

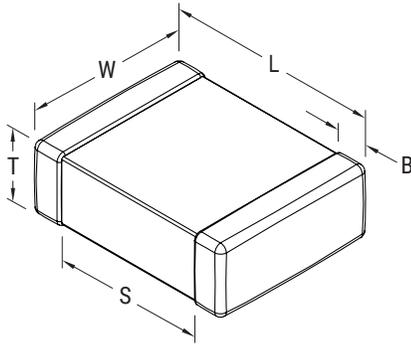
# Automotive Engineering Kit (Powertrain)

## Sample Kit Contents

| KEMET Part Number  | Series       | Capacitance    | Inductance            | Tolerance | Size | Voltage                |
|--------------------|--------------|----------------|-----------------------|-----------|------|------------------------|
| C0603C471K5GACAUTO | SMD Auto COG | 470 pF         |                       | 10%       | 603  | 50                     |
| T598D337M006ATE080 | T598         | 330 $\mu$ F    |                       | 20%       | 7343 | 6.3                    |
| T495X476K035ATE300 | T495         | 47 $\mu$ F     |                       | 10%       | 7343 | 35                     |
| EDH106M025S9BAA    | EDH          | 10 $\mu$ F     |                       | 20%       |      | 25                     |
| EEV107M050S9MAA    | EEV          | 100 $\mu$ F    |                       | 20%       |      | 50                     |
| F863BK224K310ALW0L | F863         | 0.22 $\mu$ F   |                       | 10%       |      | 310 VAC (X2)           |
| R413N310000M1M     | R41          | 0.1 $\mu$ F    |                       | 20%       |      | 1,000 VDC/300 VAC (Y2) |
| C4AQLBU4560A1WK    | C4AQ         | 5.6 $\mu$ F    | 25 nH                 | 10%       |      | 500 VDC                |
| C4AF9BU4150A1XK    | C4AF         | 1.5 $\mu$ F    | 25 nH                 | 10%       |      | 630 VDC/310 VAC        |
| MPLCV0654L4R7      | MPLCV        |                | 4.7 $\mu$ H (0.1 MHz) | 20%       | 3126 |                        |
| ESD-SR-160HL       | ESD-SR-HL    |                |                       |           |      |                        |
| ESD-R-38SR         | ESD-R-SR     |                |                       |           |      |                        |
| VA1210K401R014     | VA           | 2.35 nF (1KHz) |                       |           | 1210 | 16 VDC/14 VAC          |
| SC-02-100          | SC           |                | 1000 $\mu$ H          |           |      | 250 VAC                |

| KEMET Part Number  | Current | Temperature Range | Dielectric Type          | Material Type          | Effective Frequency | Quantity |
|--------------------|---------|-------------------|--------------------------|------------------------|---------------------|----------|
| C0603C471K5GACAUTO |         | -55/+125°C        | COG                      |                        |                     | 10       |
| T598D337M006ATE080 |         | -55/+125°C        | Polymer Tantalum         |                        |                     | 10       |
| T495X476K035ATE300 |         | -55/+125°C        | MnO2 Tantalum            |                        |                     | 2        |
| EDH106M025S9BAA    |         | -40/+105°C        | Aluminum Electrolytic    |                        |                     | 10       |
| EEV107M050S9MAA    |         | -55/+105°C        | Aluminum Electrolytic    |                        |                     | 6        |
| F863BK224K310ALW0L |         | -40/+110°C        | Metallized Polypropylene |                        |                     | 2        |
| R413N310000M1M     |         | -40/+110°C        | Metallized Polypropylene |                        |                     | 4        |
| C4AQLBU4560A1WK    |         | -40/+105°C        | Metallized Polypropylene |                        |                     | 2        |
| C4AF9BU4150A1XK    |         | -55/+105°C        | Metallized Polypropylene |                        |                     | 2        |
| MPLCV0654L4R7      | 10.5 A  | -55/+155°C        |                          | Composite              |                     | 3        |
| ESD-SR-160HL       |         | -40/+125°C        |                          | Ni-Zn                  | 300 MHz             | 2        |
| ESD-R-38SR         |         | -25/+85°C         |                          |                        | 10 MHz              | 2        |
| VA1210K401R014     |         | -55/+125°C        |                          | Nickel Tin Termination |                     | 10       |
| SC-02-100          |         | -25/+105°C        |                          |                        |                     | 4        |

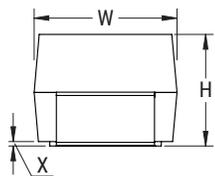
## COG – Millimeters (Inches)



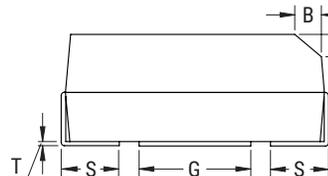
| EIA Size Code | Metric Size Code | L Length                      | W Width                       | T Thickness               | B Bandwidth                   | S Separation Minimum | Mounting Technique           |
|---------------|------------------|-------------------------------|-------------------------------|---------------------------|-------------------------------|----------------------|------------------------------|
| 0603          | 1608             | 1.60 (0.063)<br>±0.15 (0.006) | 0.80 (0.032)<br>±0.15 (0.006) | See Table 2 for Thickness | 0.35 (0.014)<br>±0.15 (0.006) | 0.70 (0.028)         | Solder wave or solder reflow |

## T598 Dimensions – Millimeters (Inches)

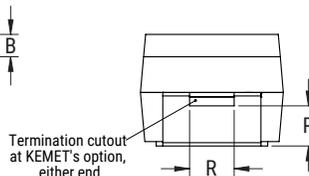
CATHODE (-) END VIEW



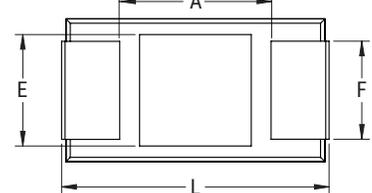
SIDE VIEW



ANODE (+) END VIEW



BOTTOM VIEW

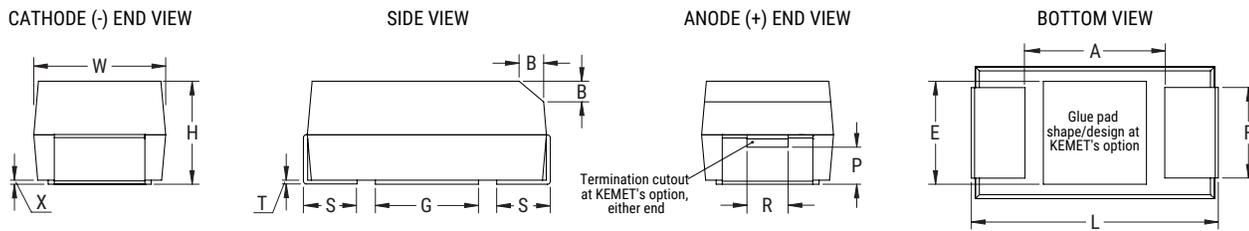


| Case Size |         | Component                  |                            |                            |                            |                            |                             |                              |                |                |                 |                | Total Weight |
|-----------|---------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|------------------------------|----------------|----------------|-----------------|----------------|--------------|
| KEMET     | EIA     | L                          | W                          | H                          | F                          | S                          | B (Ref)                     | X (Ref)                      | P (Ref)        | R (Ref)        | T (Ref)         | A (Min)        | (mg)         |
| D         | 7343-31 | 7.3 ±0.3<br>(0.287 ±0.012) | 4.3 ±0.3<br>(0.169 ±0.012) | 2.8 ±0.3<br>(0.110 ±0.012) | 2.4 ±0.1<br>(0.094 ±0.004) | 1.3 ±0.3<br>(0.051 ±0.012) | 0.5 ±0.15<br>(0.020 ±0.006) | 0.10 ±0.10<br>(0.004 ±0.004) | 0.9<br>(0.035) | 1.0<br>(0.039) | 0.13<br>(0.005) | 3.8<br>(0.150) | 292          |

Notes: (Ref) – Dimensions provided for reference only.

These weights are provided as reference. If exact weights are needed, please contact your KEMET Sales Representative

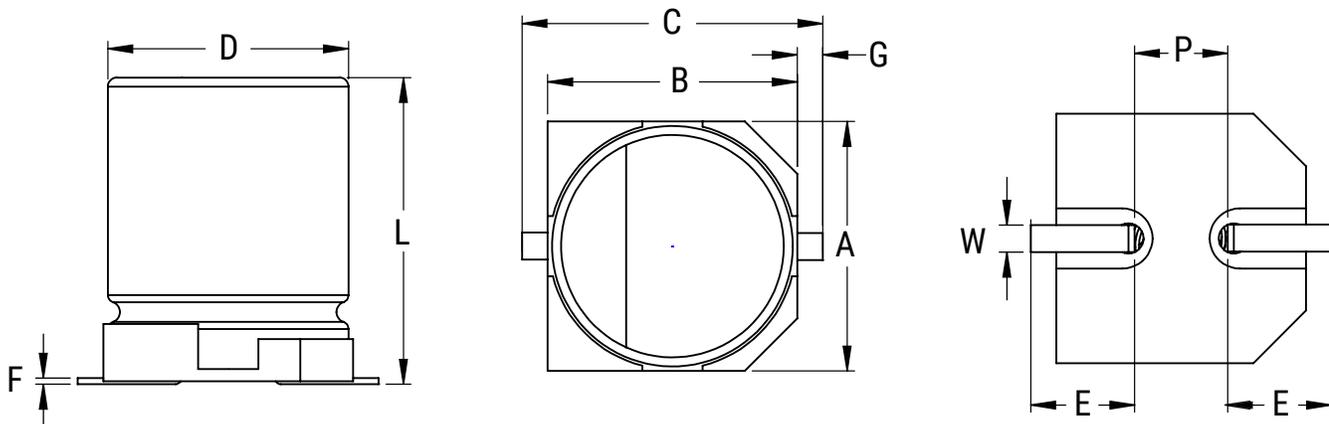
## T495 Dimensions – Millimeters (Inches)



| Case Size |         | Component                  |                            |                            |                    |                             |                            |                              |                |                |                 |                |                |                | Typical Weight |
|-----------|---------|----------------------------|----------------------------|----------------------------|--------------------|-----------------------------|----------------------------|------------------------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|
| KEMET     | EIA     | L                          | W                          | H                          | F ±0.1<br>±(0.004) | S                           | B ±0.15<br>(Ref)<br>±0.006 | X (Ref)                      | P<br>(Ref)     | R<br>(Ref)     | T<br>(Ref)      | A<br>(Min)     | G<br>(Ref)     | E<br>(Ref)     | (mg)           |
| X         | 7343-43 | 7.3 ±0.3<br>(0.287 ±0.012) | 4.3 ±0.3<br>(0.169 ±0.012) | 4.0 ±0.3<br>(0.157 ±0.012) | 2.4<br>(0.094)     | 1.3 (0.051)<br>±0.3 (0.012) | 0.5<br>(0.020)             | 0.10 ±0.10<br>(0.004 ±0.004) | 1.7<br>(0.067) | 1.0<br>(0.039) | 0.13<br>(0.005) | 3.6<br>(0.142) | 3.5<br>(0.138) | 3.5<br>(0.138) | 652.04         |

Notes: (Ref) – Dimensions provided for reference only. For low profile cases, no dimensions are provided for B, P, or R because these cases do not have a bevel or a notch. These weights are provided as reference. If exact weights are needed, please contact your KEMET Sales Representative

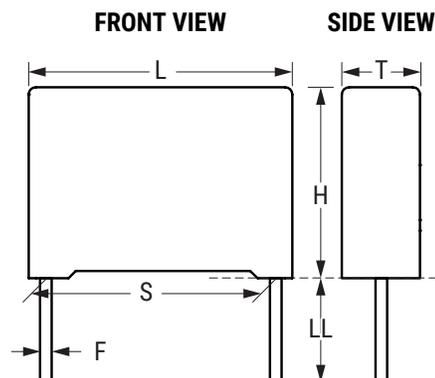
## EDH and EEV Dimensions – Millimeters



| Size Code | D       |           | L       |            | A/B     |           | C       |           | E       |           |
|-----------|---------|-----------|---------|------------|---------|-----------|---------|-----------|---------|-----------|
|           | Nominal | Tolerance | Nominal | Tolerance  | Nominal | Tolerance | Nominal | Tolerance | Nominal | Tolerance |
| 9B        | 4.0     | ±0.5      | 5.4     | +0.25/-0.1 | 4.3     | ±0.2      | 5.5     | Maximum   | 1.8     | ±0.2      |
| 9M        | 8       | ±0.5      | 10.2    | ±0.3       | 8.3     | ±0.2      | 10      | Maximum   | 3.4     | ±0.2      |

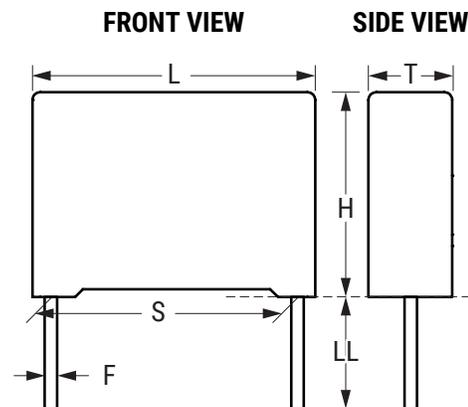
| Size Code | F       |           | G       |            | P       |           | W       |           |
|-----------|---------|-----------|---------|------------|---------|-----------|---------|-----------|
|           | Nominal | Tolerance | Nominal | Tolerance  | Nominal | Tolerance | Nominal | Tolerance |
| 9B        | 0.3     | Maximum   | 0.35    | +0.15/-0.2 | 1.0     | ±0.2      | 0.65    | ±0.1      |
| 9M        | 0.3     | Maximum   | 0.70    | ±0.2       | 3.1     | ±0.2      | 0.9     | ±0.2      |

## F863 Dimensions – Millimeters



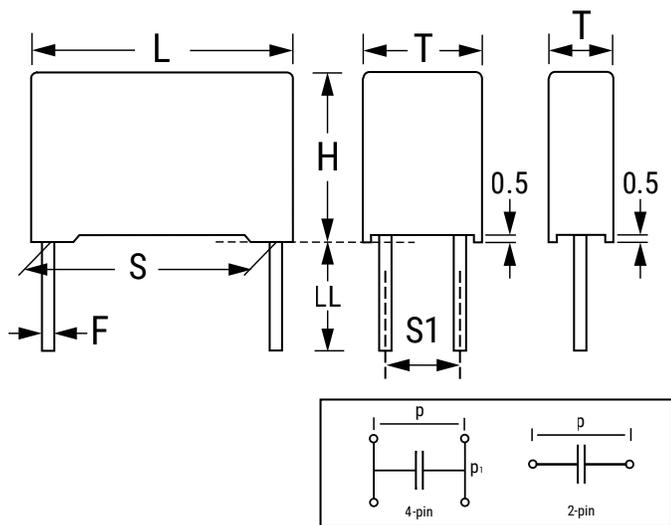
| Size Code | p       |           | B       |           | H       |           | L       |           | d       |           |
|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
|           | Nominal | Tolerance |
| BK        | 15.0    | ±0.4      | 7.5     | +0.2      | 13.5    | +0.1      | 18.0    | +0.5      | 0.6     | ±0.05     |

## R41 Dimensions – Millimeters



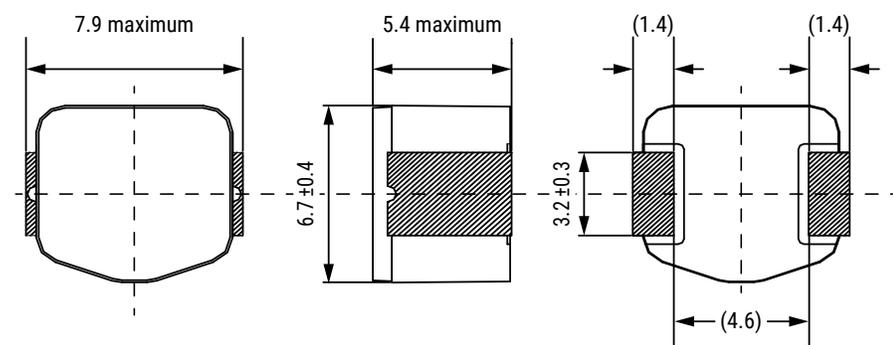
| p       |           | B       |           | H       |           | L       |           | d       |           |
|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Nominal | Tolerance |
| 22.5    | ±0.4      | 6.0     | +0.2      | 15.0    | +0.1      | 26.5    | +0.3      | 0.8     | ±0.05     |
| 22.5    | ±0.4      | 7.0     | +0.2      | 16.0    | +0.1      | 26.5    | +0.3      | 0.8     | ±0.05     |
| 22.5    | ±0.4      | 8.5     | +0.2      | 17.0    | +0.1      | 26.5    | +0.3      | 0.8     | ±0.05     |
| 22.5    | ±0.4      | 10.0    | +0.2      | 18.5    | +0.1      | 26.5    | +0.3      | 0.8     | ±0.05     |
| 22.5    | ±0.4      | 13.0    | +0.2      | 22.0    | +0.1      | 26.5    | +0.3      | 0.8     | ±0.05     |

## C4AF and C4AQ Dimensions – Millimeters



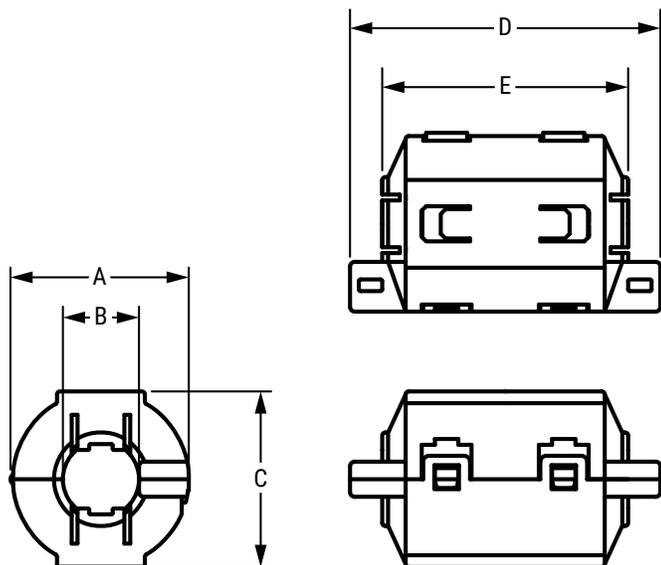
| Size Code |          | p       |           | p1      |           | B       |           | H       |           | L       |           | LL      |           | d       |           |
|-----------|----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Digit 6   | Digit 14 | Nominal | Tolerance |
| B         | W        | 27.5    | ±0.4      | -       | -         | 11.0    | +0.3      | 20.0    | +0.2      | 31.5    | +0.5      | 6       | +0/-2     | 0.8     | ±0.05     |
| B         | X        | 27.5    | ±0.4      | -       | -         | 13.0    | +0.3      | 25.0    | +0.2      | 31.5    | +0.5      | 6       | +0/-2     | 0.8     | ±0.05     |

## MPLCV Dimensions – Millimeters



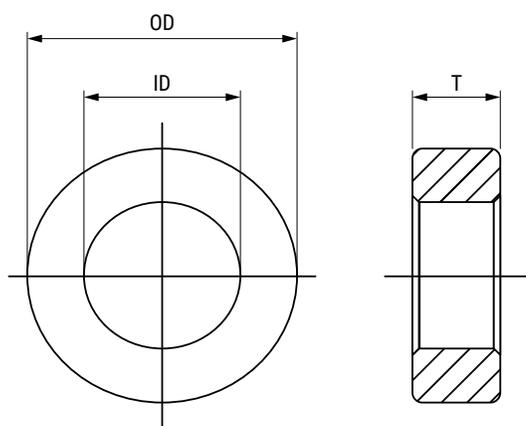
| L    | H           | T           | S           |
|------|-------------|-------------|-------------|
| 3126 | 7.9 Maximum | 6.7 ±0.4 mm | 5.4 Maximum |

## ESD-SR-HL Dimensions – Millimeters



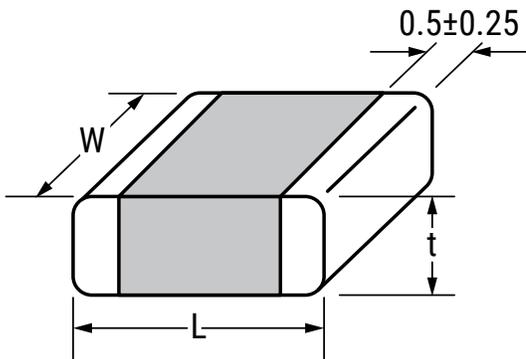
| A       | B    | C       | D       | E       |
|---------|------|---------|---------|---------|
| 19.5 ±1 | 9 ±1 | 19.5 ±1 | 46.5 ±1 | 38.5 ±1 |

## ESD-R-SR Dimensions – Millimeters



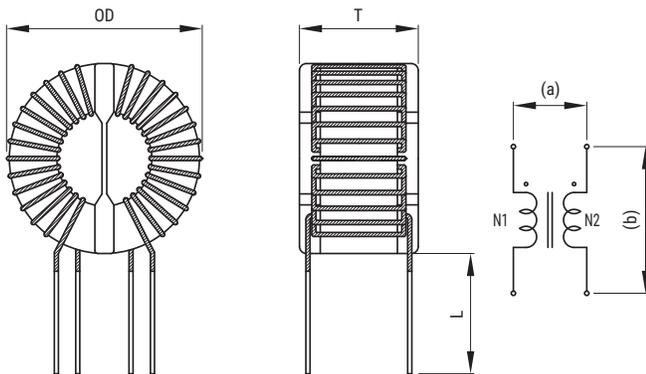
| OD         | ID      | T         |
|------------|---------|-----------|
| 38 Maximum | 19 ±0.8 | 12.7 ±0.5 |

## VA Dimensions – Millimeters



| Size Code | L              | W               | t           |
|-----------|----------------|-----------------|-------------|
| 1210      | $3.2 \pm 0.30$ | $2.50 \pm 0.25$ | 1.3 Maximum |

## SC Dimensions – Millimeters



| Part Name | Dimensions (mm) |              |                | Pin Pitch <sup>1</sup> (Reference) |    |
|-----------|-----------------|--------------|----------------|------------------------------------|----|
|           | OD              | T            | L              | a                                  | b  |
| SC-02-100 | 23.0 Maximum    | 18.5 Maximum | $15.0 \pm 2.0$ | 6                                  | 17 |

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