

## Aluminum Capacitors + 85 °C, Snap-In, General Purpose

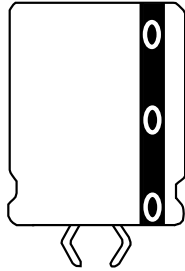


Fig.1 Component Outlines

**FEATURES**

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


**RoHS**  
COMPLIANT

QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Nominal case size Ø D x L in inches (mm)	1.57 x 3.18 (40.0 x 80.0)
Operating temperature	- 40 °C to + 85 °C
Rated capacitance range, C <sub>R</sub>	33 µF to 270 000 µF
Tolerance on C <sub>R</sub>	± 20 %
Rated voltage range, U <sub>R</sub>	6.3 WVDC to 500 WVDC
Termination	Snap-in
Life validation test at 85 °C	2000 h: ΔCAP ≤ 15 % from initial measurement. ΔESR ≤ 1.5 x initial specified limit. ΔDCL ≤ initial specified limit
Shelf life at 85 °C	500 h: ΔCAP ≤ 15 % from initial measurement. ΔESR ≤ 1.3 x initial specified limit. ΔDCL ≤ 2 x initial specified limit
DC leakage current 5 min charge time	$I = K \sqrt{CV}$ K = 4.0 at + 25 °C I in µA, C in µF, V in Volts

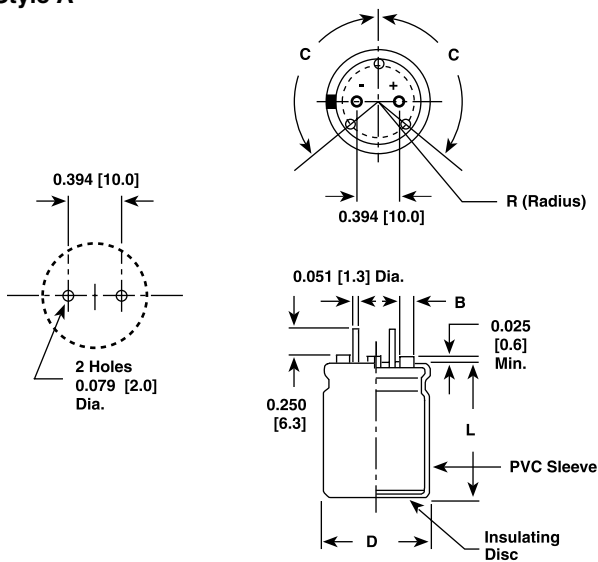
RIPPLE CURRENT MULTIPLIERS			
TEMPERATURE			
AMBIENT TEMPERATURE		MULTIPLIERS	
+ 55 °C		2.0	
+ 65 °C		1.7	
+ 75 °C		1.4	
+ 85 °C		1.0	
FREQUENCY (Hz)			
WVDC	50 TO 60	300 TO 1000	1000 AND UP
16 to 49	0.85	1.10	1.15
50 to 199	0.83	1.15	1.20
200 to 400	0.80	1.30	1.40

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

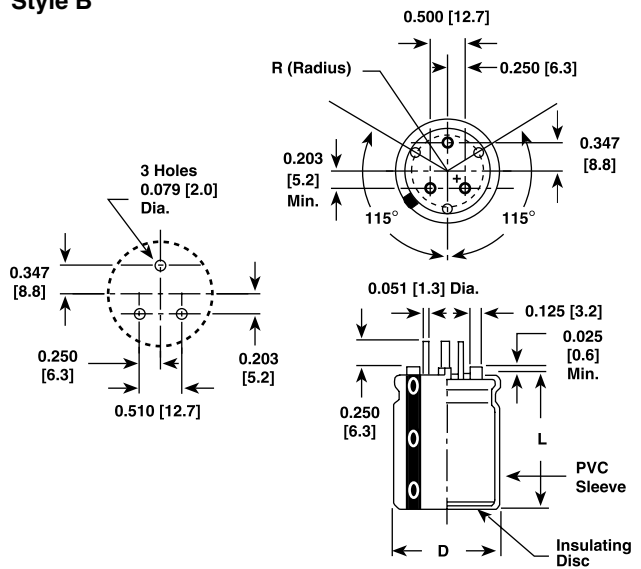
DIMENSIONS in inches (millimeters)					
CIRCUIT BOARD MOUNT TERMINAL DIMENSIONS					
DIAMETER		STYLE A			STYLE B
D	CASE CODE	B	R	C	R
1.00 (25.0)	J	0.093 (2.4)	0.301 (7.6)	140°	N/A
1.18 (30.0)	K	0.125 (3.2)	0.363 (9.2)	120°	0.391 (9.9)
1.38 (35.0)	M	0.125 (3.2)	0.458 (11.6)	120°	0.458 (11.6)

**DIMENSIONS AND AVAILABLE FORMS**

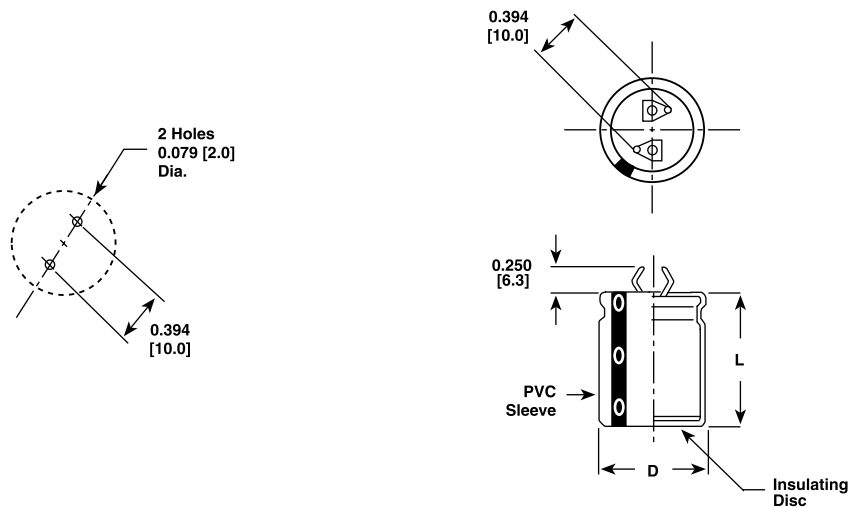
Style A



Style B



Style D





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

Vishay Sprague

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			0.98 (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
					$V \leq 250 V_{DC}$ 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
					$V \leq 250 V_{DC}$ 81D, 81DA

**ORDERING EXAMPLE**

Electrolytic capacitor 82DA series: 82DA 222 M 050 HA 2 D E3

DESCRIPTION	
CODE	EXPLANATION
82DA	Product type
222	Capacitance value (2200 $\mu$ F)
M	Tolerance (M = $\pm 20\%$ )
050	Voltage rating at 85 °C (50 V)
HA	Can size (see dimensions table)
2	PVC insulating sleeve
D	Terminal style (D = 2 pin snap-in)
E3	RoHS compliant

ELECTRICAL DATA AND ORDERING INFORMATION						
CAPACITANCE ( $\mu$ F)	PART NUMBER	NOMINAL CASE SIZE D x L	MAX. ESR at 25 °C (m $\Omega$ )		MAX. RIPPLE at + 85 °C (A)	
			120 Hz	20 kHz to 40 kHz	120 Hz	20 kHz to 40 kHz
<b>16 WVDC at + 85 °C, SURGE = 20 V</b>						
15 000.0	82DA153M016KA2DE3	1.181 x 0.984 (30.0 x 25.0)	67.7	54.0	3.07	3.47
<b>25 WVDC at + 85 °C, SURGE = 30 V</b>						
6800.0	82DA682M025JA2DE3	0.984 x 0.984 (25.0 x 25.0)	83.8	60.0	2.48	2.93
10 000.0	82DA103M025KA2DE3	1.181 x 0.984 (30.0 x 25.0)	71.0	54.0	3.00	3.47
<b>35 WVDC at + 85 °C, SURGE = 40 V</b>						
4700.0	82DA472M035JA2DE3	0.984 x 0.984 (25.0 x 25.0)	89.0	62.0	2.42	2.86
6800.0	82DA682M035KA2DE3	1.181 x 0.984 (30.0 x 25.0)	75.0	54.0	2.92	3.42
10 000.0	82DA103M035KB2DE3	1.181 x 1.181 (30.0 x 30.0)	57.0	41.0	3.60	4.20
<b>50 WVDC at + 85 °C, SURGE = 63 V</b>						
6800.0	82DA682M050JD2DE3	0.984 x 1.575 (25.0 x 40.0)	47.0	31.0	3.91	4.96
<b>200 WVDC at + 85 °C, SURGE = 250 V</b>						
330.0	82DA331M200JB2DE3	0.984 x 1.181 (25.0 x 30.0)	401.0	191.0	1.28	1.86
820.0	82DA821M200KD2DE3	1.181 x 1.575 (30.0 x 40.0)	180.0	87.0	2.36	3.41
1000.0	82DA102M200KE2DE3	1.181 x 1.969 (30.0 x 50.0)	142.0	67.0	2.89	4.22
1200.0	82DA122M200MD2DE3	1.378 x 1.575 (35.0 x 40.0)	147.0	74.0	2.89	4.06

**Note**

- Other ratings and voltages available on special order



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