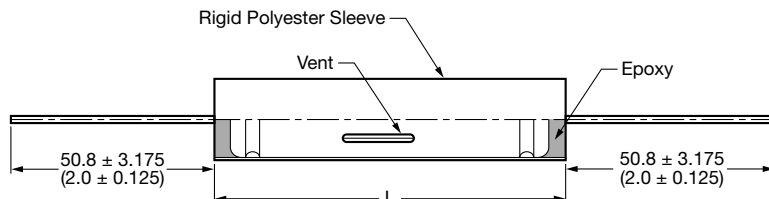
LOW TEMPERATURE PERFORMANCE			
CAPACITANCE: The maximum allowable capacitance change with temperature from +25 °C shall be in accordance with the following:			
RATED VOLTAGE AT +125 °C	PERCENT CAPACITANCE CHANGE AT		
	-55 °C	+85 °C	+125 °C
5 to 15	-30	+15	+20
20 and up	-25	+15	+20

DIMENSIONS in inches [millimeters]			
CASE CODE	WITH OUTER INSULATION		
	DIAMETER	LENGTH <sup>(1)</sup> (max.)	TYPICAL WEIGHT (g)
KD	0.297 ± 0.031 [7.54 ± 0.79]	1.000 [25.40]	1.90
DE	0.390 ± 0.031 [9.92 ± 0.79]	1.187 [30.16]	3.90
DU	0.390 ± 0.031 [9.92 ± 0.79]	1.500 [38.10]	4.90
DL	0.390 ± 0.031 [9.92 ± 0.79]	2.187 [55.56]	7.00
DR	0.390 ± 0.031 [9.92 ± 0.79]	2.812 [71.42]	8.60

## Note

<sup>(1)</sup> Style 2. For style 5, increase the maximum length by 0.125" [3.18 mm].

## DIMENSIONS AND AVAILABLE FORMS

**Style 2**

**Style 5**


Lead diameter  
No. 20 AWG (0.032" [0.813 mm] Dia.)

## PART NUMBER INFORMATION

**610D**
**TYPE**

Identifies the series name.

**476**
**CAPACITANCE**

Expressed in pF. The first two digits are significant figures. The third is the number of zeros.

**F**
**CAPACITANCE TOLERANCE**

F = -10 % / +50 %  
G = -10 % / +75 %

**007**
**DC VOLTAGE RATING**

Expressed in volts. Zeros are used to precede the voltage rating (i.e. 007 = 7 V).

**KD**
**CASE CODE**

See table Dimensions

**2**
**CASE STYLE**

2 = polyester sleeve (std.)  
5 = polyester sleeve with resin end seal (required for exposure to halogenated cleaning solvents)

**Note**

- For lead (Pb)-free / RoHS compliant products add suffix "E3" to part number.  
Example: 610D105F200KD2E3

Statements about product lifetime are based on calculations and internal testing. They should only be interpreted as estimations. Also due to external factors, the lifetime in the field application may deviate from the calculated lifetime. In general, nothing stated herein shall be construed as a guarantee of durability.



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