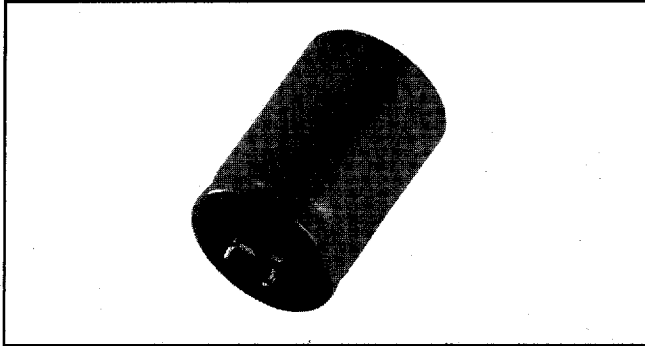


TYPE 81D Aluminum Capacitors

+ 105°C, Snap Mount



FEATURES

- Operating temperature to + 105°C
- High ripple current capability
- Low ESR

PERFORMANCE CHARACTERISTICS

Operating Temperature: - 40°C to + 105°C.

Capacitance Range: 68µF to 47,000µF.

Capacitance Tolerance: ± 20%.

Voltage Rating: 16 WVDC to 400 WVDC.

Case Size Range: 0.87" x 1.00" [22.0 x 25.0] to 1.38" x 3.15" [35.0 x 80.0].

Termination: Snap mount.

Life Validation Test: 2000 hours @ + 105°C:

Δ CAP ≤ 15% from initial measurement.

Δ ESR ≤ 1.3 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:

$$I = K\sqrt{CV}$$

$$K = 4.0 @ + 25^\circ\text{C}$$

I in µA, C in µF, V in Volts.

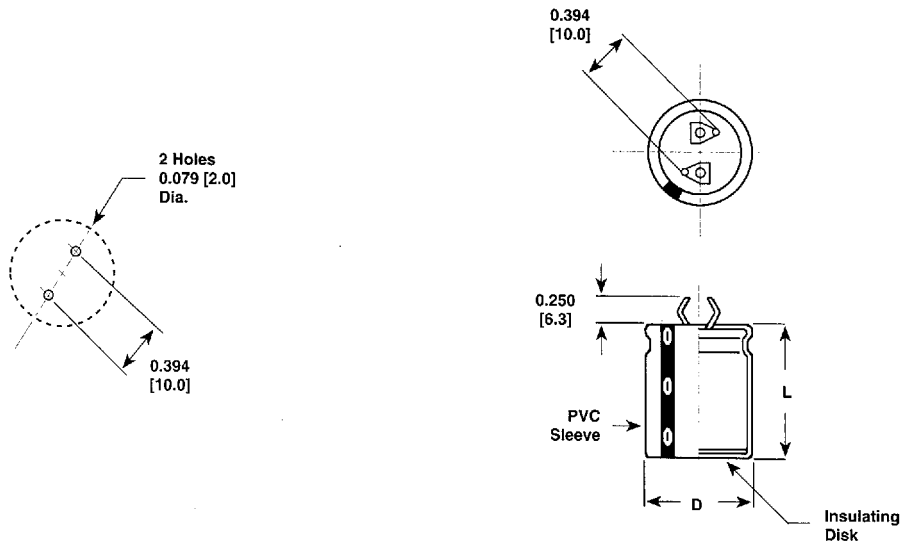
RIPPLE CURRENT MULTIPLIERS				
TEMPERATURE				
Ambient Temperature	Multipliers			
+ 55°C	1.6			
+ 65°C	1.4			
+ 75°C	1.2			
+ 85°C	1.0			
+ 95°C	.70			
+ 105°C	.50			
FREQUENCY (Hz)				
Rated WVDC	50 - 60	300 - 1000	Above 1000	
0 - 49	0.85	1.10	1.15	
50 - 199	0.83	1.15	1.20	
200 - 250	0.80	1.30	1.40	
ESL (TYPICAL VALUES @ 1MHz - 10MHz)				
Nominal Diameter	0.87 [22.0]	0.98 [25.0]	1.18 [30.0]	1.38 [35.0]
Typical ESL (nH)	6.0	8.0	10.0	12.0

TERMINAL CONFIGURATION [Numbers in brackets indicate millimeters]

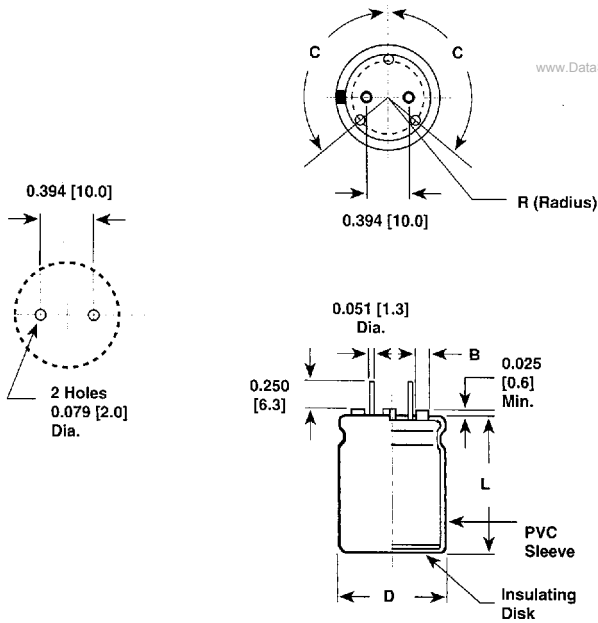
LEAD CODE	DESCRIPTION	OUTLINE DRAWINGS		AVAILABLE DIAMETERS	AVAILABLE VOLTAGES & TYPES
		MOUNTING CONFIGURATION	TERMINAL CONFIGURATION		
D	Standard 2 pin snap in			.87 [22.0] - H .98 [25.0] - J 1.18 [30.0] - K 1.38 [35.0] - M	All voltages 81D, 81DA 82D, 82DA
A	2 straight wire lead molded cover with standoffs			.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

DIMENSIONAL CONFIGURATIONS [Numbers in brackets indicate millimeters]

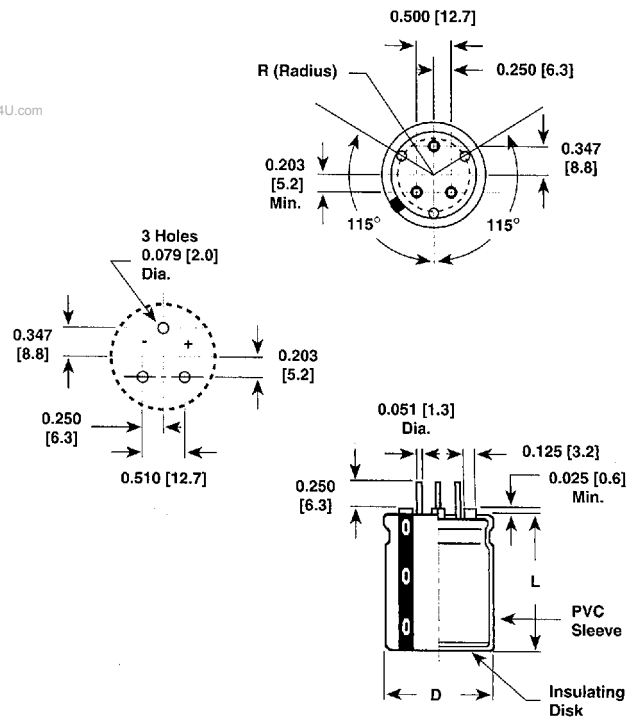
Style D



Style A



Style B



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.

TYPE 81D
DIMENSIONS [Numbers in brackets indicate millimeters]

CASE CODE	DIAMETER D + 0.04 - 0 [+ 1.0 - 0]	LENGTH L ± 0.08 [2.0]	CASE CODE	DIAMETER D + 0.04 - 0 [+ 1.0 - 0]	LENGTH L ± 0.08 [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]			

STANDARD RATINGS [Numbers in brackets indicate millimeters]

CAPACITANCE (μ F)	PART NUMBER	NOMINAL CASE SIZE D x L	Max. ESR @ + 25°C (m Ω)		Max. RIPPLE @ + 85°C (A)	
			120Hz	20k - 40kHz	120Hz	20k - 40kHz
16 WVDC @ + 105°C, SURGE = 20 V						
15000.0	81D153M016JC2D	.984 x 1.378 [25.0 x 35.0]	58.0	43.0	4.72	5.47
22000.0	81D223M016KB2D	1.181 x 1.181 [30.0 x 30.0]	53.7	41.0	5.24	5.94
33000.0	81D333M016MC2D	1.378 x 1.378 [35.0 x 35.0]	28.0	21.0	8.42	9.71
47000.0	81D473M016MD2D	1.378 x 1.575 [35.0 x 40.0]	23.0	17.0	9.70	11.20
25 WVDC @ + 105°C, SURGE = 30 V						
3300.0	81D332M025HA2D	.866 x .984 [22.0 x 25.0]	110.0	76.0	2.81	3.38
4700.0	81D472M025JA2D	.984 x .984 [25.0 x 25.0]	86.0	60.0	3.44	4.15
6800.0	81D682M025KA2D	1.181 x .984 [30.0 x 25.0]	71.0	54.0	4.25	4.91
10000.0	81D103M025KB2D	1.181 x 1.181 [30.0 x 30.0]	54.0	41.0	5.24	5.94
15000.0	81D153M025KD2D	1.181 x 1.575 [30.0 x 40.0]	36.4	27.0	7.07	8.16
22000.0*	81D223M025MD2D	1.378 x 1.575 [35.0 x 40.0]	23.0	17.0	9.41	11.20
35 WVDC @ + 105°C, SURGE = 40 V						
4700.0	81D472M035KA2D	1.181 x .984 [30.0 x 25.0]	75.0	54.0	4.13	4.84
6800.0	81D682M035KB2D	1.181 x 1.181 [30.0 x 30.0]	57.0	41.0	5.10	5.94
12000.0	81D123M035KD2D	1.181 x 1.575 [30.0 x 40.0]	37.7	27.0	6.92	8.16
10000.0	81D103M035MB2D	1.378 x 1.181 [35.0 x 30.0]	36.0	24.0	7.04	8.63
50 WVDC @ + 105°C, SURGE = 63 V						
1200.0	81D122M050HA2D	.866 x .984 [22.0 x 25.0]	148.0	79.0	2.41	3.29
2200.0	81D222M050JB2D	.984 x 1.181 [25.0 x 30.0]	85.0	48.0	3.69	4.93
4700.0	81D472M050KC2D	1.181 x 1.378 [30.0 x 35.0]	53.0	33.0	5.51	7.05
6800.0*	81D682M050KE2D	1.181 x 1.969 [30.0 x 50.0]	33.0	22.0	8.04	9.74
63 WVDC @ + 105°C, SURGE = 79 V						
1000.0	81D102M063HA2D	.866 x .984 [22.0 x 25.0]	151.0	75.0	2.39	3.39
1500.0	81D152M063HB2D	.866 x 1.181 [22.0 x 30.0]	118.0	59.0	2.87	4.06
2200.0	81D222M063JC2D	.984 x 1.378 [25.0 x 35.0]	72.0	38.0	4.21	5.78
4700.0	81D472M063KD2D	1.181 x 1.575 [30.0 x 40.0]	44.0	27.0	6.32	8.16
100 WVDC @ + 105°C, SURGE = 125 V						
470.0	81D471M100HB2D	.866 x 1.181 [22.0 x 30.0]	258.0	114.0	1.94	2.93
680.0	81D681M100JB2D	.984 x 1.181 [25.0 x 30.0]	188.0	86.0	2.48	3.67
1000.0	81D102M100KB2D	1.181 x 1.181 [30.0 x 30.0]	136.0	66.0	3.28	4.69
1500.0	81D152M100KC2D	1.181 x 1.378 [30.0 x 35.0]	106.0	52.0	3.90 5.69	5.59 8.05
2200.0*	81D222M100KE2D	1.181 x 1.969 [30.0 x 50.0]	66.0	33.0		

* These ratings are normally stocked.

TYPE 81D

STANDARD RATINGS [Numbers in brackets indicate millimeters]

CAPACITANCE (μ F)	PART NUMBER	NOMINAL CASE SIZE D x L	Max. ESR @ + 25°C (m Ω)		Max. RIPPLE @ + 85°C (A)	
			120Hz	20k - 40kHz	120Hz	20k - 40kHz
200 WVDC @ + 105°C, SURGE = 250 V						
220.0	81D221M200JA2D	.984 x .984 [25.0 x 25.0]	625.0	272.0	1.37	2.08
330.0	81D331M200KA2D	1.181 x .984 [30.0 x 25.0]	498.0	192.0	1.71	2.77
470.0	81D471M200KB2D	1.181 x 1.181 [30.0 x 30.0]	294.0	136.0	2.39	3.51
1000.0	81D102M200KE2D	1.181 x 1.969 [30.0 x 50.0]	142.0	67.0	4.09	5.95
820.0	81D821M200MC2D	1.378 x 1.378 [35.0 x 35.0]	189.0	93.0	3.47	4.94
1000.0*	81D102M200MD2D	1.378 x 1.575 [35.0 x 40.0]	149.0	74.0	4.07	5.78
250 WVDC @ + 105°C, SURGE = 300 V						
220.0	81D221M250HD2D	.866 x 1.575 [22.0 x 40.0]	558.0	166.0	1.57	2.89
330.0	81D331M250JD2D	.984 x 1.575 [25.0 x 40.0]	382.0	121.0	2.12	3.81
470.0	81D471M250JE2D	.984 x 1.969 [25.0 x 50.0]	243.0	93.0	2.81	4.54
680.0	81D681M250KE2D	1.181 x 1.969 [30.0 x 50.0]	198.0	67.0	3.47	5.99
1000.0*	81D102M250ME2D	1.378 x 1.969 [35.0 x 50.0]	132.0	58.0	4.69	7.07
400 WVDC @ + 105°C, SURGE = 450 V						
68.0	81D680M400HB2D	.866 x 1.181 [22.0 x 30.0]	3550.0	1890.0	0.536	0.707
100.0	81D101M400JB2D	.984 x 1.181 [25.0 x 30.0]	2920.0	1550.0	0.683	0.902
150.0	81D151M400JD2D	.984 x 1.575 [25.0 x 40.0]	1650.0	880.0	1.000	1.1329
220.0	81D221M400KD2D	1.181 x 1.575 [30.0 x 40.0]	1110.0	580.0	1.476	1.781
330.0	81D331M400MD2D	1.378 x 1.575 [35.0 x 40.0]	730.0	390.0	1.695	2.257

* These ratings are normally stocked.

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HOW TO ORDER

