

## 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/doc?99912](http://www.vishay.com/doc?99912)

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			
<b>CAPACITANCE:</b> 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

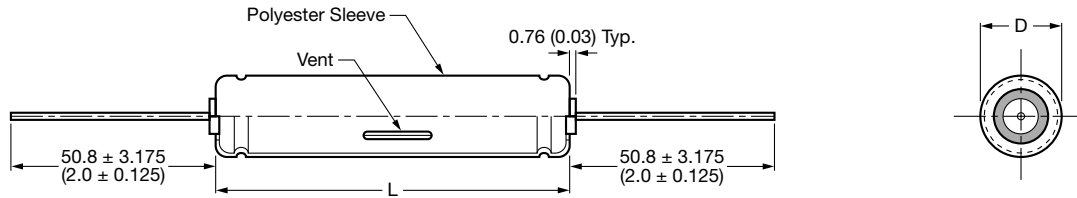
DIMENSIONS in inches [millimeters]			
CASE CODE	WITH OUTER INSULATION		
	DIAMETER	LENGTH <sup>(1)</sup> (max.)	TYPICAL WEIGHT (g)
KD	0.297 ± 0.031 [7.54 ± 0.79]	1.000 [25.40]	1.90
DE	0.390 ± 0.031 [9.92 ± 0.79]	1.187 [30.16]	3.90
DU	0.390 ± 0.031 [9.92 ± 0.79]	1.500 [38.10]	4.90
DL	0.390 ± 0.031 [9.92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

**Note**

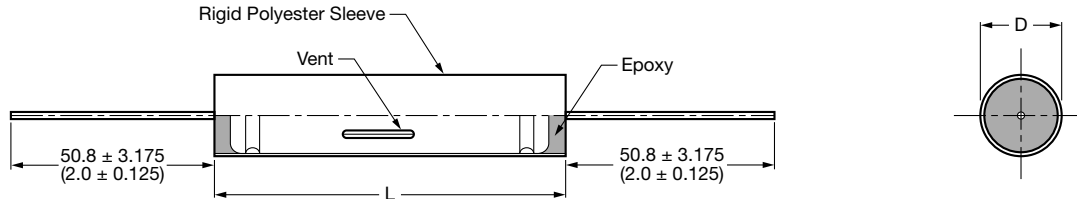
<sup>(1)</sup> Style 2. For style 5, increase the maximum length by 0.125" [3.18 mm].

**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



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