

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

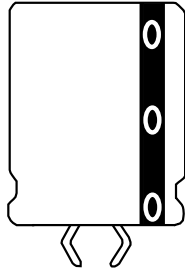


Fig.1 Component Outlines

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 Ø D x L in inches (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 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)	
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

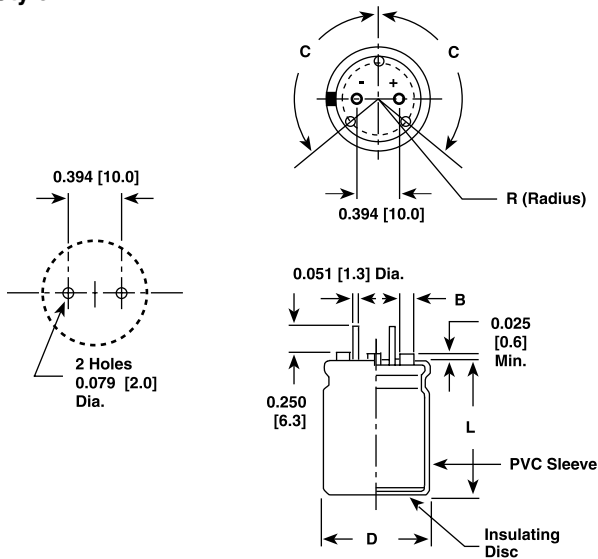
DIMENSIONS in inches (millimeters)					
CIRCUIT BOARD MOUNT TERMINAL DIMENSIONS ⁽¹⁾					
DIAMETER		STYLE A			STYLE B
D	CASE CODE	B	R	C	R
1.00 (25.0)	J	0.093 (2.4)	0.301 (7.6)	140°	N/A
1.18 (30.0)	K	0.125 (3.2)	0.363 (9.2)	120°	0.391 (9.9)
1.38 (35.0)	M	0.125 (3.2)	0.458 (11.6)	120°	0.458 (11.6)

Note

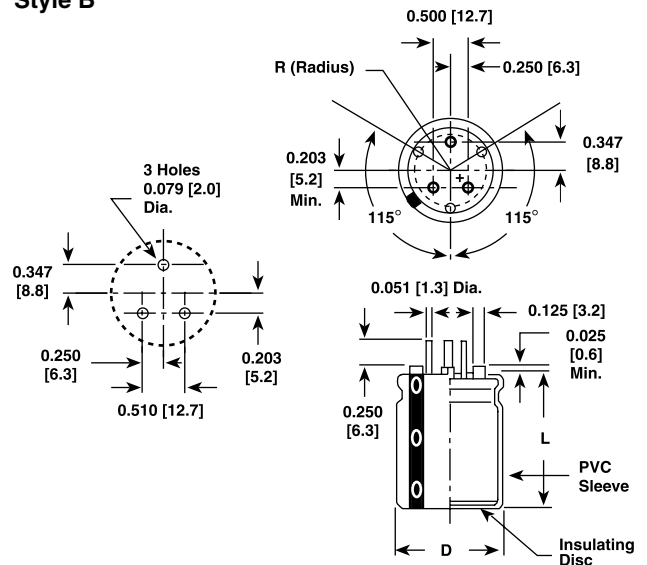
⁽¹⁾ Style A and B not available in 0.87" (22.0 mm) diameter units

DIMENSIONS AND AVAILABLE FORMS

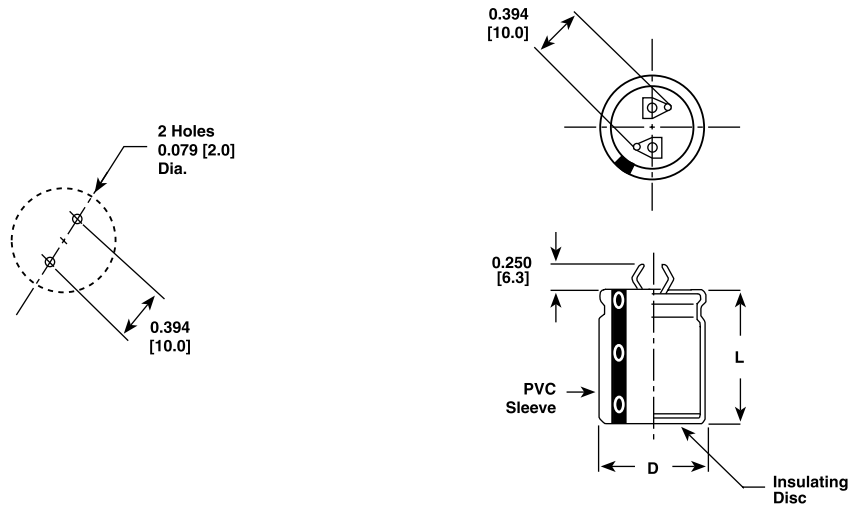
Style A



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 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 ≤ 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 μF)
M	Tolerance (M = ± 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 (μF)	PART NUMBER	NOMINAL CASE SIZE D x L	MAX. ESR at 25 °C (mΩ)		MAX. RIPPLE at + 85 °C (A)	
			120 Hz	20 to 40 kHz	120 Hz	20 to 40 kHz
16 WVDC at + 85 °C, SURGE = 20 V						
15 000.0	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
10 000.0	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
10 000.0	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 = 250 V						
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 = 300 V						
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



Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.