

Aluminum Capacitors

+105 °C, Miniature, Axial Lead, General Purpose


FEATURES

- Long life
- High performance
- High CV per case size
- Case sizes to 0.709" [18.0 mm] diameters
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

| QUICK REFERENCE DATA | |
|---|--|
| DESCRIPTION | VALUE |
| Nominal case size Ø D x L in mm | 0.248" x 0.512" [6.3 x 13.0] to 0.709" x 1.574" [18.0 x 40.0] |
| Operating temperature | -40 °C to +105 °C |
| Rated capacitance range, C _R | 1 µF to 4700 µF |
| Tolerance on C _R | ± 20 % |
| Rated voltage range, U _R | 3 WV _{DC} to 250 WV _{DC} |
| Termination | Axial leads |
| Life validation test at 105 °C | 2000 h: ΔCAP ≤ 20 % from initial measurement. ΔESR ≤ 1.5 x initial specified limit. ΔDCL ≤ initial specified limit. |
| Shelf life at 85 °C | 500 h: ΔCAP ≤ 20 % from initial measurement. ΔESR ≤ 1.5 x initial specified limit. ΔDCL ≤ 2.0 x initial specified limit. |
| DC leakage current | 3 WV _{DC} to 16 WV _{DC} : I = 0.1·√CV + 2 25 WV _{DC} to 250 WV _{DC} : I = 0.2·√CV + 2 I in µA, C in µF, V in Volts |

| RIPPLE CURRENT MULTIPLIERS | | | | |
|----------------------------|----------|-------------|------------|------------|
| TEMPERATURE | | | | |
| AMBIENT TEMPERATURE | | MULTIPLIERS | | |
| +105 °C | | 0.5 | | |
| +85 °C | | 1.0 | | |
| ≤ 65 °C | | 2.0 | | |
| FREQUENCY (Hz) | | | | |
| WV _{DC} | 50 TO 60 | 100 TO 120 | 300 TO 400 | 1K TO 100K |
| 3 to 50 | 0.9 | 1.0 | 1.1 | 1.4 |
| 51 to 250 | 0.8 | 1.0 | 1.3 | 1.6 |

| DIMENSIONS in inches [millimeters] | | | | | | |
|------------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|----------------|
| CASE CODE | NOMINAL | | STYLE 2 | | STYLE 5 RESIN END SEAL APPLIED | |
| | D | L | D (max.) | L (max.) | D (max.) | L (max.) |
| BA | 0.248 [6.300] | 0.512 [13.000] | 0.276 [7.000] | 0.567 [14.400] | 0.276 [7.000] | 0.626 [15.900] |
| BB | 0.248 [6.300] | 0.689 [17.500] | 0.276 [7.000] | 0.756 [19.200] | 0.276 [7.000] | 0.815 [20.700] |
| CB | 0.315 [8.000] | 0.689 [17.500] | 0.339 [8.600] | 0.756 [19.200] | 0.339 [8.600] | 0.815 [20.700] |
| CC | 0.315 [8.000] | 0.807 [20.500] | 0.339 [8.600] | 0.878 [22.300] | 0.339 [8.600] | 0.937 [23.800] |
| DC | 0.374 [9.500] | 0.807 [20.500] | 0.402 [10.200] | 0.878 [22.300] | 0.402 [10.200] | 0.937 [23.800] |
| DD | 0.374 [9.500] | 0.945 [24.000] | 0.402 [10.200] | 1.01 [25.500] | 0.402 [10.200] | 1.063 [27.000] |
| DF | 0.374 [9.500] | 1.260 [32.000] | 0.402 [10.200] | 1.319 [33.500] | 0.402 [10.200] | 1.378 [35.000] |
| DH | 0.374 [9.500] | 1.496 [38.000] | 0.402 [10.200] | 1.567 [39.800] | 0.402 [10.200] | 1.626 [41.300] |
| EF | 0.433 [11.000] | 1.260 [32.000] | 0.465 [11.800] | 1.319 [33.500] | 0.465 [11.800] | 1.378 [35.000] |
| EH | 0.433 [11.000] | 1.496 [38.000] | 0.465 [11.800] | 1.567 [39.800] | 0.465 [11.800] | 1.626 [41.300] |
| FH | 0.492 [12.500] | 1.496 [38.000] | 0.516 [13.100] | 1.567 [39.800] | 0.516 [13.100] | 1.626 [41.300] |
| FK | 0.492 [12.500] | 1.752 [44.500] | 0.516 [13.100] | 1.831 [46.500] | 0.516 [13.100] | 1.890 [48.000] |
| GH | 0.630 [16.000] | 1.496 [38.000] | 0.654 [16.600] | 1.567 [39.800] | 0.654 [16.600] | 1.626 [41.300] |
| GK | 0.630 [16.000] | 1.752 [44.500] | 0.654 [16.600] | 1.831 [46.500] | 0.654 [16.600] | 1.890 [48.000] |
| LS | 0.709 [18.000] | 1.575 [40.000] | 0.736 [18.700] | 1.673 [42.500] | 0.736 [18.700] | 1.693 [43.000] |

Note

- Lead diameter AWG 20 (0.032" [0.81 mm])

**ORDERING EXAMPLE**

Electrolytic capacitor 30D series: 30D 128 M 025 EH 2 A

| DESCRIPTION | |
|-------------|---------------------------------------|
| CODE | EXPLANATION |
| 30D | Product type |
| 128 | Capacitance value (1200 μ F) |
| M | Tolerance (M = \pm 20 %) |
| 025 | Voltage rating at 105 °C (024 = 25 V) |
| EH | Can size (see Dimensions table) |
| 2 | Sleeve and sealing (2 = mylar sleeve) |
| A | Packaging (A = bulk) |

Note

- For lead (Pb)-free / RoHS-compliant products add suffix "E3" to part number.
Example: 30D128M025EH2AE3

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | |
|--|----------------|------------------------------------|---|---|
| CAPACITANCE (μ F) | PART NUMBER | NOMINAL CASE SIZE D x L [mm] | MAX. ESR AT +25 °C 120 Hz (Ω) | MAX. RIPPLE AT +85 °C 120 Hz (A) |
| 6.3 WV_{DC} AT +105 °C, SURGE = 8 V | | | | |
| 150.0 | 30D157M6R3BB2A | 0.248 x 0.689 [6.3 x 17.5] | 2.875 | 0.163 |
| 330.0 | 30D337M6R3CC2A | 0.315 x 0.807 [8.0 x 20.5] | 1.277 | 0.299 |
| 1200.0 | 30D128M6R3DF2A | 0.374 x 1.260 [9.5 x 32.0] | 0.345 | 0.767 |
| 2200.0 | 30D228M6R3EF2A | 0.433 x 1.260 [11.0 x 32.0] | 0.206 | 1.080 |
| 4700.0 | 30D478M6R3GH2A | 0.630 x 1.496 [16.0 x 38.0] | 0.118 | 1.910 |
| 10 WV_{DC} AT +105 °C, SURGE = 12 V | | | | |
| 47.0 | 30D476M010BA2A | 0.248 x 0.512 [6.3 x 13.0] | 7.487 | 0.089 |
| 100.0 | 30D107M010BB2A | 0.248 x 0.689 [6.3 x 17.5] | 3.561 | 0.147 |
| 330.0 | 30D337M010CC2A | 0.315 x 0.807 [8.0 x 20.5] | 1.081 | 0.325 |
| 470.0 | 30D477M010DC2A | 0.374 x 0.807 [9.5 x 20.5] | 0.748 | 0.434 |
| 1000.0 | 30D108M010DF2A | 0.374 x 1.260 [9.5 x 32.0] | 0.356 | 0.755 |
| 2200.0 | 30D228M010EH2A | 0.433 x 1.496 [11.0 x 38.0] | 0.184 | 1.240 |
| 16 WV_{DC} AT +105 °C, SURGE = 20 V | | | | |
| 33.0 | 30D336M016BA2A | 0.248 x 0.512 [6.3 x 13.0] | 9.814 | 0.078 |
| 150.0 | 30D157M016CB2A | 0.315 x 0.689 [8.0 x 17.5] | 2.208 | 0.212 |
| 330.0 | 30D337M016DC2A | 0.374 x 0.807 [9.5 x 20.5] | 1.981 | 0.379 |
| 470.0 | 30D477M016DD2A | 0.374 x 0.945 [9.5 x 24.0] | 0.679 | 0.483 |
| 1200.0 | 30D128M016DH2A | 0.374 x 1.496 [9.5 x 38.0] | 0.265 | 0.947 |
| 4700.0 | 30D478M016GK2A | 0.630 x 1.752 [16.0 x 44.5] | 0.093 | 2.290 |
| 20 WV_{DC} AT +105 °C, SURGE = 25 V | | | | |
| 150.0 | 30D157M020CC2A | 0.315 x 0.807 [8.0 x 20.5] | 2.110 | 0.233 |
| 220.0 | 30D227M020DC2A | 0.374 x 0.807 [9.5 x 20.5] | 1.410 | 0.318 |
| 1000.0 | 30D108M020EF2A | 0.433 x 1.260 [11.0 x 32.0] | 0.323 | 0.863 |
| 1500.0 | 30D158M020EH2A | 0.433 x 1.496 [11.0 x 38.0] | 0.221 | 1.140 |
| 3300.0 | 30D338M020GK2A | 0.630 x 1.752 [16.0 x 44.5] | 0.118 | 2.040 |



| ELECTRICAL DATA AND ORDERING INFORMATION | | | | |
|--|--------------------|---|--|---|
| CAPACITANCE (μF) | PART NUMBER | NOMINAL CASE SIZE D x L [mm] | MAX. ESR AT +25 °C 120 Hz (Ω) | MAX. RIPPLE AT +85 °C 120 Hz (A) |
| 25 WV_{DC} AT +105 °C, SURGE = 35 V | | | | |
| 22.0 | 30D226M025BA2A | 0.248 x 0.512 [6.3 x 13.0] | 13.270 | 0.067 |
| 47.0 | 30D476M025BB2A | 0.248 x 0.689 [6.3 x 17.5] | 6.128 | 0.112 |
| 100.0 | 30D107M025CC2A | 0.315 x 0.807 [8.0 x 20.5] | 2.914 | 0.197 |
| 220.0 | 30D227M025DC2A | 0.374 x 0.807 [9.5 x 20.5] | 1.327 | 0.326 |
| 330.0 | 30D337M025DD2A | 0.374 x 0.945 [9.5 x 24.0] | 0.885 | 0.423 |
| 470.0 | 30D477M025DF2A | 0.374 x 1.260 [9.5 x 32.0] | 0.612 | 0.575 |
| 1200.0 | 30D128M025EH2A | 0.433 x 1.496 [11.0 x 38.0] | 0.239 | 1.090 |
| 3300.0 | 30D338M025LS2A | 0.709 x 1.575 [18.0 x 40.0] | 0.108 | 2.190 |
| 35 WV_{DC} AT +105 °C, SURGE = 45 V | | | | |
| 33.0 | 30D336M035BB2A | 0.248 x 0.689 [6.3 x 17.5] | 8.330 | 0.096 |
| 100.0 | 30D107M035DC2A | 0.374 x 0.807 [9.5 x 20.5] | 2.740 | 0.212 |
| 220.0 | 30D227M035DD2A | 0.374 x 0.945 [9.5 x 24.0] | 1.250 | 0.356 |
| 330.0 | 30D337M035DF2A | 0.374 x 1.260 [9.5 x 32.0] | 0.830 | 0.495 |
| 1000.0 | 30D108M035EH2A | 0.433 x 1.496 [11.0 x 38.0] | 0.274 | 1.020 |
| 2200.0 | 30D228M035GK2A | 0.630 x 1.752 [16.0 x 44.5] | 0.125 | 1.980 |
| 40 WV_{DC} AT +105 °C, SURGE = 50 V | | | | |
| 15.0 | 30D156M040BA2A | 0.248 x 0.512 [6.3 x 13.0] | 17.600 | 0.058 |
| 22.0 | 30D226M040BB2A | 0.248 x 0.689 [6.3 x 17.5] | 11.700 | 0.081 |
| 47.0 | 30D476M040CB2A | 0.315 x 0.689 [8.0 x 17.5] | 5.435 | 0.134 |
| 100.0 | 30D107M040DC2A | 0.374 x 0.807 [9.5 x 20.5] | 2.585 | 0.234 |
| 470.0 | 30D477M040DH2A | 0.374 x 1.496 [9.5 x 38.0] | 0.543 | 0.663 |
| 1000.0 | 30D108M040FK2A | 0.492 x 1.752 [12.5 x 44.5] | 0.258 | 1.210 |
| 2200.0 | 30D228M040LS2A | 0.709 x 1.575 [18.0 x 40.0] | 0.125 | 2.040 |
| 50 WV_{DC} AT +105 °C, SURGE = 65 V | | | | |
| 10.0 | 30D106M050BA2A | 0.248 x 0.512 [6.3 x 13.0] | 25.85 | 0.048 |
| 22.0 | 30D226M050BB2A | 0.248 x 0.689 [6.3 x 17.5] | 11.700 | 0.081 |
| 33.0 | 30D336M050CB2A | 0.315 x 0.689 [8.0 x 17.5] | 7.850 | 0.112 |
| 100.0 | 30D107M050DC2A | 0.374 x 0.807 [9.5 x 20.5] | 2.585 | 0.233 |
| 220.0 | 30D227M050DF2A | 0.374 x 1.260 [9.5 x 32.0] | 1.177 | 0.417 |
| 330.0 | 30D337M050DH2A | 0.374 x 1.496 [9.5 x 38.0] | 0.785 | 0.551 |
| 1500.0 | 30D158M050GK2A | 0.630 x 1.752 [16.0 x 44.5] | 0.176 | 1.670 |
| 63 WV_{DC} AT +105 °C, SURGE = 75 V | | | | |
| 15.0 | 30D156M063BB2A | 0.248 x 0.689 [6.3 x 17.5] | 16.580 | 0.068 |
| 33.0 | 30D336M063CB2A | 0.315 x 0.689 [8.0 x 17.5] | 7.370 | 0.116 |
| 47.0 | 30D476M063CC2A | 0.315 x 0.807 [8.0 x 20.5] | 5.100 | 0.149 |
| 100.0 | 30D107M063DD2A | 0.374 x 0.945 [9.5 x 24.0] | 2.426 | 0.256 |
| 220.0 | 30D227M063EF2A | 0.433 x 1.260 [11.0 x 32.0] | 1.105 | 0.467 |
| 470.0 | 30D477M063EH2A | 0.433 x 1.496 [11.0 x 38.0] | 0.510 | 0.745 |
| 1000.0 | 30D108M063GK2A | 0.630 x 1.752 [16.0 x 44.5] | 0.242 | 1.420 |



| ELECTRICAL DATA AND ORDERING INFORMATION | | | | |
|--|--------------------|---|--|---|
| CAPACITANCE (μF) | PART NUMBER | NOMINAL CASE SIZE D x L [mm] | MAX. ESR AT +25 °C 120 Hz (Ω) | MAX. RIPPLE AT +85 °C 120 Hz (A) |
| 75 WV_{DC} AT +105 °C, SURGE = 85 V | | | | |
| 12.0 | 30D126M075BB2A | 0.248 x 0.689 [6.3 x 17.5] | 13.200 | 0.076 |
| 47.0 | 30D476M075DC2A | 0.374 x 0.807 [9.5 x 20.5] | 3.384 | 0.204 |
| 120.0 | 30D127M075DF2A | 0.374 x 1.260 [9.5 x 32.0] | 1.320 | 0.392 |
| 1000.0 | 30D108M075LS2A | 0.709 x 1.575 [18.0 x 40.0] | 0.160 | 1.810 |
| 100 WV_{DC} AT +105 °C, SURGE = 125 V | | | | |
| 4.7 | 30D475M100BB2A | 0.248 x 0.689 [6.3 x 17.5] | 33.840 | 0.048 |
| 10.0 | 30D106M100CB2A | 0.315 x 0.689 [8.0 x 17.5] | 16.097 | 0.079 |
| 100.0 | 30D107M100DH2A | 0.374 x 1.496 [9.5 x 38.0] | 1.609 | 0.386 |
| 220.0 | 30D227M100EK2A | 0.492 x 1.752 [12.5 x 44.5] | 0.733 | 0.717 |
| 470.0 | 30D477M100LS2A | 0.709 x 1.575 [18.0 x 40.0] | 0.338 | 1.240 |
| 160 WV_{DC} AT +105 °C, SURGE = 180 V | | | | |
| 1.5 | 30D155M160BA2A | 0.248 x 0.512 [6.3 x 13.0] | 110.10 | 0.023 |
| 3.3 | 30D335M160CB2A | 0.315 x 0.689 [8.0 x 17.5] | 48.880 | 0.045 |
| 10.0 | 30D106M160DC2A | 0.374 x 0.807 [9.5 x 20.5] | 16.097 | 0.093 |
| 22.0 | 30D226M160DF2A | 0.374 x 1.260 [9.5 x 32.0] | 7.333 | 0.166 |
| 33.0 | 30D336M160EF2A | 0.433 x 1.260 [11.0 x 32.0] | 4.888 | 0.222 |
| 47.0 | 30D476M160EH2A | 0.433 x 1.496 [11.0 x 38.0] | 3.384 | 0.289 |
| 100.0 | 30D107M160GK2A | 0.630 x 1.752 [16.0 x 44.5] | 1.609 | 0.552 |
| 200 WV_{DC} AT +105 °C, SURGE = 250 V | | | | |
| 1.2 | 30D125M200BA2A | 0.248 x 0.512 [6.3 x 13.0] | 132.01 | 0.022 |
| 4.7 | 30D475M200CC2A | 0.315 x 0.807 [8.0 x 20.5] | 33.850 | 0.058 |
| 8.2 | 30D825M200DC2A | 0.374 x 0.807 [9.5 x 20.5] | 19.410 | 0.085 |
| 10.0 | 30D106M200DD2A | 0.374 x 0.945 [9.5 x 24.0] | 16.090 | 0.101 |
| 22.0 | 30D226M200DH2A | 0.374 x 1.496 [9.5 x 38.0] | 7.331 | 0.181 |
| 33.0 | 30D336M200EH2A | 0.433 x 1.496 [11.0 x 38.0] | 4.880 | 0.241 |
| 47.0 | 30D476M200EK2A | 0.492 x 1.752 [12.5 x 44.5] | 3.384 | 0.334 |
| 100.0 | 30D107M200LS2A | 0.709 x 1.575 [18.0 x 40.0] | 1.609 | 0.571 |
| 250 WV_{DC} AT +105 °C, SURGE = 300 V | | | | |
| 1.0 | 30D105M250BA2A | 0.248 x 0.512 [6.3 x 13.0] | 160.97 | 0.021 |
| 3.3 | 30D335M250CC2A | 0.315 x 0.807 [8.0 x 20.5] | 48.010 | 0.049 |
| 12.0 | 30D126M250DF2A | 0.374 x 1.260 [9.5 x 32.0] | 13.210 | 0.124 |
| 47.0 | 30D476M250GH2A | 0.630 x 1.496 [16.0 x 38.0] | 3.384 | 0.355 |

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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