

Aluminum Capacitors + 105 °C, Snap-in

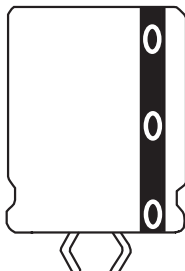


Fig. 1 Component Outlines.

FEATURES

- Improved performance
- Operating temperature to + 105 °C
- High ripple current capability
- Low ESR
- Replaces Type 81D

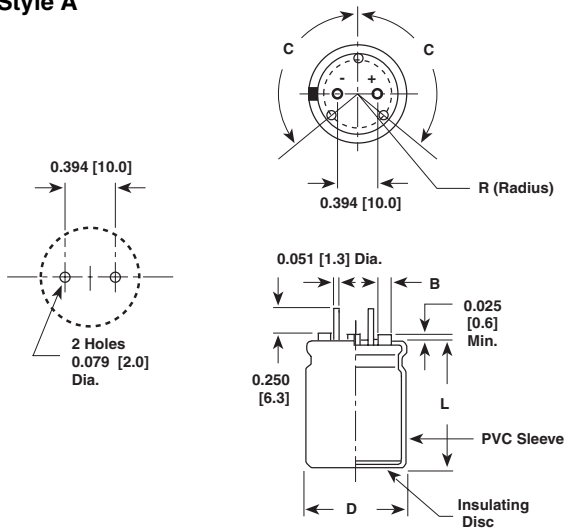
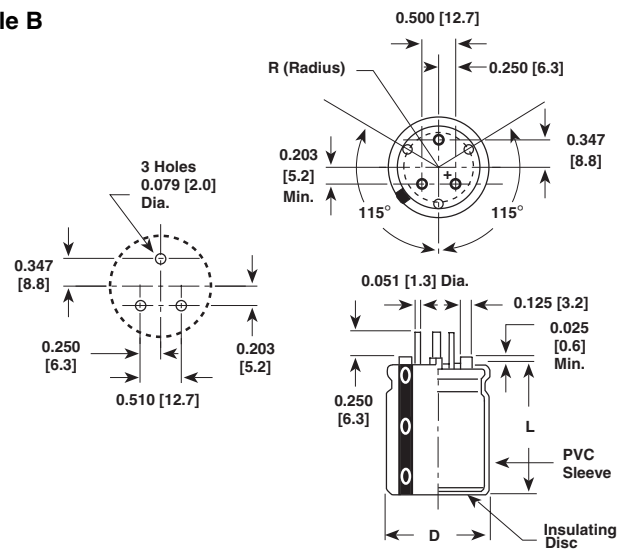
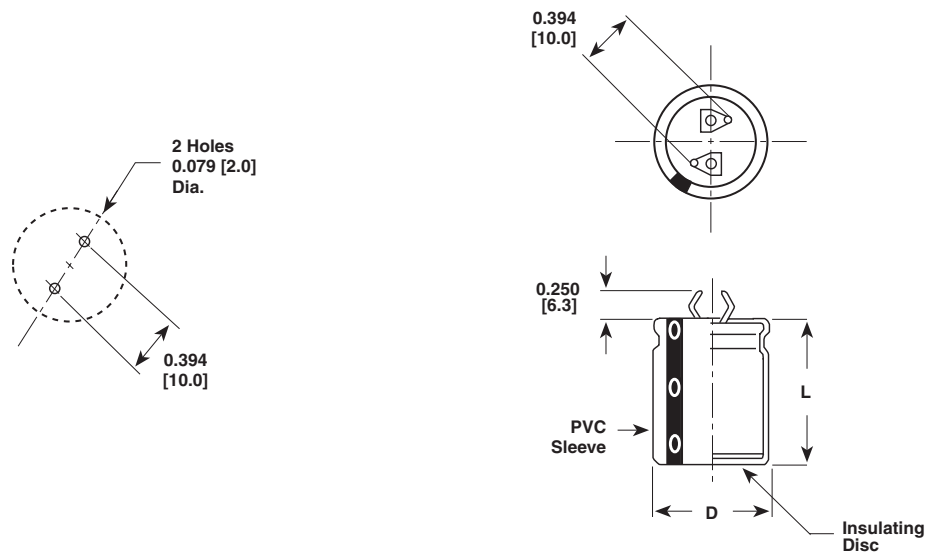
| QUICK REFERENCE DATA | |
|--|---|
| DESCRIPTION | VALUE |
| Nominal case size ØD x L in mm | 0.87" x 1.00" [22.0 x 25.0] to 1.38" x 3.18" [35.0 x 80.0] |
| Operating temperature | - 40 °C to + 105 °C |
| Rated capacitance range, C _R | 47 µF to 180 000 µF |
| Tolerance on C _R | ± 20 % |
| Rated voltage range, | 6.3 WVDC to 400 WVDC |
| Termination | Snap in |
| Life validation test at 105 °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 |

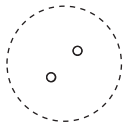
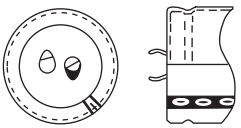
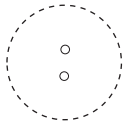
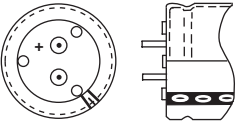
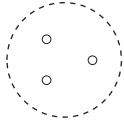
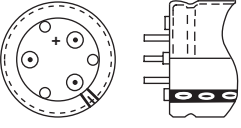
| RIPPLE CURRENT MULTIPLIERS | | | |
|----------------------------|-------|-------------|-------------|
| TEMPERATURE | | | |
| AMBIENT TEMPERATURE | | MULTIPLIERS | |
| + 55 °C | | 1.5 | |
| + 65 °C | | 1.34 | |
| + 75 °C | | 1.2 | |
| + 85 °C | | 1.0 | |
| + 95 °C | | 0.77 | |
| + 105 °C | | 0.45 | |
| FREQUENCY (Hz) | | | |
| WVDC | 50-60 | 300 - 1000 | 1000 AND UP |
| 0 - 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


| TERMINAL CONFIGURATION in inches [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 105° C |
| HA | see dimensions in millimeters table |
| 2 | PVC insulating sleeve |
| D | 2 pin snap-in |

ORDERING EXAMPLE

Electrolytic capacitor 81DA series

81DA 123 M 6R3 HA 2 D

| 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 kHz | 20 k - 40 kHz | 120 kHz | 20 k - 40 kHz |
| 25 WVDC at + 105 °C, SURGE = 30 V | | | | | | |
| 10000.0 | 81DA103M025JC2D | 0.984 x 1.378 [25.0 x 35.0] | 48.9 | 37.2 | 5.16 | 6.64 |
| 15000.0 | 81DA153M025KC2D | 1.181 x 1.378 [30.0 x 35.0] | 42.2 | 33.0 | 6.17 | 7.30 |
| 35 WVDC at + 105 °C, SURGE = 40 V | | | | | | |
| 4700.0 | 81DA472M035JA2D | 0.984 x 0.984 [25.0 x 25.0] | 83.3 | 60.3 | 3.53 | 4.76 |
| 10000.0 | 81DA103M035KB2D | 1.181 x 1.181 [30.0 x 30.0] | 53.4 | 41.0 | 5.19 | 5.94 |
| 50 WVDC at + 105 °C, SURGE = 63 V | | | | | | |
| 6800.0 | 81DA682M050KC2D | 1.181 x 1.378 [30.0 x 50.0] | 47.5 | 33.0 | 5.82 | 7.05 |
| 200 WVDC at + 105 °C, SURGE = 250V | | | | | | |
| 330.0 | 81DA331M200JB2D | 0.984 x 1.181 [25.0 x 30.0] | 399.3 | 184.4 | 1.81 | 2.67 |
| 820.0 | 81DA821M200KD2D | 1.181 x 1.575 [30.0 x 40.0] | 175.4 | 85.5 | 3.37 | 4.84 |
| 250 WVDC at + 105 °C, SURGE = 300V | | | | | | |
| 270.0 | 81DA271M250HD2D | 0.866 x 1.575 [22.0 x 40.0] | 408.9 | 159.5 | 1.83 | 2.93 |
| 560.0 | 81DA561M250MB2D | 1.378 x 1.181 [35.0 x 30.0] | 254.0 | 113.0 | 2.82 | 4.23 |

Note: Other ratings and voltages available on special order.

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