

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 = P. V. C. 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 |



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