

## Aluminum Capacitors + 105 °C, Snap-in

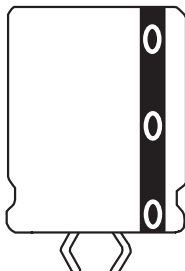


Fig. 1 Component Outlines.

### 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 <sub>R</sub>	47 µF to 180 000 µF
Tolerance on C <sub>R</sub>	± 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

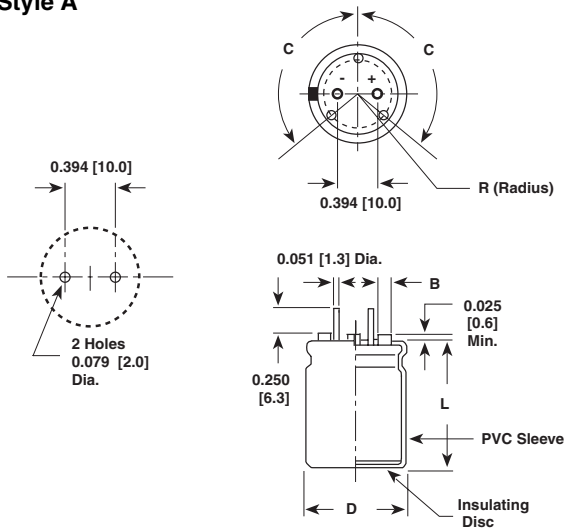


DIMENSIONS in inches [millimeters]					
CIRCUIT BOARD MOUNT TERMINAL DIMENSIONS*					
DIAMETER		STYLE A			STYLE B
D	CASE CODE	B	R	C	R
1.00 [25.0]	J	0.093 [2.4]	0.301 [7.6]	140 °	N/A
1.18 [30.0]	K	0.125 [3.2]	0.363 [9.2]	120 °	0.391 [9.9]
1.38 [35.0]	M	0.125 [3.2]	0.458 [11.6]	120 °	0.458 [11.6]

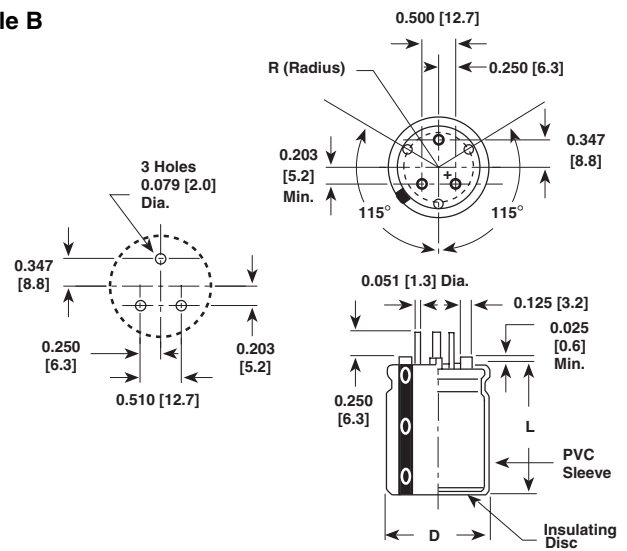
\*Style A and B not available in 0.87" [22.0mm] diameter units.

**DIMENSIONS AND AVAILABLE FORMS**

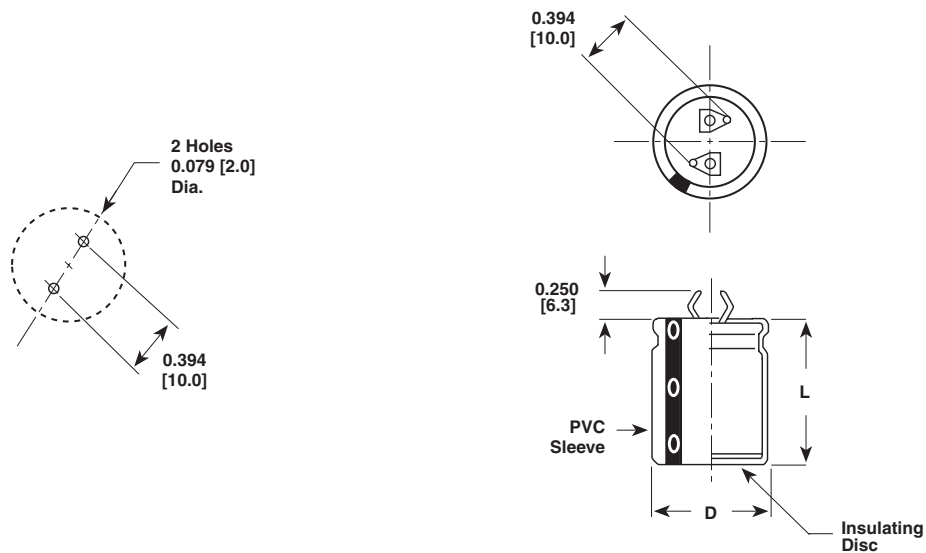
Style A

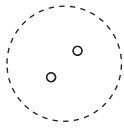
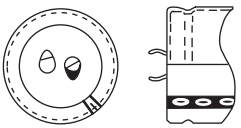
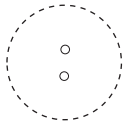
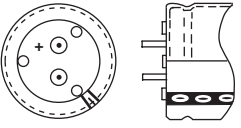
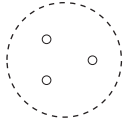
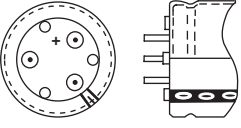


Style B



Style D



<b>TERMINAL CONFIGURATION</b> 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

<b>ELECTRICAL DATA</b>	
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

<b>ELECTRICAL DATA AND ORDERING INFORMATION</b>						
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
<b>25 WVDC at + 105 °C, SURGE = 30 V</b>						
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
<b>35 WVDC at + 105 °C, SURGE = 40 V</b>						
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
<b>50 WVDC at + 105 °C, SURGE = 63 V</b>						
6800.0	81DA682M050KC2D	1.181 x 1.378 [30.0 x 50.0]	47.5	33.0	5.82	7.05
<b>200 WVDC at + 105 °C, SURGE = 250V</b>						
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
<b>250 WVDC at + 105 °C, SURGE = 300V</b>						
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.