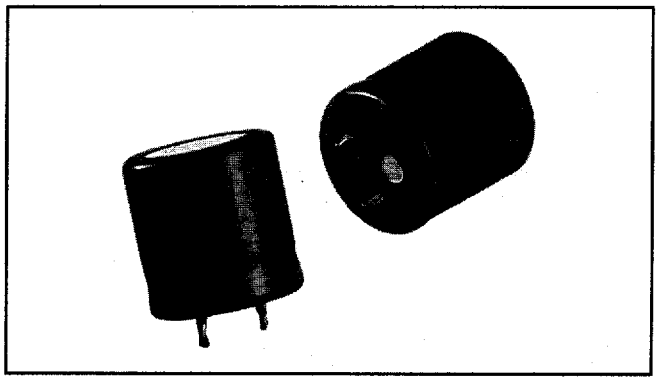
A-05-11-03

TYPE 80D
Aluminum Capacitors
+ 85°C, Snap Lock

A COMPANY OF VISHAY SPRAGUE®



FEATURES

- High ripple capability
- Molded cover available in 2 and 3 terminal design with standoffs
- Optional metal mounting ring

PERFORMANCE CHARACTERISTICS

Operating Temperature: - 40°C to + 85°C.
Capacitance Range: 82µF to 56,000µF.
Capacitance Tolerance: - 10%, + 30%.
Voltage Rating: 6.3 WVDC to 250 WVDC.
Case Size Range: .866" x .984" [22.0 x 25.0] to 1.38" x 3.15" [35.0 x 80.0].
Termination: Snap mount or 2 and 3 terminal straight leads.
Life Validation Test: 2000 hours @ + 85°C:
Δ CAP ≤ 15% from initial measurement.
Δ ESR ≤ 1.5 x initial specified limit.
Δ DCL ≤ initial specified limit.
Shelf Test: 500 hours @ + 85°C:
Δ CAP ≤ 15% from initial measurement.
Δ ESR ≤ 1.3 x initial specified limit.
Δ DCL ≤ 2 x initial specified limit.
DC Leakage Current: $I = K\sqrt{CV}$
K = 4.0 @ + 25°C
I in µA, C in µF, V in Volts.

RIPPLE CURRENT MULTIPLIERS

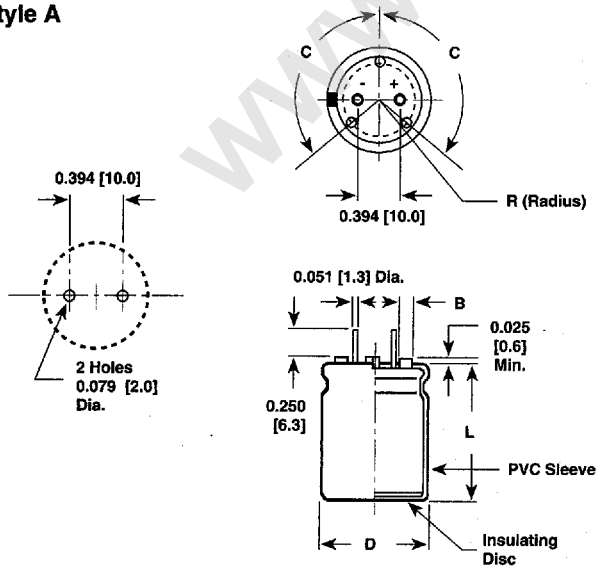
TEMPERATURE	
Ambient Temperature	**Multipliers**
+ 55°C	2.0
+ 65°C	1.7
+ 75°C	1.4
+ 85°C	1.0

FREQUENCY (Hz)			
Rated WVDC	**50 - 60**	**300 - 1000**	**Above 1000**
0 - 49	0.85	1.10	1.15
50 - 199	0.83	1.15	1.20
200 - 250	0.80	1.30	1.40

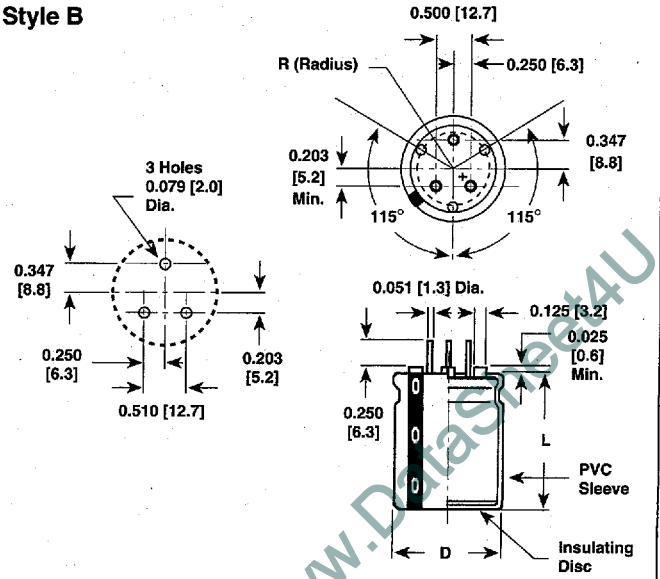
ESL (TYPICAL VALUES @ 1MHz TO 10MHz)				
Nominal Diameter	0.866 [22.0]	0.984 [25.0]	1.18 [30.0]	1.38 [35.0]
Typical ESL (nH)	6.0	8.0	10.0	12.0

DIMENSIONAL CONFIGURATIONS (Numbers in brackets indicate millimeters)

Style A



Style B



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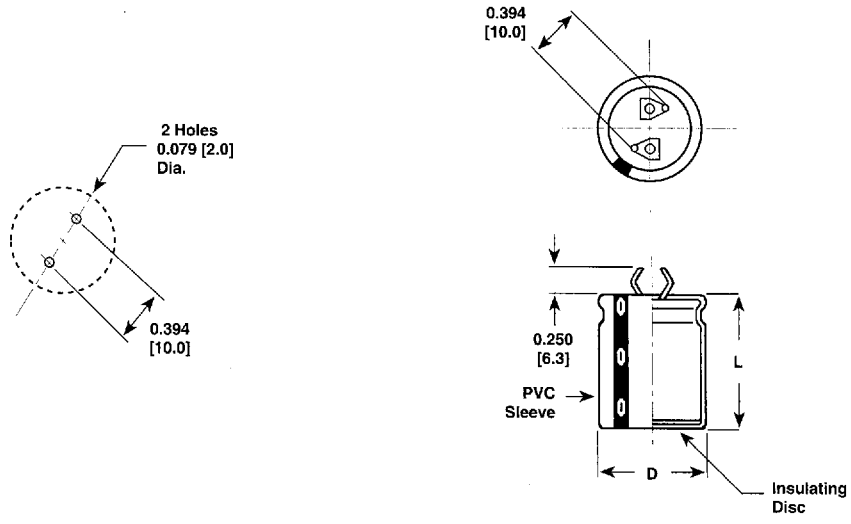
DIMENSIONAL CONFIGURATIONS [Numbers in brackets indicate millimeters]

Style D



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]**

CASE CODE	DIAMETER D + 0.039 - 0 [+ 1.0 - 0]	LENGTH L ± 0.079 [2.0]	CASE CODE	DIAMETER D + 0.039 - 0 [+ 1.0 - 0]	LENGTH L ± 0.079 [2.0]
HA	0.87 [22.0]	1.00 [25.0]	KC	1.18 [30.0]	1.38 [35.0]
HB	0.87 [22.0]	1.18 [30.0]	KD	1.18 [30.0]	1.57 [40.0]
HD	0.87 [22.0]	1.57 [40.0]	KE	1.18 [30.0]	2.00 [50.0]
JA	1.00 [25.0]	1.00 [25.0]	MB	1.38 [35.0]	1.18 [30.0]
JB	1.00 [25.0]	1.18 [30.0]	MC	1.38 [35.0]	1.38 [35.0]
JC	1.00 [25.0]	1.38 [35.0]	MD	1.38 [35.0]	1.57 [40.0]
JD	1.00 [25.0]	1.57 [40.0]	ME	1.38 [35.0]	2.00 [50.0]
JE	1.00 [25.0]	2.00 [50.0]	MF	1.38 [35.0]	2.50 [63.0]
KA	1.18 [30.0]	1.00 [25.0]	MG	1.38 [35.0]	3.18 [80.0]
KB	1.18 [30.0]	1.18 [30.0]			

* Style A and B not available in 0.866" [22.0mm] diameter units.
** Pin-type molded cover available on 80D/82D through 450 V. For 81D, only up through 250 V.

ORIGINAL RATINGS

CAPACITANCE (µF)	PART NUMBER	NOMINAL CASE SIZE D x L	Max. ESR @ + 25°C (mΩ) 120kHz	Max. ESR @ + 25°C (mΩ) 10kHz - 40kHz	Max. RIPPLE @ + 85°C (A) 120kHz	Max. RIPPLE @ + 85°C (A) 10kHz - 40kHz
		16 WVDC @ + 85°C, SURGE = 20 V				
3900.0*	80D392P016HA2D	.866 x .984 [22.0 x 25.0]	113.0	99.0	2.5	2.8
5600.0	80D562P016HB2D	.866 x 1.18 [22.0 x 30.0]	85.0	74.0	3.0	3.4
8200.0	80D822P016JB2D	.984 x 1.18 [25.0 x 30.0]	73.0	65.0	3.3	3.6
8200.0	80D822P016KA2D	1.18 x .984 [30.0 x 25.0]	91.0	84.0	2.8	3.0
10000.0*	80D103P016JC2D	.984 x 1.38 [25.0 x 35.0]	59.0	53.0	3.9	4.2
15000.0*	80D153P016JE2D	.984 x 1.97 [25.0 x 50.0]	37.0	33.0	5.6	6.0
22000.0	80D223P016KE2D	1.18 x 1.97 [30.0 x 50.0]	35.0	32.0	5.8	6.1
33000.0*	80D333P016ME2D	1.38 x 1.97 [35.0 x 50.0]	19.0	17.0	9.4	10.0

* These values are normally stocked.

ORIGINAL RATINGS

CAPACITANCE (µF)	PART NUMBER	NOMINAL CASE SIZE D x L	Max. ESR @ + 25°C (mΩ) 120kHz	Max. ESR @ + 25°C (mΩ) 10kHz - 40kHz	Max. RIPPLE @ + 85°C (A) 120kHz	Max. RIPPLE @ + 85°C (A) 10kHz - 40kHz
25 WVDC @ + 85°C, SURGE = 30 V						
2700.0*	80D272P025HA2D	.866 x .984 [22.0 x 25.0]	120.0	99.0	2.4	2.8
3300.0*	80D332P025HB2D	.866 x 1.18 [22.0 x 30.0]	90.0	74.0	2.9	3.4
4700.0	80D472P025JB2D	.984 x 1.18 [25.0 x 30.0]	76.0	65.0	3.2	3.6
6800.0*	80D682P025KB2D	1.18 x 1.18 [30.0 x 30.0]	71.0	63.0	3.4	3.6
10000.0*	80D103P025JE2D	.984 x 1.97 [25.0 x 50.0]	39.0	33.0	5.4	6.0
10000.0*	80D103P025MB2D	1.38 x 1.18 [35.0 x 30.0]	38.0	33.0	5.5	6.2
15000.0*	80D153P025KE2D	1.18 x 1.97 [30.0 x 50.0]	36.0	32.0	5.7	6.1
22000.0*	80D223P025ME2D	1.38 x 1.97 [35.0 x 50.0]	19.0	17.0	9.1	10.0
35 WVDC @ + 85°C, SURGE = 44 V						
3300.0	80D332P035HB2D	.866 x 1.18 [22.0 x 30.0]	96.0	74.0	2.7	3.4
4700.0*	80D472P035KB2D	1.18 x 1.18 [30.0 x 30.0]	—	—	—	—
6800.0*	80D682P035KC2D	1.18 x 1.38 [30.0 x 35.0]	60.0	51.0	3.8	4.2
10000.0*	80D103P035MC2D	1.38 x 1.38 [35.0 x 35.0]	33.0	27.0	6.2	7.2
12000.0*	80D123P035KE2D	1.38 x 1.38 [35.0 x 35.0]	33.0	27.0	6.2	7.2
15000.0*	80D153P035ME2D	1.38 x 1.97 [35.0 x 50.0]	20.0	17.0	8.8	10.0
50 WVDC @ + 85°C, SURGE = 63 V						
1200.0*	80D122P050HA2D	.866 x .984 [22.0 x 25.0]	144.0	99.0	2.8	2.0
1500.0	80D152P050HB2D	.866 x 1.18 [22.0 x 30.0]	108.0	74.0	2.4	3.4
2200.0*	80D222P050HD2D	.866 x 1.57 [22.0 x 40.0]	69.0	48.0	3.4	4.7
3300.0*	80D332P050JD2D	.984 x 1.57 [25.0 x 40.0]	57.0	42.0	3.9	4.9
3300.0*	80D332P050KB2D	1.18 x 1.18 [30.0 x 30.0]	79.0	63.0	3.1	3.6
4700.0*	80D472P050KD2D	1.18 x 1.57 [30.0 x 40.0]	51.0	41.0	4.3	4.9
6800.0*	80D682P050KE2D	1.18 x 1.97 [30.0 x 50.0]	40.0	32.0	5.3	6.1
63 WVDC @ + 85°C, SURGE = 79 V						
820.0	80D821P063HA2D	.866 x .984 [22.0 x 25.0]	132.0	82.0	2.0	3.0
1200.0*	80D122P063HB2D	.866 x 1.18 [22.0 x 30.0]	99.0	62.0	2.4	3.6
1500.0	80D152P063JB2D	.984 x 1.18 [25.0 x 30.0]	82.0	55.0	2.8	3.8
2200.0	80D222P063KB2D	1.18 x 1.18 [30.0 x 30.0]	72.0	54.0	3.2	3.9
3300.0*	80D332P063MB2D	1.38 x 1.18 [35.0 x 30.0]	40.0	28.0	5.0	6.6
4700.0*	80D472P063KE2D	1.18 x 1.97 [30.0 x 50.0]	36.0	28.0	5.4	6.4
6800.0*	80D682P063ME2D	1.38 x 1.97 [35.0 x 50.0]	21.0	15.0	8.3	10.0
100 WVDC @ + 85°C, SURGE = 125 V						
390.0	80D391P100HA2D	.866 x .984 [22.0 x 25.0]	241.0	138.0	1.5	2.7
560.0	80D561P100HB2D	.866 x 1.18 [22.0 x 30.0]	179.0	103.0	1.8	3.3
680.0	80D681P100JB2D	.984 x 1.18 [25.0 x 30.0]	139.0	85.0	2.2	3.5
1000.0	80D102P100KB2D	1.18 x 1.18 [30.0 x 30.0]	111.0	74.0	2.7	3.7
1500.0	80D152P100JE2D	.984 x 1.97 [25.0 x 50.0]	68.0	42.0	3.9	5.9
2200.0	80D222P100KE2D	1.18 x 1.97 [30.0 x 50.0]	55.0	37.0	4.7	6.2
3300.0	80D332P100ME2D	1.38 x 1.97 [35.0 x 50.0]	50.0	37.0	5.2	6.2
200 WVDC @ + 85°C, SURGE = 250 V						
100.0	80D101P200HA2D	.866 x .984 [22.0 x 25.0]	1057.0	505.0	0.75	2.2
150.0	80D151P200JA2D	.984 x .984 [25.0 x 25.0]	660.0	375.0	1.3	3.2
220.0*	80D221P200KA2D	1.18 x .984 [30.0 x 25.0]	460.0	272.0	1.7	3.6
330.0*	80D331P200KC2D	1.18 x 1.38 [30.0 x 35.0]	278.0	165.0	2.4	4.9
470.0*	80D471P200KD2D	1.18 x 1.57 [30.0 x 40.0]	220.0	131.0	2.8	5.7
680.0	80D681P200KD2D	1.18 x 1.57 [30.0 x 40.0]	248.0	127.0	2.1	4.7
820.0*	80D821P200ME2D	1.38 x 1.97 [35.0 x 50.0]	130.0	82.0	4.3	7.4
1000.0*	80D102P200ME2D	1.38 x 1.97 [35.0 x 50.0]	144.0	81.0	3.4	6.6
1200.0*	80D122P200ME2D	1.38 x 1.97 [35.0 x 50.0]	141.0	75.0	3.4	6.6

* These values are normally stocked.

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ORIGINAL RATINGS

CAPACITANCE (µF)	PART NUMBER	NOMINAL CASE SIZE D x L	Max. ESR @ + 25°C (mΩ) 120kHz	Max. ESR @ + 25°C (mΩ) 10kHz - 40kHz	Max. RIPPLE @ + 85°C (A) 120kHz	Max. RIPPLE @ + 85°C (A) 10kHz - 40kHz
250 WVDC @ + 85°C, SURGE = 300 V						
100.0*	80D101P250JA2D	.984 x .984 [25.0 x 25.0]	720.0	377.0	1.1	3.2
150.0	80D151P250JB2D	.984 x 1.18 [25.0 x 30.0]	541.0	284.0	1.4	3.8
220.0*	80D221P250JD2D	.984 x 1.57 [25.0 x 40.0]	343.0	182.0	2.0	5.2
330.0	80D331P250JE2D	.984 x 1.97 [25.0 x 50.0]	263.0	140.0	2.5	6.3
470.0	80D471P250KE2D	1.18 x 1.97 [30.0 x 50.0]	185.0	101.0	3.2	7.0
680.0*	80D681P250ME2D	1.38 x 1.97 [35.0 x 50.0]	191.0	81.0	4.0	7.4

* These ratings are normally stocked.

NOTE: Some inventory may include PVC sleeve with resin end seal (5D) available until inventory is depleted.

Additional Part Numbers normally found in distribution inventory include:

80D102P050HA2D	80D182P035HA2D	80D332P063JE2D	80D682P035JE2D
80D102P063HB2D	80D222P035HB2D	80D333P010KE2D	80D682P035MB2D
80D102P100JD2D	80D222P050KA2D	80D391P200MB2D	80D682P050MD2D
80D102P200MD2D	80D222P063JD2D	80D392P050JE2D	80D820P250HA2D
80D103P035KE2D	80D222P080JE2D	80D472P050JC2D	80D822P025JD2D
80D123P016KB2D	80D223P010MB2D	80D472P050JE2D	80D822P035MB2D
80D152P050JA2D	80D272P035HB2D	80D472P050MB2D	80D822P050ME2D
80D153P016MB2D	80D272P035JA2D	80D681P200MD2D	

Other capacitance values are available on request. Call Sprague® for a quotation for price and delivery.

HOW TO ORDER

80D	682	P	6R3	HA	2	D
TYPE	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING	CASE CODE	CASE STYLE	LEAD CODE
	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.	P = - 10% + 30%	This is expressed in volts. To complete the three-digit block, zeros precede the voltage rating. A decimal point is indicated by an "R" (6R3 = 6.3 volts).	See Dimensions.	2 = PVC insulating sleeve.	D = 2 pin snap in. Standard. A = 2 lead molded cover with standoff feature. B = Keyed polarity 3 lead molded cover with standoff feature.