

Aluminum Capacitors + 85 °C, Snap-in, General Purpose

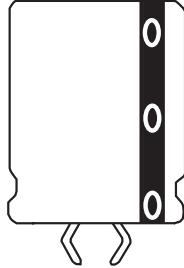


Fig.1 Component Outlines.

FEATURES

- Maximum CV
- General purpose design
- Wide voltage range
- Molded cover available in 2 or 3 terminal design with standoffs
- Replaces Type 82D



| QUICK REFERENCE DATA | |
|--|---|
| DESCRIPTION | VALUE |
| Nominal case size ØD x L in mm | 0.87" x 1.00" [22.0 x 25.0] to 1.57" x 3.18" [40.0 x 80.0] |
| Operating temperature | - 40 °C to + 85 °C |
| Rated capacitance range, C _R | 33 µF to 270 000 µF |
| Tolerance on C _R | ± 20 % |
| Rated voltage range, U _R | 6.3 WVDC to 500 WVDC |
| Termination | Snap in |
| Life validation test at 85 °C | 2000 hours: Δ CAP ≤ 15 % 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 ≤ 15 % from initial measurement. Δ ESR ≤ 1.3 x initial specified limit. Δ DCL ≤ 2 x initial specified limit |
| DC leakage current 5 minute charge time | $I = K\sqrt{CV}$ K = 4.0 at + 25 °C I in µA, C in µF, V in Volts |

| RIPPLE CURRENT MULTIPLIERS | | | |
|----------------------------|-------|-------------|-------------|
| TEMPERATURE | | | |
| AMBIENT TEMPERATURE | | MULTIPLIERS | |
| + 55 °C | | 2.0 | |
| + 65 °C | | 1.7 | |
| + 75 °C | | 1.4 | |
| + 85 °C | | 1.0 | |
| FREQUENCY (Hz) | | | |
| WVDC | 50-60 | 300 - 1000 | 1000 AND UP |
| 16 - 49 | 0.85 | 1.10 | 1.15 |
| 50 - 199 | 0.83 | 1.15 | 1.20 |
| 200 - 400 | 0.80 | 1.30 | 1.40 |

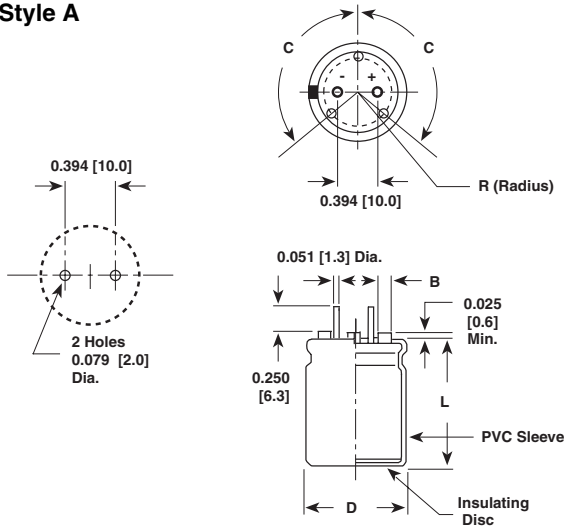
| DIMENSIONS in inches [millimeters] | | | | | | | |
|------------------------------------|--------------------------|----------------|--------------------------------|-----------|--------------------------|----------------|--------------------------------|
| CASE CODE | DIAMETER | LENGTH | STYLE 2 TYPICAL WEIGHT (Grams) | CASE CODE | DIAMETER | LENGTH | STYLE 2 TYPICAL WEIGHT (Grams) |
| | D + 0.04 - 0 [+ 1.0 - 0] | L ± 0.08 [2.0] | | | D + 0.04 - 0 [+ 1.0 - 0] | L ± 0.08 [2.0] | |
| HA | 0.87 [22.0] | 1.00 [25.0] | 16.0 | MB | 1.38 [35.0] | 1.18 [30.0] | 48.0 |
| HB | 0.87 [22.0] | 1.18 [30.0] | 19.0 | MC | 1.38 [35.0] | 1.38 [35.0] | 54.0 |
| HD | 0.87 [22.0] | 1.57 [40.0] | 24.0 | MD | 1.38 [35.0] | 1.57 [40.0] | 61.0 |
| JA | 1.00 [25.0] | 1.00 [25.0] | 20.0 | ME | 1.38 [35.0] | 2.00 [50.0] | 74.0 |
| JB | 1.00 [25.0] | 1.18 [30.0] | 24.0 | MF | 1.38 [35.0] | 2.50 [63.0] | 91.0 |
| JC | 1.00 [25.0] | 1.38 [35.0] | 27.0 | MG | 1.38 [35.0] | 3.18 [80.0] | 113.0 |
| JD | 1.00 [25.0] | 1.57 [40.0] | 31.0 | NA | 1.58 [40.0] | 1.00 [25.0] | 48.0 |
| JE | 1.00 [25.0] | 2.00 [50.0] | 38.0 | NB | 1.58 [40.0] | 1.18 [30.0] | 58.0 |
| KA | 1.18 [30.0] | 1.00 [25.0] | 30.0 | NC | 1.58 [40.0] | 1.38 [35.0] | 66.0 |
| KB | 1.18 [30.0] | 1.18 [30.0] | 35.0 | ND | 1.58 [40.0] | 1.57 [40.0] | 81.0 |
| KC | 1.18 [30.0] | 1.38 [35.0] | 39.0 | NE | 1.58 [40.0] | 2.00 [50.0] | 103.0 |
| KD | 1.18 [30.0] | 1.57 [40.0] | 44.0 | NF | 1.58 [40.0] | 2.50 [63.0] | 128.0 |
| KE | 1.18 [30.0] | 2.00 [50.0] | 53.0 | NG | 1.58 [40.0] | 3.18 [80.0] | 183.0 |

| DIMENSIONS in inches [millimeters] | | | | | |
|--|-----------|-------------|--------------|-------|--------------|
| CIRCUIT BOARD MOUNT TERMINAL DIMENSIONS* | | | | | |
| DIAMETER | | STYLE A | | | STYLE B |
| D | CASE CODE | B | R | C | R |
| 1.00 [25.0] | J | 0.093 [2.4] | 0.301 [7.6] | 140 ° | N/A |
| 1.18 [30.0] | K | 0.125 [3.2] | 0.363 [9.2] | 120 ° | 0.391 [9.9] |
| 1.38 [35.0] | M | 0.125 [3.2] | 0.458 [11.6] | 120 ° | 0.458 [11.6] |

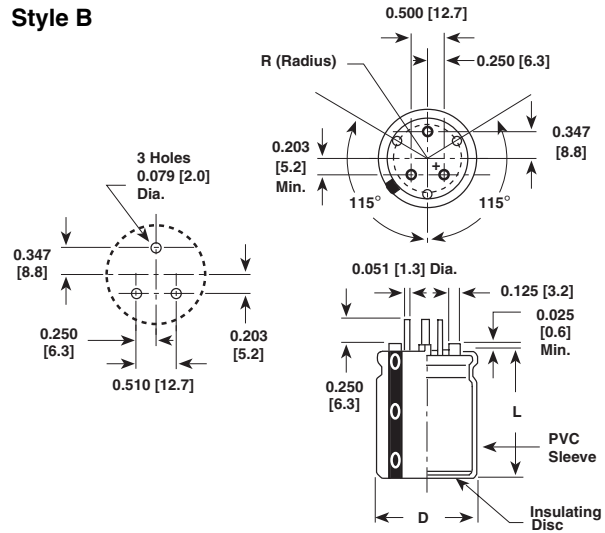
*Style A and B not available in 0.87" [22.0mm] diameter units.

DIMENSIONS AND AVAILABLE FORMS

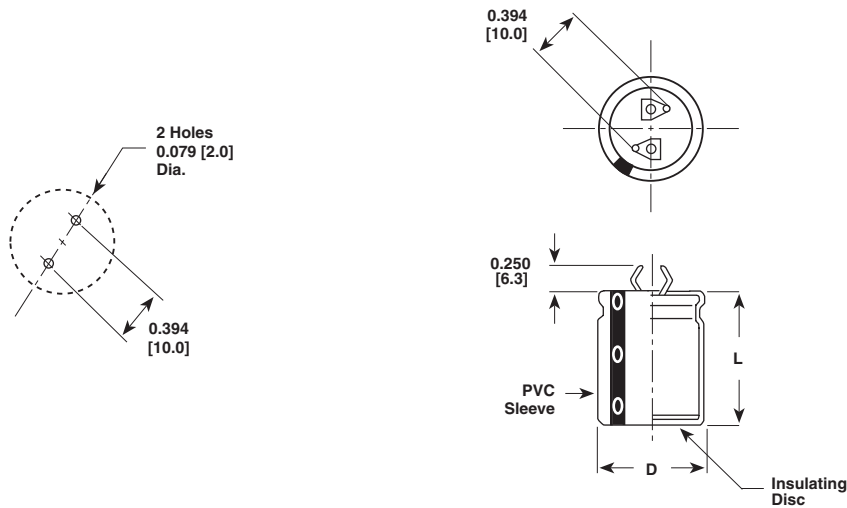
Style A



Style B



Style D



Aluminum Capacitors
+ 85 °C, Snap-in, General Purpose

Vishay Sprague

| TERMINAL CONFIGURATION [numbers in brackets indicate millimeters] | | | | | |
|--|--|------------------------|------------------------|--|--|
| LEAD CODE | DESCRIPTION | OUTLINE DRAWINGS | | AVAILABLE DIAMETERS | AVAILABLE VOLTAGES AND TYPES |
| | | MOUNTING CONFIGURATION | TERMINAL CONFIGURATION | | |
| D | Standard 2 pin snap in | | | 0.87 [22.0] - H 0.98 [25.0] - J 1.18 [30.0] - K 1.38 [35.0] - M | All voltages 81D, 81DA 82D, 82DA |
| A | 2 straight wire lead molded cover with standoffs | | | 0.98 [25.0] - J 1.18 [30.0] - K 1.38 [35.0] - M | All voltages 82D, 82DA V <= 250 VDC 81D, 81DA |
| B | 3 straight wire lead molded cover with standoffs | | | 1.18 [30.0] - K 1.38 [35.0] - M | All voltages 82D, 82DA V <= 250 VDC 81D, 81DA |

| ELECTRICAL DATA | |
|------------------------|-------------------------------------|
| SYMBOL | DESCRIPTION |
| μF | rated capacitance |
| ± % | M = ± 20 % |
| DC | voltage rating at 85° C |
| HA | see dimensions in millimeters table |
| 2 | PVC insulating sleeve |
| D | 2 pin snap-in |

ORDERING EXAMPLE*

Electrolytic capacitor 82DA series

82DA 123 M 6R3 HA 2 D

*Note: For lead (Pb)-free, add suffix E3 to part number.

Example: 82DAM6R3HA2DE3

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | | | |
|---|-----------------|-----------------------------|------------------------|---------------|----------------------------|---------------|
| CAPACITANCE (μF) | PART NUMBER | NOMINAL CASE SIZE D X L | MAX. ESR at 25 °C (mΩ) | | MAX. RIPPLE at + 85 °C (A) | |
| | | | 120 Hz | 20 k - 40 kHz | 120 Hz | 20 k - 40 kHz |
| 16 WVDC at + 85 °C, SURGE = 20 V | | | | | | |
| 15000.0 | 82DA153M016KA2D | 1.181 x 0.984 [30.0 x 25.0] | 67.7 | 54.0 | 3.07 | 3.47 |
| 25 WVDC at + 85 °C, SURGE = 30 V | | | | | | |
| 6800.0 | 82DA682M025HB2D | 0.866 x 1.181 [22.0 x 30.0] | 73.5 | 56.1 | 2.57 | 2.94 |
| 6800.0 | 82DA682M025JA2D | 0.984 x 0.984 [25.0 x 25.0] | 83.8 | 60.0 | 2.48 | 2.93 |
| 10000.0 | 82DA103M025KA2D | 1.181 x 0.984 [30.0 x 25.0] | 71.0 | 54.0 | 3.00 | 3.47 |
| 35 WVDC at + 85 °C, SURGE = 40 V | | | | | | |
| 2700.0 | 82DA272M035HA2D | 0.866 x 0.984 [22.0 x 25.0] | 120.0 | 87.4 | 1.91 | 2.24 |
| 4700.0 | 82DA472M035JA2D | 0.984 x 0.984 [25.0 x 25.0] | 89.0 | 62.0 | 2.42 | 2.86 |
| 6800.0 | 82DA682M035KA2D | 1.181 x 0.984 [30.0 x 25.0] | 75.0 | 540.0 | 2.92 | 3.42 |
| 10000.0 | 82DA103M035KB2D | 1.181 x 1.181 [30.0 x 30.0] | 57.0 | 41.0 | 3.60 | 4.20 |
| 50 WVDC at + 85 °C, SURGE = 63 V | | | | | | |
| 2200.0 | 82DA222M050HA2D | 0.866 x 0.984 [22.0 x 25.0] | 115.0 | 76.0 | 1.94 | 2.39 |
| 3300.0 | 82DA332M050HB2D | 0.866 x 1.181 [22.0 x 30.0] | 86.0 | 57.0 | 2.38 | 2.92 |
| 6800.0 | 82DA682M050JD2D | 0.984 x 1.575 [25.0 x 40.0] | 47.0 | 31.0 | 3.91 | 4.96 |
| 200 WVDC at + 85 °C, SURGE = 250V | | | | | | |
| 330.0 | 82DA331M200JB2D | 0.984 x 1.181 [25.0 x 30.0] | 401.0 | 191.0 | 1.28 | 1.86 |
| 820.0 | 82DA821M200KD2D | 1.181 x 1.575 [30.0 x 40.0] | 180.0 | 87.0 | 2.36 | 3.41 |
| 1000.0 | 82DA102M200KE2D | 1.181 x 1.969 [30.0 x 50.0] | 142.0 | 67.0 | 2.89 | 4.22 |
| 1200.0 | 82DA122M200MD2D | 1.378 x 1.575 [35.0 x 40.0] | 147.0 | 74.0 | 2.89 | 4.06 |
| 250 WVDC at + 85 °C, SURGE = 300V | | | | | | |
| 220.0 | 82DA221M250HD2D | 0.866 x 1.575 [22.0 x 40.0] | 558.0 | 166.0 | 1.12 | 2.12 |

Note: Other ratings and voltages available on special order.