

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



Fig.1 Component outline

FEATURES

- Long life
- High performance
- High CV per case size
- Case sizes to 0.709" [18.0 mm] diameters



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 WVDC to 250 WVDC
Termination	axial leads
Life validation test at 105 °C	2000 hours: Δ CAP ≤ 20 % from initial measurement. Δ ESR ≤ 1.5 x initial specified limit. Δ DCL ≤ initial specified limit.
Shelf life at 85 °C	500 hours: Δ CAP ≤ 20 % from initial measurement. Δ ESR ≤ 1.5 x initial specified limit. Δ DCL ≤ 2.0 x initial specified limit.
DC leakage current	3 WVDC to 16 WVDC: I = 0.1√CV + 2 25 WVDC to 250 WVDC: 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)				
WVDC	50 - 60	100 - 120	300 - 400	1K - 100K
3 - 50	0.9	1.0	1.1	1.4
51 - 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]

**ORDERING EXAMPLE**

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

DESCRIPTION	
CODE	EXPLANATION
30D	product type
128	capacitance value (1200 µF)
M	tolerance (M = ± 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)

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)
6.3 WVDC 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 WVDC 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 WVDC 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 WVDC 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

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

Vishay Sprague

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 WVDC 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 WVDC 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 WVDC 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 WVDC 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 WVDC 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 (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)
75 WVDC 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 WVDC 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 WVDC 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 WVDC 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 WVDC 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



Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.