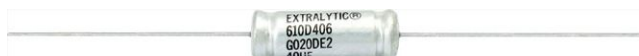


## Aluminum Capacitors + 125 °C, Non-Polar, Miniature



### 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<br>Ø D x L in inches [mm] | 0.296 x 1.000 [7.518 x 25.40]<br>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<br>2000 h at + 125 °C  | ΔCAP < 15 % from initial measurement<br>ΔESR < 1.3 x initial specified limit<br>ΔDCL < initial specified limit       |
| Shelf life<br>500 h at + 125 °C             | ΔCAP < 10 % from initial measurement<br>ΔESR < 1.2 x initial specified limit<br>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   |

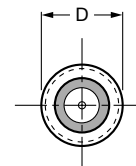
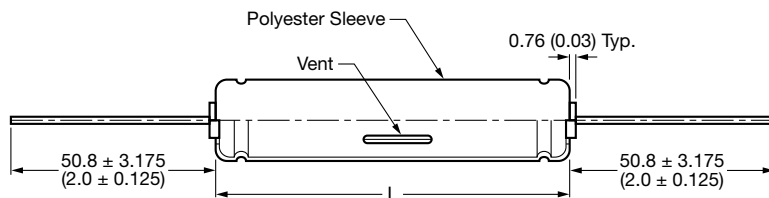
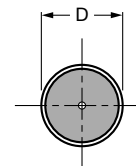
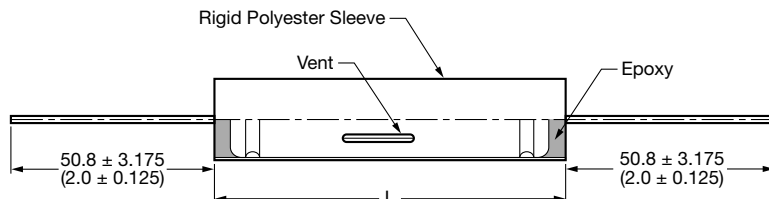
| LOW TEMPERATURE PERFORMANCE                                                                                                    |                                  |         |          |
|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------|----------|
| CAPACITANCE: The maximum allowable capacitance change with temperature from + 25 °C shall be in accordance with the following: |                                  |         |          |
| RATED VOLTAGE<br>AT + 125 °C                                                                                                   | PERCENT CAPACITANCE<br>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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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9