

## Aluminum Capacitors Powerlytic<sup>®</sup>, Large Can



Fig. 1 Component Outlines

### FEATURES

- High capacitance per case size
- High ripple current
- Low leakage current
- Long shelf life and operating life
- Type 36D ratings recommended for replacement applications only. For new designs, see type 36DY.


**RoHS\***  
COMPLIANT

| QUICK REFERENCE DATA                        |   |
|---|---|
| DESCRIPTION                                 | VALUE   |
| Nominal case size<br>Ø D x L in inches (mm) | 1.453 x 2.250 (36.9 x 57.2)<br>to 3.078 x 8.750 (78.2 x 222.3)                    |
| Operating temperature                       | - 40 °C to + 85 °C (36DX)<br>- 40 °C to + 95 °C (36DE)                            |
| Rated capacitance range, C <sub>R</sub>     | 190 µF to 50 000 µF   |
| Tolerance on C <sub>R</sub>                 | + 75 %, - 10 % (10 WVDC to 100 WVDC)<br>+ 50 %, - 10 % (200 WVDC to 450 WVDC)     |
| Rated voltage range, U <sub>R</sub>         | 10 WVDC to 450 WVDC   |
| Life validation test at 85 °C               | 1000 h: ΔCAP ± 15 % from initial measurement. ΔESR 1.5 x initial specified limit. |

| DIMENSIONS in inches (millimeters) |                    |                    |                        |               |                        |                                     |                       |
|------------------------------------|--------------------|--------------------|------------------------|---------------|------------------------|-------------------------------------|-----------------------|
| LARGE CAN CAPACITORS               |                    |                    |                        |               |                        |                                     |                       |
| CASE CODE                          | NOMINAL            |                    | WITH INSULATING SLEEVE |               |                        | TERMINAL SPACING<br>M ± 0.016 (0.4) | TYPICAL WEIGHT<br>(g) |
|                                    | D<br>± 0.032 (0.8) | L<br>± 0.063 (1.6) | D<br>(Max.)            | L<br>(Max.)   | P TERMINAL<br>H (Max.) |                                     |                       |
| AN                                 | 1.375 (35.0)       | 1.625 (41.0)       | 1.453 (36.9)           | 1.750 (44.5)  | 1.849 (47.0)           | 0.500 (12.7)                        | 43.0                  |
| AY                                 | 1.375 (35.0)       | 1.875 (48.0)       | 1.453 (36.9)           | 2.000 (50.8)  | 1.099 (53.3)           | 0.500 (12.7)                        | 54.0                  |
| AA                                 | 1.375 (35.0)       | 2.125 (54.0)       | 1.453 (36.9)           | 2.250 (57.2)  | 1.349 (59.7)           | 0.500 (12.7)                        | 63.0                  |
| AM                                 | 1.375 (35.0)       | 2.625 (67.0)       | 1.453 (36.9)           | 2.750 (69.9)  | 1.849 (72.4)           | 0.500 (12.7)                        | 82.0                  |
| AB                                 | 1.375 (35.0)       | 3.125 (79.0)       | 1.453 (36.9)           | 3.250 (82.6)  | 1.349 (85.1)           | 0.500 (12.7)                        | 105.0                 |
| AL                                 | 1.375 (35.0)       | 3.625 (92.0)       | 1.453 (36.9)           | 3.750 (95.3)  | 1.849 (97.8)           | 0.500 (12.7)                        | 122.0                 |
| AC                                 | 1.375 (35.0)       | 4.125 (105.0)      | 1.453 (36.9)           | 4.250 (108.0) | 1.349 (110.5)          | 0.500 (12.7)                        | 129.0                 |
| AD                                 | 1.375 (35.0)       | 4.625 (117.0)      | 1.453 (36.9)           | 4.750 (120.7) | 1.849 (123.2)          | 0.500 (12.7)                        | 162.0                 |
| AE                                 | 1.375 (35.0)       | 5.125 (130.0)      | 1.453 (36.9)           | 5.250 (133.4) | 1.349 (125.9)          | 0.500 (12.7)                        | 179.0                 |
| AF                                 | 1.375 (35.0)       | 5.625 (143.0)      | 1.453 (36.9)           | 5.750 (146.1) | 1.849 (148.6)          | 0.500 (12.7)                        | 201.0                 |
| EN                                 | 1.750 (44.0)       | 1.625 (41.0)       | 1.828 (46.4)           | 1.750 (44.5)  | 1.849 (47.0)           | 0.750 (19.1)                        | 71.0                  |
| EY                                 | 1.750 (44.0)       | 1.875 (48.0)       | 1.828 (46.4)           | 2.000 (50.8)  | 2.099 (53.3)           | 0.750 (19.1)                        | 88.0                  |
| EA                                 | 1.750 (44.0)       | 2.125 (54.0)       | 1.828 (46.4)           | 2.250 (57.2)  | 2.349 (59.7)           | 0.750 (19.1)                        | 102.0                 |
| EM                                 | 1.750 (44.0)       | 2.625 (67.0)       | 1.828 (46.4)           | 2.750 (69.9)  | 2.849 (72.4)           | 0.750 (19.1)                        | 133.0                 |
| EB                                 | 1.750 (44.0)       | 3.125 (79.0)       | 1.828 (46.4)           | 3.250 (82.6)  | 3.349 (85.1)           | 0.750 (19.1)                        | 167.0                 |
| EL                                 | 1.750 (44.0)       | 3.625 (92.0)       | 1.828 (46.4)           | 3.750 (95.3)  | 3.849 (97.8)           | 0.750 (19.1)                        | 198.0                 |

**Note**

- To ensure delivery of lead (Pb)-free RoHS compliant parts during the transition period please contact your Vishay Sales office

\* Pb containing terminations are not RoHS compliant, exemptions may apply

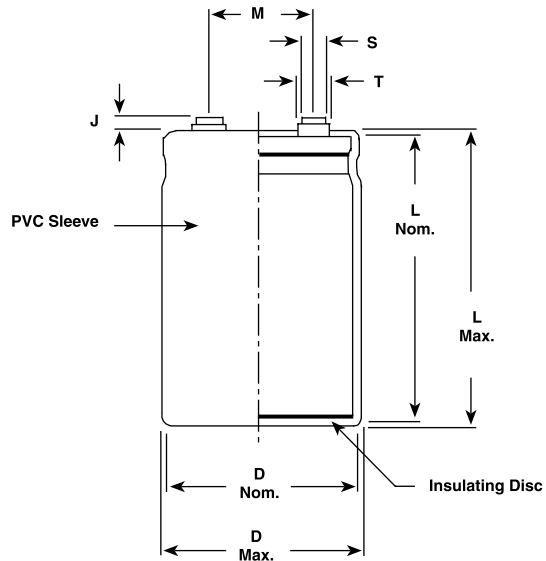


| <b>DIMENSIONS</b> in inches (millimeters) |                    |                    |                        |               |                        |                                     |                       |
|---|--------------------|--------------------|------------------------|---------------|------------------------|-------------------------------------|-----------------------|
| <b>LARGE CAN CAPACITORS</b>               |                    |                    |                        |               |                        |                                     |                       |
| CASE CODE                                 | NOMINAL            |                    | WITH INSULATING SLEEVE |               |                        | TERMINAL SPACING<br>M ± 0.016 (0.4) | TYPICAL WEIGHT<br>(g) |
|   | D<br>± 0.032 (0.8) | L<br>± 0.063 (1.6) | D<br>(Max.)            | L<br>(Max.)   | P TERMINAL<br>H (Max.) |                                     |                       |
| EC  | 1.750 (44.0)       | 4.125 (105.0)      | 1.828 (46.4)           | 4.250 (108.0) | 4.349 (110.5)          | 0.750 (19.1)                        | 230.0                 |
| ED  | 1.750 (44.0)       | 4.625 (117.0)      | 1.828 (46.4)           | 4.750 (120.7) | 4.849 (123.2)          | 0.750 (19.1)                        | 252.0                 |
| EE  | 1.750 (44.0)       | 5.125 (130.0)      | 1.828 (46.4)           | 5.250 (133.4) | 5.349 (135.9)          | 0.750 (19.1)                        | 269.0                 |
| EF  | 1.750 (44.0)       | 5.625 (143.0)      | 1.828 (46.4)           | 5.750 (146.1) | 5.849 (148.6)          | 0.750 (19.1)                        | 318.0                 |
| BY  | 2.000 (51.0)       | 1.875 (48.0)       | 2.078 (52.8)           | 2.000 (50.8)  | 2.099 (53.3)           | 0.875 (22.2)                        | 113.0                 |
| BA  | 2.000 (51.0)       | 2.125 (54.0)       | 2.078 (52.8)           | 2.250 (57.2)  | 2.349 (59.7)           | 0.875 (22.2)                        | 133.0                 |
| BM  | 2.000 (51.0)       | 2.625 (67.0)       | 2.078 (52.8)           | 2.750 (69.9)  | 2.849 (72.4)           | 0.875 (22.2)                        | 176.0                 |
| BB  | 2.000 (51.0)       | 3.125 (79.0)       | 2.078 (52.8)           | 3.250 (82.6)  | 3.349 (85.1)           | 0.875 (22.2)                        | 213.0                 |
| BL  | 2.000 (51.0)       | 3.625 (92.0)       | 2.078 (52.8)           | 3.750 (95.3)  | 3.849 (97.8)           | 0.875 (22.2)                        | 261.0                 |
| BC  | 2.000 (51.0)       | 4.125 (105.0)      | 2.078 (52.8)           | 4.250 (108.0) | 4.349 (110.5)          | 0.875 (22.2)                        | 381.0                 |
| BD  | 2.000 (51.0)       | 4.625 (117.0)      | 2.078 (52.8)           | 4.750 (120.7) | 4.849 (123.2)          | 0.875 (22.2)                        | 326.0                 |
| BE  | 2.000 (51.0)       | 5.125 (130.0)      | 2.078 (52.8)           | 5.250 (133.4) | 5.349 (135.9)          | 0.875 (22.2)                        | 337.0                 |
| BF  | 2.000 (51.0)       | 5.625 (143.0)      | 2.078 (52.8)           | 5.750 (146.1) | 5.849 (148.6)          | 0.875 (22.2)                        | 408.0                 |
| CB  | 2.500 (64.0)       | 3.125 (79.0)       | 2.578 (65.5)           | 3.250 (82.6)  | N/A                    | 1.125 (28.6)                        | 329.0                 |
| CL  | 2.500 (64.0)       | 3.625 (92.0)       | 2.578 (65.5)           | 3.750 (95.3)  | N/A                    | 1.125 (28.6)                        | 400.0                 |
| CC  | 2.500 (64.0)       | 4.125 (105.0)      | 2.578 (65.5)           | 4.250 (108.0) | N/A                    | 1.125 (28.6)                        | 473.0                 |
| CD  | 2.500 (64.0)       | 4.625 (117.0)      | 2.578 (65.5)           | 4.750 (120.7) | N/A                    | 1.125 (28.6)                        | 562.0                 |
| CE  | 2.500 (64.0)       | 5.125 (130.0)      | 2.578 (65.5)           | 5.250 (133.4) | N/A                    | 1.125 (28.6)                        | 607.0                 |
| CF  | 2.500 (64.0)       | 5.625 (143.0)      | 2.578 (65.5)           | 5.750 (146.1) | N/A                    | 1.125 (28.6)                        | 675.0                 |
| DB  | 3.000 (76.0)       | 3.125 (79.0)       | 3.078 (78.2)           | 3.250 (82.6)  | N/A                    | 1.250 (31.8)                        | 496.0                 |
| DL  | 3.000 (76.0)       | 3.625 (92.0)       | 3.078 (78.2)           | 3.750 (95.3)  | N/A                    | 1.250 (31.8)                        | 598.0                 |
| DC  | 3.000 (76.0)       | 4.125 (105.0)      | 3.078 (78.2)           | 4.250 (108.0) | N/A                    | 1.250 (31.8)                        | 700.0                 |
| DD  | 3.000 (76.0)       | 4.625 (117.0)      | 3.078 (78.2)           | 4.750 (120.7) | N/A                    | 1.250 (31.8)                        | 802.0                 |
| DE  | 3.000 (76.0)       | 5.125 (130.0)      | 3.078 (78.2)           | 5.250 (133.4) | N/A                    | 1.250 (31.8)                        | 944.0                 |
| DF  | 3.000 (76.0)       | 5.625 (143.0)      | 3.078 (78.2)           | 5.750 (146.1) | N/A                    | 1.250 (31.8)                        | 1004.0                |
| DJ  | 3.000 (76.0)       | 8.625 (219.0)      | 3.078 (78.2)           | 8.750 (222.3) | N/A                    | 1.250 (31.8)                        | 1403.0                |

| <b>DIMENSIONS</b> in inches (millimeters) |              |              |                            |                              |                              |                         |
|---|--------------|--------------|----------------------------|------------------------------|------------------------------|-------------------------|
| <b>BRACKETS (RoHS COMPLIANT)</b>          |              |              |                            |                              |                              |                         |
| TYPE                                      | PART NUMBER  | A            | B                          | C                            | FIGURE NUMBER                |                         |
| 2 Feet                                    | 1245860035A  | 1.375 (34.9) | 1.781 (45.2)               | 2.218 (56.3)                 | 1                            |                         |
| 3 Feet                                    | 1245860036A  | 2.000 (50.8) | 2.500 (63.5)               | 2.875 (73.0)                 | 2                            |                         |
| 3 Feet                                    | 1245860037A  | 2.500 (63.5) | 3.000 (76.2)               | 3.375 (85.7)                 | 2                            |                         |
| 3 Feet                                    | 1245860038A  | 3.000 (76.2) | 3.500 (88.9)               | 3.875 (98.4)                 | 2                            |                         |
| <b>SCREW INSERT TERMINAL DIMENSIONS</b>   |              |              |                            |                              |                              |                         |
| TERMINAL CODE                             | THREAD       | THREAD DEPTH | HEIGHT<br>J ± 0.032 (0.81) | DIAMETER<br>S ± 0.010 (0.25) | DIAMETER<br>T ± 0.010 (0.25) | NOTES                   |
| A   | 10-32 NF-28  | 0.219 (5.6)  | 0.063 (1.6)                | 0.313 (8.0)                  | 0.438 (11.1)                 | All cases codes         |
| B   | 10-32 NF-28  | 0.375 (9.5)  | 0.250 (6.4)                | 0.313 (8.0)                  | 0.438 (11.1)                 | All cases codes         |
| D   | 1/4-28 NF-28 | 0.344 (8.7)  | 0.093 (2.4)                | 0.688 (17.5)                 | -                            | C and D dia. codes only |

### DIMENSIONS AND AVAILABLE FORMS

#### Screw Insert Terminals



#### Large Can Brackets



### ORDERING EXAMPLE

Electrolytic capacitor 36DX series: 36DX 392 G 075 BB 2 A

| DESCRIPTION |   |
|-------------|---|
| CODE        | EXPLANATION                                     |
| 36DX        | Product type                                    |
| 392         | Capacitance value (3900 $\mu$ F)                |
| G           | Tolerance (G = - 10 %/+ 75 %; F = -10 %/+ 50 %) |
| 075         | Voltage rating at 85 °C (75 V)                  |
| BB          | Can size (see dimensions table)                 |
| 2           | PVC insulating sleeve                           |
| A           | Terminal code (low insert 10-32 screw thread)   |



| <b>ELECTRICAL DATA</b> (Original/improved ratings) |           |                 |
|--|-----------|-----------------|
| CAPACITANCE (μF)                                   | CASE CODE | PART NUMBER     |
| <b>TYPE 36D ORIGINAL RATINGS</b>                   |           |                 |
| <b>25 WVDC at + 85 °C, SURGE = 30 V</b>            |           |                 |
| 2700.0 <sup>(1)</sup>                              | AA        | 36D272G025AA2A  |
| 5500.0 <sup>(1)</sup>                              | AB        | 36D552G025AB2A  |
| <b>40 WVDC at + 85 °C, SURGE = 50 V</b>            |           |                 |
| 5500.0 <sup>(1)</sup>                              | AC        | 36D552G040AC2A  |
| 8400.0 <sup>(1)</sup>                              | BB        | 36D842G040BB2A  |
| <b>50 WVDC at + 85 °C, SURGE = 650 V</b>           |           |                 |
| 1300.0 <sup>(1)</sup>                              | AA        | 36D132G050AA2A  |
| 5200.0 <sup>(1)</sup>                              | AE        | 36D522G050AE2A  |
| <b>TYPE 36DE IMPROVED RATINGS</b>                  |           |                 |
| <b>25 WVDC at + 85 °C, SURGE = 30 V</b>            |           |                 |
| 40 000.0 <sup>(1)</sup>                            | BB        | 36DE403G025BB2A |
| <b>TYPE 36DE ORIGINAL RATINGS</b>                  |           |                 |
| <b>10 WVDC at + 85 °C, SURGE = 12 V</b>            |           |                 |
| 23 000.0 <sup>(1)</sup>                            | AA        | 36DE233G010AA2A |
| <b>40 WVDC at + 85 °C, SURGE = 50 V</b>            |           |                 |
| 24 000.0 <sup>(1)</sup>                            | BB        | 36DE243G040BB2A |
| <b>TYPE 36DX IMPROVED RATINGS</b>                  |           |                 |
| <b>200 WVDC at + 85 °C, SURGE = 250 V</b>          |           |                 |
| 850.0 <sup>(1)</sup>                               | AC        | 36DX851F200AC2A |
| 2000.0 <sup>(1)</sup>                              | BC        | 36DX202F200BC2A |
| 2800.0 <sup>(1)</sup>                              | BC        | 36DX282F200BC2A |
| 3400.0 <sup>(1)</sup>                              | CC        | 36DX342F200CC2A |
| 7400.0 <sup>(1)</sup>                              | DF        | 36DX742F200DF2A |
| <b>250 WVDC at + 85 °C, SURGE = 300 V</b>          |           |                 |
| 500.0 <sup>(1)</sup>                               | AB        | 36DX501F250AB2A |
| <b>350 WVDC at + 85 °C, SURGE = 400 V</b>          |           |                 |
| 260.0 <sup>(1)</sup>                               | AB        | 36DX261F350AB2A |
| 5100.0   | DJ        | 36DX512F350DJ2A |
| <b>450 WVDC at + 85 °C, SURGE = 525 V</b>          |           |                 |
| 230.0 <sup>(1)</sup>                               | AC        | 36DX231F450AC2A |
| 2000.0 <sup>(1)</sup>                              | DF        | 36DX202F450DF2A |
| <b>TYPE 36DX ORIGINAL RATINGS</b>                  |           |                 |
| <b>15 WVDC at + 85 °C, SURGE = 18 V</b>            |           |                 |
| 7500.0 <sup>(1)</sup>                              | AA        | 36DX752G015AA2A |
| 15 000.0 <sup>(1)</sup>                            | AB        | 36DX153G015AB2A |
| 22 000.0 <sup>(1)</sup>                            | AC        | 36DX223G015AC2A |
| 34 000.0 <sup>(1)</sup>                            | AF        | 36DX343G015AF2A |
| 50 000.0 <sup>(1)</sup>                            | BC        | 36DX503G015BC2A |
| <b>25 WVDC at + 85 °C, SURGE = 30 V</b>            |           |                 |
| 4500.0 <sup>(1)</sup>                              | AA        | 36DX452G025AA2A |
| 9000.0 <sup>(1)</sup>                              | AB        | 36DX902G025AB2A |
| 13 000.0 <sup>(1)</sup>                            | AC        | 36DX133G025AC2A |
| 30 000.0 <sup>(1)</sup>                            | BC        | 36DX303G025BC2A |
| 50 000.0 <sup>(1)</sup>                            | CC        | 36DX503G025CC2A |



| <b>ELECTRICAL DATA</b> (Original/improved ratings) |                  |                    |
|--|------------------|--------------------|
| <b>CAPACITANCE (μF)</b>                            | <b>CASE CODE</b> | <b>PART NUMBER</b> |
| <b>30 WVDC at + 85 °C, SURGE = 40 V</b>            |                  |                    |
| 4000.0 <sup>(1)</sup>                              | AA               | 36DX402G030AA2A    |
| 8000.0 <sup>(1)</sup>                              | AB               | 36DX802G030AB2A    |
| 18 000.0 <sup>(1)</sup>                            | AF               | 36DX183G030AF2A    |
| 26 000.0   | BC               | 36DX263G030BC2A    |
| <b>40 WVDC at + 85 °C, SURGE = 50 V</b>            |                  |                    |
| 2900.0 <sup>(1)</sup>                              | AA               | 36DX292G040AA2A    |
| 5800.0 <sup>(1)</sup>                              | AB               | 36DX582G040AB2A    |
| 8700.0 <sup>(1)</sup>                              | AC               | 36DX872G040AC2A    |
| 20 000.0 <sup>(1)</sup>                            | BC               | 36DX203G040BC2A    |
| 34 000.0 <sup>(1)</sup>                            | CC               | 36DX343G040CC2A    |
| <b>50 WVDC at + 85 °C, SURGE = 65 V</b>            |                  |                    |
| 2400.0 <sup>(1)</sup>                              | AA               | 36DX242G050AA2A    |
| 4800.0 <sup>(1)</sup>                              | AB               | 36DX482G050AB2A    |
| 7200.0 <sup>(1)</sup>                              | AC               | 36DX722G050AC2A    |
| 11 000.0   | AF               | 36DX113G050AF2A    |
| 16 000.0 <sup>(1)</sup>                            | BC               | 36DX163G050BC2A    |
| 24 000.0 <sup>(1)</sup>                            | BF               | 36DX243G050BF2A    |
| 40 000.0 <sup>(1)</sup>                            | CF               | 36DX403G050CF2A    |
| 41 000.0 <sup>(1)</sup>                            | DC               | 36DX413G050DC2A    |
| <b>75 WVDC at + 85 °C, SURGE = 95 V</b>            |                  |                    |
| 1400.0 <sup>(1)</sup>                              | AA               | 36DX142G075AA2A    |
| 10 000.0 <sup>(1)</sup>                            | BC               | 36DX103G075BC2A    |
| 17 000.0 <sup>(1)</sup>                            | CC               | 36DX173G075CC2A    |

**Note**

<sup>(1)</sup> This is representative of normally stocked ratings. Many other ratings are available.

Check your nearest stocking distributor. Additional Part Numbers normally found in distribution inventory include:

|                |                |                 |                 |
|----------------|----------------|-----------------|-----------------|
| 36D103G075CC2A | 36D231G013BB2A | 36D902G050BC2A  | 36DX332F350DF2A |
| 36D123G040BC2A | 36D262G050AB2A | 36DX103F250DJ2A | 36DX352F450DJ2A |
| 36D133G015AC2A | 36D392G050AC2A | 36DX172G100AB2A | 36DX372F350DF2A |
| 36D153G050CC2A | 36D392G075BB2A | 36DX203G025AF2A | 36DX422G075AC2A |
| 36D191F350AB2A | 36D602G050BB2A | 36DX312F450DJ2A |                 |



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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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