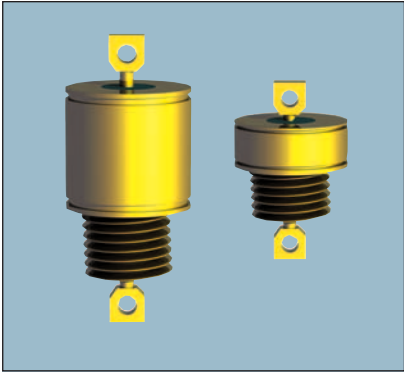


# Cylindrical Style EMI Filters

JD Series – .690 Dia.

Hermetically Sealed – Circuits Available – C, L,  $\pi$ , T



## APPLICATIONS

The JD series offers effective filtering from 14 KHz to 10 GHz. The large diameter, increased length, restricted capacitance values and conservative dielectrics of the JD series are particularly important design features for 400 Hz AC applications where high reactive currents and the resultant heat dissipation must be controlled. Glass sealed on both ends for hermeticity, this series is impervious to high moisture, solvents, or other severe environmental conditions commonly encountered in military applications. It is designed for bulkhead mounting in a slotted hole with nut and lockwasher supplied.

The 230 VAC “T” section style is uniquely capable of handling very high pulse inrush currents or overvoltage conditions typical of EMP.

In addition, transient voltage suppression devices can be added to any of the JD circuit designs to provide complete circuit protection against EMP, lightning, or voltage spikes such as MIL-STD-704.

These devices when combined with high frequency attenuation characteristics of the discoidal capacitor and toroidal

inductors offer significant performance advantages by suppressing and absorbing the EMP pulse over a very broad spectral range. Very high pulse currents will occur within the EMI filter, however, reradiation to sensitive electronic circuits is prevented by the fully shielded case design. In some cases a slight increase in the case length of the filter is required to provide space for the transient suppression device.

The “L”, and the “T” designs are designed to provide effective attenuation over a wide range of circuit impedances. For current ratings under 15 Amps toroidal wound inductor elements offer increased filter performance and protection against circuit transients. Data showing the actual inductance versus various levels of DC or AC bias current are available as well as the attenuation in any combination of source and load impedance.

Alternate lead configurations or special capacitance/inductance values may be ordered.

Custom packages or filter arrays utilizing the JD series can be furnished.

## CHARACTERISTICS

- Designed to meet the requirements of DESC drawings 84083, 84084 and MIL-F-28861/16 and /17.
- Glass hermetic seal on both ends.
- Wound toroidal inductor used in designs up to 10 Amps. 15 Amp designs incorporate ferrite bead inductor.
- Superior heat dissipation for both 125 VAC and 230 VAC designs.

## SPECIFICATIONS

- Case/Terminal Plating:  
Electro-tin standard –  
Silver or gold available
- Material:  
Case: Brass standard – Steel available  
End Seal: Mild steel  
Terminals: Nickel-iron alloy
- Operating Temperature Range:  
-55°C to +125°C
- Electrical Characteristics:
  - Rated Voltage:  
300 VDC/125 VAC, 400 Hz or  
400 VDC/230 VAC, 400 Hz
  - Current Rating - see chart
- Insulation Resistance:  
At 25°C: 1,000 megohm-microfarad  
min., or 50,000 megohms  
min., whichever is less, at  
the rated DC voltage  
At 125°C: 100 megohm-microfarad  
min., or 5,000 megohms  
min., whichever is less
- Dielectric Withstanding Voltage  
(DWW):  
R-level designs:  
2.0 times rated DC voltage  
Class B, Class S designs:  
2.5 times rated DC voltage
- Capacitance: Total capacitance listed in  
chart for each filter type is “guaranteed  
minimum value” (GMV)
- Marking:  
Standard Marking: AVX, AVX part  
number, rated voltage, current, lot  
number, schematic  
NOTE: Schematic to indicate location of  
inductor (standard or reverse) for  
JD2 L-Section Filters.  
See Reliability Codes section for  
definition of Reliability Level marking.  
See How to Order section for part  
number construction.
- Installation:
  - Mounting Torque: 60 oz-in.  $\pm$  4 oz-in.
  - Refer to “Installation and Handling”  
section of Filter Design Guide

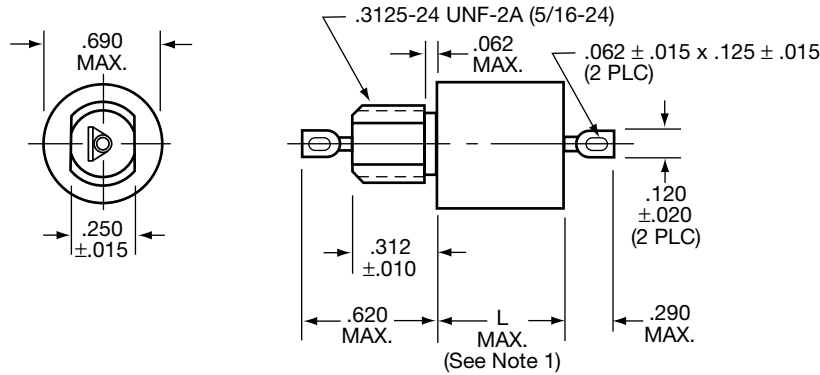
# Cylindrical Style EMI Filters

## JD Series – .690 Dia. – Hermetically Sealed –

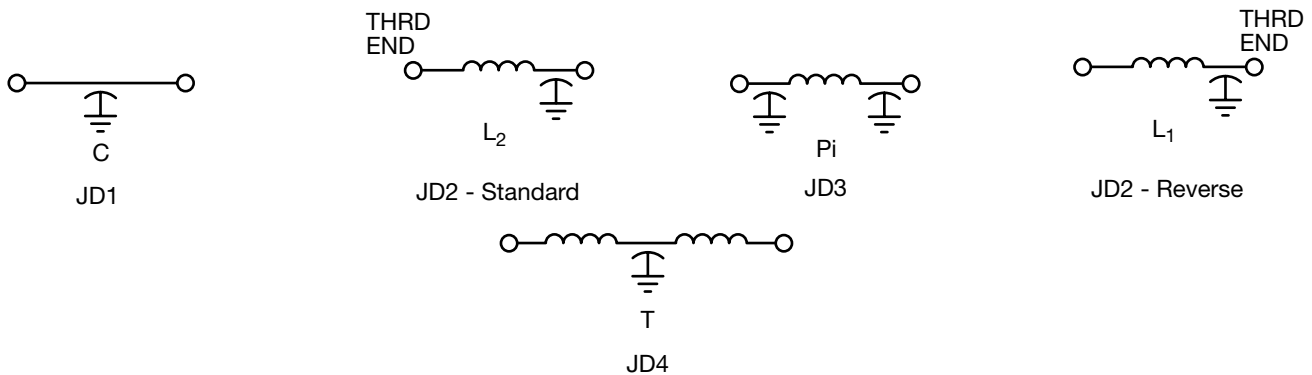
### Circuits Available – C, L, $\pi$ , T



#### STANDARD CONFIGURATION



#### CIRCUIT DIAGRAMS



#### millimeters (inches)

0.08 (.003)	6.35 (.250)
0.13 (.005)	7.37 (.290)
0.18 (.007)	7.92 (.312)
0.25 (.010)	9.53 (.375)
0.38 (.015)	10.67 (.420)
0.51 (.020)	11.18 (.440)
0.56 (.022)	15.75 (.620)
1.14 (.045)	17.27 (.680)
1.57 (.062)	17.78 (.700)
2.36 (.093)	26.92 (1.060)
3.05 (.120)	30.61 (1.205)
3.18 (.125)	33.02 (1.300)

(See Note 2)

#### MIL-F-28861/17 (See P/N Table)

Dash No.	L Dimension Max.	Weight (grams) Max.
001	.700	18.0
002	1.060	20.0
003	1.060	20.0
004	1.060	20.0
005	1.060	20.0
006	1.060	20.0
007	1.060	20.0
008	1.060	20.0
009	1.060	20.0
010	1.060	20.0
011	1.060	20.0
012	1.205	29.0
013	1.205	29.0
014	1.205	29.0
015	1.205	29.0
016	1.205	29.0
017	1.300	29.0
018	1.300	29.0
019	1.300	29.0

#### MIL-F-28861/16 (See P/N Table)

Dash No.	L Dimension Max.
001	.700
002 through 011	1.060
012 through 016	1.205
017 through 019	1.300

#### Notes:

1. Refer to Part Number Table for L-Max for specific filter.
2. Metric equivalent dimensions given for information only.
3. All dimensions for JD series filters established per MIL-F-28861/16 and /17, and DESC 84083 and 84084 requirements.

# Cylindrical Style EMI Filters

## JD Series – .690 Dia. – Hermetically Sealed –

### Circuits Available – C, L, $\pi$ , T



## SPECIFICATIONS

AVX P/N	Current AMP	CKT	CAP <sup>1</sup>	DC Voltage	DCR	L. dim	Insertion Loss <sup>2</sup> Per MIL-STD-220, +25°C						
							50 KHz	150 KHz	300 KHz	1 MHz	10 MHz	100 MHz	1 GHz
<b>100 VDC, 1.2–2.8 <math>\mu</math>F</b>													
JD1AB-125	15	C	1.2	100	.008	.700	16	27	34	43	60	60	60
JD1AB-704	15	C	1.2	100	.008	.700	10	19	28	40	50	60	60
JD2AB-S07	.5	L2	1.4	100	.3	1.060	21	40	58	70	70	70	70
JD2AB-S08	1	L2	1.4	100	.21	1.060	19	37	55	70	70	70	70
JD2AB-S10	3	L2	1.4	100	.03	1.060	16	26	37	55	70	70	70
JD2AB-S11	5	L2	1.4	100	.007	1.060	15	25	34	46	70	70	70
JD2AB-S12	10	L2	1.4	100	.006	1.060	15	24	34	44	70	70	70
JD3AB-P07	.5	$\pi$	2.8	100	.3	1.205	40	70	80	80	80	80	80
JD3AB-P08	1	$\pi$	2.8	100	.21	1.205	35	68	80	80	80	80	80
JD3AB-P10	3	$\pi$	2.8	100	.03	1.205	13	43	73	80	80	80	80
JD3AB-P11	5	$\pi$	2.8	100	.007	1.205	–	26	63	80	80	80	80
JD3AB-P12	10	$\pi$	2.8	100	.006	1.205	20	30	40	70	70	80	80
JD4AB-T08	1	T	1.4	100	.5	1.400	21	48	70	70	70	70	70
JD4AB-T09	2	T	1.4	100	.09	1.400	15	26	44	70	70	70	70
JD4AB-T16	4	T	1.4	100	.03	1.400	15	24	35	50	70	70	70
JD4AB-T12	10	T	1.4	100	.005	1.400	14	24	34	44	60	70	70
<b>200 VDC, .45–.9 <math>\mu</math>F</b>													
JD1BB-904	15	C	.9	200	.006	.700	12	21	30	40	53	60	60
JD1BB-454	15	C	.45	200	.006	.700	6	16	24	34	51	60	60
JD2BB-S07	.5	L2	.45	200	.3	1.060	10	30	48	65	70	70	70
JD2BB-S08	1	L2	.45	200	.21	1.060	8	28	45	65	70	70	70
JD2BB-S10	3	L2	.45	200	.03	1.060	6	16	28	45	60	70	70
JD2BB-S11	5	L2	.45	200	.007	1.060	6	14	24	36	52	70	70
JD2BB-S12	10	L2	.45	200	.006	1.060	6	15	24	34	50	70	70
JD3BB-P07	.5	$\pi$	.9	200	.3	1.205	15	50	70	80	80	80	80
JD3BB-P08	1	$\pi$	.9	200	.21	1.205	11	46	70	80	80	80	80
JD3BB-P10	3	$\pi$	.9	200	.03	1.205	–	18	50	80	80	80	80
JD3BB-P11	5	$\pi$	.9	200	.007	1.205	–	13	40	70	80	80	80
JD3BB-P12	10	$\pi$	.9	200	.006	1.205	9	20	30	40	55	80	80
JD4BB-T08	1	T	.45	200	3	1.400	18	50	70	80	80	80	80
JD4BB-T09	2	T	.45	200	.21	1.400	12	48	70	80	80	80	80
JD4BB-T16	4	T	.45	200	.03	1.400	–	18	24	42	80	80	80
JD4BB-T12	10	T	.45	200	.006	1.400	–	12	22	34	70	80	80

<sup>1</sup> Decimal point values indicate capacitance in microfarads.  
Non-decimal point values indicate capacitance in picofarads.

<sup>2</sup> Insertion loss limits are based on theoretical values.  
Actual measurements may vary due to internal capacitor resonances and other design constraints.

**NOTE:** All “L2” circuits are also available as “L1”.  
Insertion loss and other parameters are identical.  
Only the part number changes (e.g., L2 = GK2LA-S04,  
L1 = GK2LA-R04).

# Cylindrical Style EMI Filters

## JD Series – .690 Dia. – Hermetically Sealed – Circuits Available – C, L, $\pi$ , T



### SPECIFICATIONS

AVX P/N	Current AMP	CKT	CAP <sup>1</sup>	DC Voltage	DCR	L. dim	Insertion Loss <sup>2</sup> Per MIL-STD-220, +25°C						
							50 KHz	150 KHz	300 KHz	1 MHz	10 MHz	100 MHz	1 GHz
<b>300 VDC (125 VAC/400Hz*), .3–.36 <math>\mu</math>F</b>													
JD1LB-304	15	C	.3	300	.008	.700	7	16	22	32	46	58	70
JD2LB-S07	.5	L2	.3	300	.33	1.060	13	28	40	60	60	70	70
JD2LB-S08	1	L2	.3	300	.15	1.060	6	24	37	56	60	70	70
JD2LB-S10	3	L2	.3	300	.026	1.060	7	17	24	42	70	70	70
JD2LB-S11	5	L2	.3	300	.013	1.060	7	16	22	34	68	70	70
JD2LB-S12	10	L2	.3	300	.008	1.060	7	16	20	30	56	70	70
JD3LB-P07	.5	$\pi$	.36	300	.33	1.205	14	44	62	80	80	80	80
JD3LB-P08	1	$\pi$	.36	300	.15	1.205	–	37	56	80	80	80	80
JD3LB-P10	3	$\pi$	.36	300	.026	1.205	–	18	40	70	80	80	80
JD3LB-P11	5	$\pi$	.36	300	.013	1.205	–	–	25	60	80	80	80
JD3LB-P12	10	$\pi$	.36	300	.008	1.205	–	–	–	50	80	80	80
JD4LB-T08	1	T	.3	300	.07	1.400	6	18	28	58	70	70	70
JD4LB-T09	2	T	.3	300	.05	1.400	6	16	22	37	70	70	70
JD4LB-T16	4	T	.3	300	.03	1.400	6	16	20	34	70	70	70
JD4LB-T12	10	T	.3	300	.008	1.400	–	–	19	30	48	60	70
<b>400 VDC (230 VAC/400Hz*), .15–.2 <math>\mu</math>F</b>													
JD1EB-154	15	C	.15	400	.008	.700	–	10	16	26	40	52	70
JD2EB-S07	.5	L2	.15	400	.33	1.060	5	24	32	50	60	70	70
JD2EB-S08	1	L2	.15	400	.15	1.060	–	19	30	46	60	70	70
JD2EB-S10	3	L2	.15	400	.026	1.060	–	11	19	36	60	70	70
JD2EB-S11	5	L2	.15	400	.013	1.060	–	10	16	28	54	70	70
JD2EB-S12	10	L2	.15	400	.008	1.060	–	10	16	25	48	70	70
JD3EB-P07	.5	$\pi$	.2	400	.33	1.205	–	34	52	80	80	80	80
JD3EB-P08	1	$\pi$	.2	400	.15	1.205	–	27	46	74	80	80	80
JD3EB-P10	3	$\pi$	.2	400	.026	1.205	–	–	30	60	80	80	80
JD3EB-P11	5	$\pi$	.2	400	.013	1.205	–	–	12	50	80	80	80
JD3EB-P12	10	$\pi$	.2	400	.008	1.205	–	–	–	30	80	80	80
JD4EB-T08	1	T	.15	400	.07	1.300	–	12	25	48	70	70	70
JD4EB-T09	2	T	.15	400	.05	1.300	–	10	18	40	64	70	70
JD4EB-T16	4	T	.15	400	.03	1.300	–	10	16	31	58	70	70
JD4EB-T12	10	T	.15	400	.008	1.300	–	–	15	25	45	60	70

<sup>1</sup> Decimal point values indicate capacitance in microfarads.  
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\* Actual measurements may vary due to internal capacitor resonances and other design constraints.

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