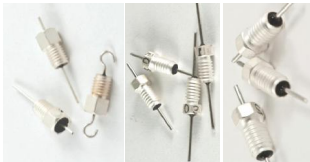




EMI Filters Selection Guide

Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome

	Type	Instec Series	DC Voltage	Size	Application	MAX Current (Amps)	Seal Type
	Resin Sealed	650 Series	50 - 300	12-32	High Frequency/Microwave Telecom and Military Communications Multi-circuit filter assemblies Industrial Controls Oscillators Attenuators Low noise amplifiers High temperature applications	10	Resin
	Resin Sealed	640 Series	50 - 300	8-32		10	Resin
	Resin Sealed	620 Series	50 - 300	4-40		10	Resin
	Filters	730 Series	50 - 1000	0.690" dia.	Secure Military Communications Power supplies Medical equipment Mining and oil exploration Signal lines	15	Glass to metal
	Hermetic Filters	710 Series	50 - 500	0.375" dia.		15	Glass to metal
	Solder-in Filters	610 Series	50 - 300		High Frequency/Microwave Telecom and Military Communications Multi-circuit filter assemblies Industrial Controls Oscillators Attenuators Low noise amplifiers High temperature applications	10	Glass to metal one side/Solder discoidal other side

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Resin Sealed EMI Filters, 620-650 Series Bolt Style

Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome

Instec Bolt Style Resin Sealed Filters are ideal for applications where small size and high performance are critical and a threaded mounting technique is desired. Small cases and a wide range of electrical characteristics provide effective solutions to many filtering applications. C, L, and PI filter designs offer predictable insertion loss over the frequency range. These bolt style filters and matching hardware are silver plated for better conductivity and superior performance.



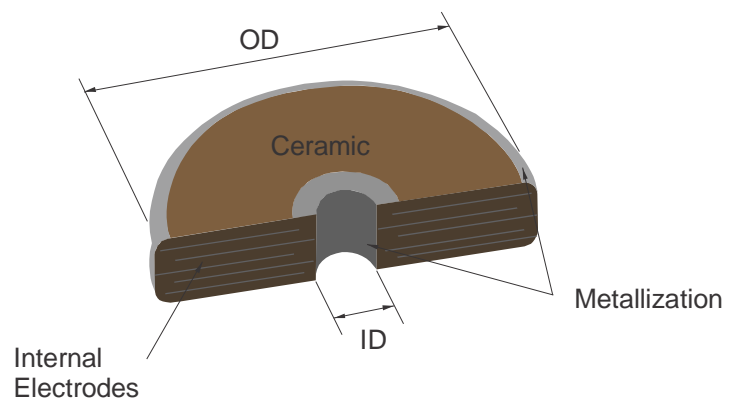
Features:

- Utilizes MLC discoidal capacitors, the heart of the filter
- Silver plated case and hardware offer excellent conductivity
- Infinite paths to ground allow for lowest impedance to ground available
- Better filtering than MLCC chips and more robust than tubular capacitors
- Part marking includes cap value, voltage rating, and filter construction (i.e. C, L, or PI)
- Designed and can be tested to MIL-PRF-28861 requirements
- Rated to 10 Amps
- Hooked leads available for ease of attachment
- 04-40, 08-32, and 12-32 Bolts are available
- Custom configurations also available—contact factory



Applications:

- High Frequency/Microwave
- Telecom and Military Communications
- Multi-circuit filter assemblies
- Industrial Controls
- Oscillators
- Attenuators
- Low noise amplifiers
- High temperature applications



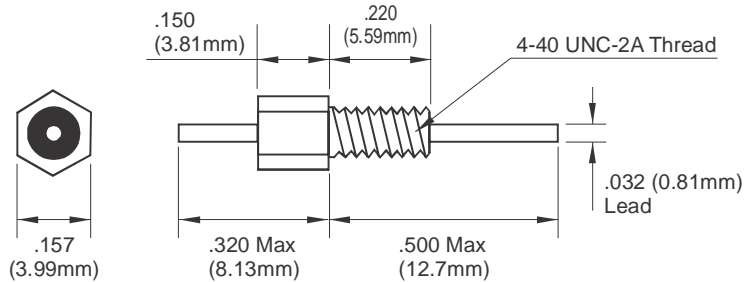
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Resin Sealed EMI Filters, 620-650 Series Bolt Style

Source include Cinch, Tyco • MIL-24308 Qualified, QPL Listed • In-stock, small Qty like 5 pcs welcome

620 Series (4-40 Bolt Style):



4-40 Bolt Filter

How to Order:

621 **--** **333** **B** **P** ******

620= C-filter 4-40
621= L1-filter 4-40

placeholder

Capacitance code in PF, 1st 2 digits are significant, 3rd digit is number of zeros
P tolerance assumed unless specified

Voltage rating
A=50VDC
B=100VDC
C=200VDC
D=300VDC

Lead-wire
S=Standard
P=Hooked leads

Special requirements (to be assigned by the factory)

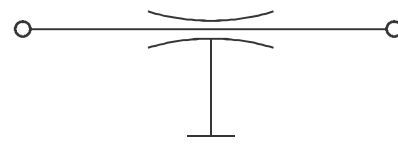


Maximum Cap Values:

The below table gives the maximum cap values available and typical Insertion Loss performance by voltage rating:

620 Series 4-40 Bolt C-Filter

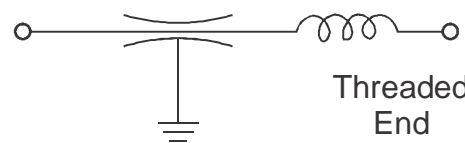
Rated Voltage	50V	100V	200V	300V
Max Capacitance (NF) P tolerance assumed	120	100	33	27
Typical Insertion Loss (dB)				
1MHz	23	20	12	10
10MHz	41	38	32	28
100MHz	59	56	50	45
1GHz	>70	>70	65	62
10GHz	>70	>70	>70	>70



"C" Circuit

621 Series 4-40 Bolt L1-Filter

Rated Voltage	50V	100V	200V	300V
Max Capacitance (NF) P tolerance assumed	120	100	33	27
Typical Insertion Loss (dB)				
1MHz	23	22	13	11
10MHz	43	42	33	31
100MHz	61	60	53	51
1GHz	>70	>70	>70	>70
10GHz	>70	>70	>70	>70



"L1" Circuit

Threaded End

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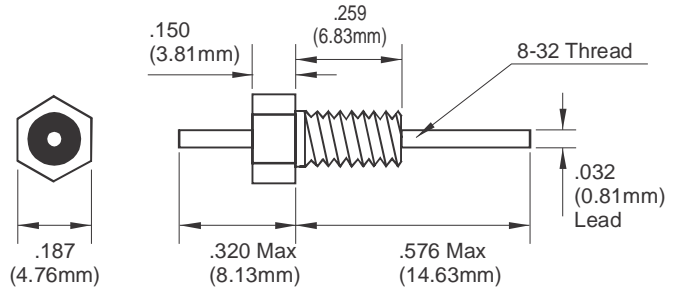
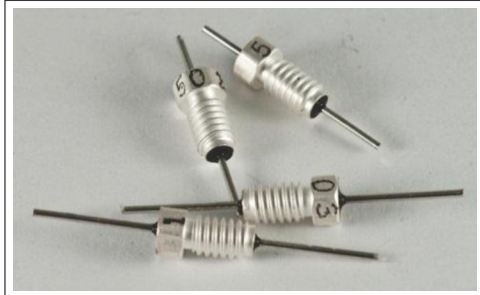
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Resin Sealed EMI Filters, 620-650 Series Bolt Style

Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome

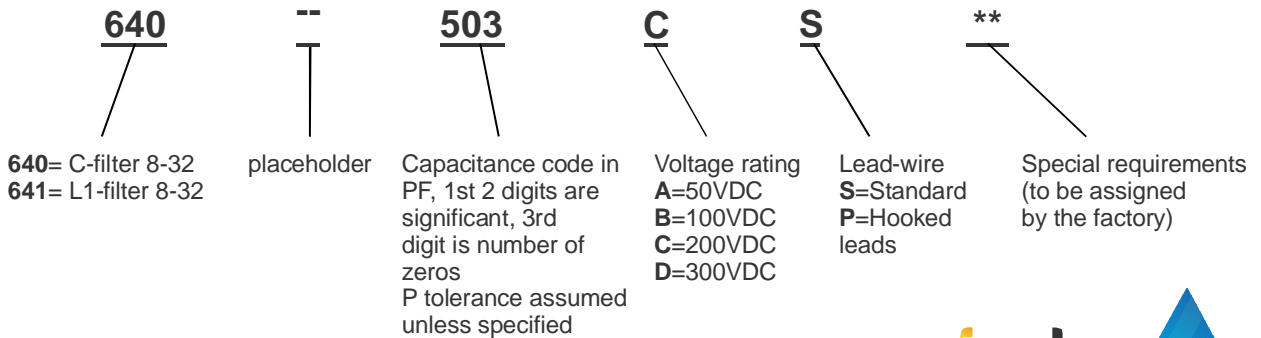


640 Series (8-32 Bolt Style)



8-32 Bolt Filter

How to Order:

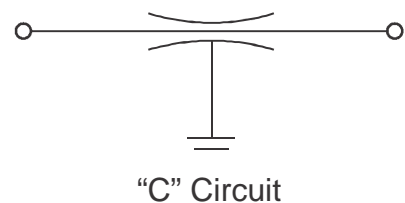


Maximum Cap Values

The below table gives the maximum cap values available and typical Insertion Loss performance by voltage rating:

640 Series 8-32 Bolt C-Filter

Rated Voltage	50V	100V	200V	300V
Max Capacitance (uF) P tolerance assumed	0.36	0.27	0.12	0.082
Typical Insertion Loss (dB)				
1MHz	32	30	23	20
10MHz	52	50	43	40
100MHz	>70	>70	63	60
1GHz	>70	>70	>70	>70
10GHz	>70	>70	>70	>70



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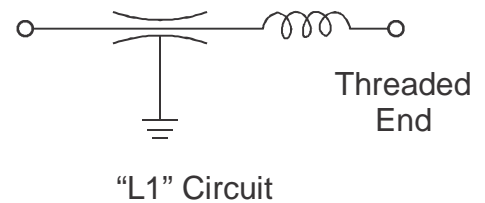
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Resin Sealed EMI Filters, 620-650 Series Bolt Style

Source include Cinch, Tyco • MIL-24308 Qualified, QPL Listed • In-stock, small Qty like 5 pcs welcome

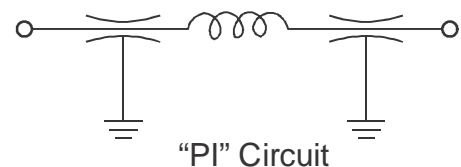
641 Series 8-32 Bolt L1-Filter

Rated Voltage	50V	100V	200V	300V
Max Capacitance (uF) P tolerance assumed	0.22	0.18	0.068	0.047
Typical Insertion Loss (dB)				
1MHz	28	27	18	16
10MHz	47	45	36	35
100MHz	64	63	53	50
1GHz	>70	>70	>70	66
10GHz	>70	>70	>70	>70



643 Series 8-32 Bolt PI-Filter

Rated Voltage	50V	100V	200V	300V
Max Capacitance (uF) P tolerance assumed	0.36	0.27	0.12	0.082
Typical Insertion Loss (dB)				
1MHz	35	32	25	20
10MHz	45	45	40	38
100MHz	>70	>70	>70	>70
1GHz	>70	>70	>70	>70
10GHz	>70	>70	>70	>70



Typical Insertion Loss Performance of Common Filters

P/N	Thread Type	Filter Type	Cap Value	Voltage Rating	Current Rating	Insertion Loss (dB)				
						1MHz	10MHz	100MHz	1GHz	10GHz
620-103C	4-40	C-Filter	10,000 pf	200VDC	10A	4	23	41	58	70
620-472B	4-40	C-Filter	4700 pf	100VDC	10A		15	30	45	55
621-273B	4-40	L1-Filter	27,000 pf	100VDC	10A	12	32	53	70	>70
621-333B	4-40	L1-Filter	33,000 pf	100VDC	10A	14	34	54	70	>70
640-103B	8-32	C-Filter	10,000 pf	100VDC	10A	4	23	41	58	70
640-154B	8-32	C-Filter	0.15uf	100VDC	10A	26	44	60	70	>70
640-502C	8-32	C-Filter	5000 pf	200VDC	10A	7	17	35	47	55
643-252C	8-32	PI-Filter	2500 pf	200VDC	10A		12	45	70	>70
643-473A	8-32	PI-Filter	47,000 pf	50VDC	10A	20	60	>70	>70	>70

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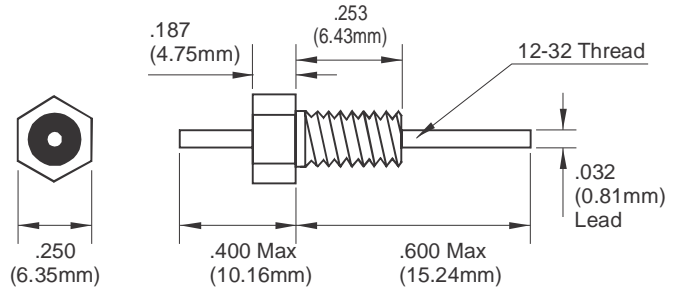
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Resin Sealed EMI Filters, 620-650 Series Bolt Style

Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome



620-650 Series (12-32 Bolt Style)



12-32 Bolt Filter

How to Order:

653	--	503	B	P	**
/	/		/	/	/
650= C-filter 12-32 651= L1-filter 12-32 653= PI-filter 12-32	placeholder	Capacitance code in PF, 1st 2 digits are significant, 3rd digit is number of zeros P tolerance assumed unless specified	Voltage rating A=50VDC B=100VDC C=200VDC D=300VDC	Lead-wire S=Standard P=Hooked leads	Special requirements (to be assigned by the factory)

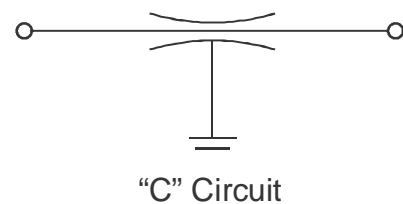


Maximum Cap Values

The below table gives the maximum cap values available and typical Insertion Loss performance by voltage rating:

650 Series 12-32 Bolt C-Filter

Rated Voltage	50V	100V	200V	300V
Max Capacitance (uF) P tolerance assumed	1.4	1.2	0.56	0.47
Typical Insertion Loss (dB)				
1MHz	44	43	36	35
10MHz	60	59	52	51
100MHz	>70	>70	67	66
1GHz	>70	>70	>70	>70
10GHz	>70	>70	>70	>70



Shown trademarks are property of their respective owners.

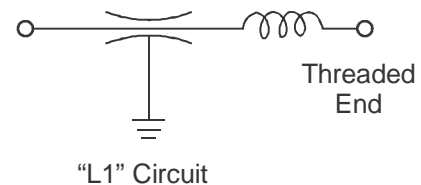
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Resin Sealed EMI Filters, 620-650 Series Bolt Style

Source include Cinch, Tyco • MIL-24308 Qualified, QPL Listed • In-stock, small Qty like 5 pcs welcome

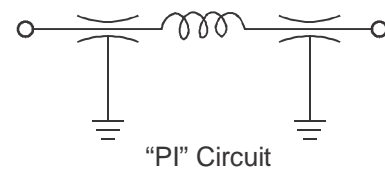
651 Series 12-32 Bolt L1-Filter

Rated Voltage	50V	100V	200V	300V
Max Capacitance (uF) P tolerance assumed	0.68	0.56	0.33	0.22
Typical Insertion Loss (dB)				
1MHz	44	43	36	35
10MHz	60	59	52	51
100MHz	>70	>70	67	66
1GHz	>70	>70	>70	>70
10GHz	>70	>70	>70	>70



653 Series 12-32 Bolt PI-Filter

Rated Voltage	50V	100V	200V	300V
Max Capacitance (uF) P tolerance assumed	0.82	0.68	0.47	0.27
Typical Insertion Loss (dB)				
1MHz	47	45	40	37
10MHz	>70	>70	>70	>70
100MHz	>70	>70	67	66
1GHz	>70	>70	>70	>70
10GHz	>70	>70	>70	>70



Typical Insertion Loss Performance of Common Filters

P/N	Thread Type	Filter Type	Cap Value	Voltage Rating	Current Rating	Insertion Loss (dB)				
						1MHz	10MHz	100MHz	1GHz	10GHz
650-103B	12-32	C-Filter	10,000 pf	100VDC	10A	4	23	41	58	70
650-103C	12-32	C-Filter	10,000 pf	200VDC	10A	4	23	41	58	70
650-204B	12-32	C-Filter	0.2 uF	100VDC	10A	29	48	65	>70	>70
650-471B	12-32	C-Filter	470 pf	100VDC	10A			12	32	50
650-683C	12-32	C-Filter	68,000 pf	200VDC	10A	20	38	56	>70	>70
653-103B	12-32	PI-Filter	10,000 pf	100VDC	10A		18	60	>70	>70
653-103C	12-32	PI-Filter	10,000 pf	200VDC	10A		18	60	>70	>70
653-123C	12-32	PI-Filter	12,000 pf	200VDC	10A		7	70	>70	>70
653-333C	12-32	PI-Filter	33,000 pf	200VDC	10A	14	40	70	>70	>70
653-503A	12-32	PI-Filter	50,000 pf	50VDC	10A	40	60	70	>70	>70
653-503B	12-32	PI-Filter	50,000 pf	100VDC	10A	40	60	70	>70	>70

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Hermetically Sealed EMI Filters, 710-730 Series Bolt Style

Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome



Instec Bolt Style Hermetic Filters are ideal for applications where high performance is critical and a threaded mounting technique is desired. A wide range of electrical characteristics provide effective solutions to many filtering applications. Filters are available in C, L1, L2, PI, T, and Double-T configurations and offer predictable insertion loss over the frequency range. With the more complex circuits, steeper cut offs can be obtained. These bolt style filters and matching hardware are silver plated for better conductivity and superior performance.

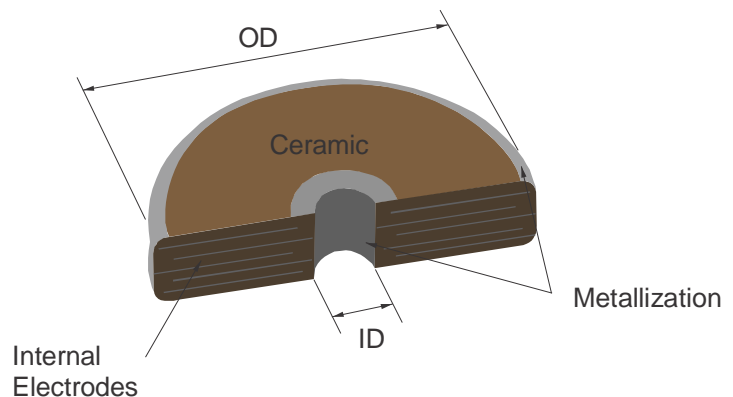


Features:

- Utilizes MLC discoidal capacitors, the heart of the filter
- Silver plated case and hardware offer excellent conductivity
- Designed and can be tested to MIL-PRF-28861 requirements
- Rated to 15 Amps. Higher Current ratings available as non-hermetic designs
- Infinite paths to ground within the capacitor allow for lowest impedance to ground available
- Full part number and date code marking, custom marking available on request
- Standard lug leads, others available on request
- 375 case (1/4-28 UNF-2A thread) and 690 case (5/16-24 UNF-2A thread)
- Custom configurations also available—contact factory

Applications:

- Secure Military Communications
- Power supplies
- Medical equipment
- Mining and oil exploration
- Signal lines



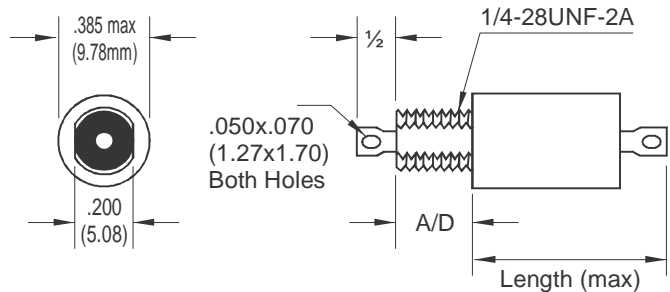
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Hermetically Sealed EMI Filters, 710-730 Series Bolt Style

Source include Cinch, Tyco • MIL-24308 Qualified, QPL Listed • In-stock, small Qty like 5 pcs welcome

710 Series .375" OD (1/4"-25 UNF-2A) Bolt Style Filters



How to Order:

714

710= C-filter
711= L1-filter
712= L2-filter
713= PI-filter
714= T-filter
715= Double T-filter

--

Place holder

503

Capacitance code in PF, 1st 2 digits are significant, 3rd digit is number of zeros
P tolerance assumed unless specified

B

Voltage rating
A=50VDC
B=100VDC
C=200VDC
D=300VDC
E=400VDC
J=500VDC

P

Length
A=0.793"
B=0.761"
C=0.770"
D=special

A

Current rating
1=1Amp
2=2Amp
3=3Amp
4=4Amp
5=5Amp
A=10Amp
B=15Amp

B

Thread length
A=0.187"
D=0.312"

2

Terminal length
1=0.160"
2=0.250"

Special requirements (to be assigned by the factory)

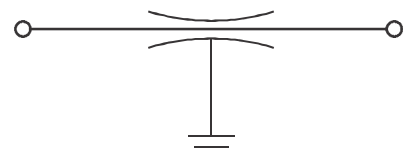


Maximum Cap Values

The below table gives the maximum cap values available and typical Insertion Loss performance by voltage rating:

710 Series 0.375" Bolt C-Filter

Rated Voltage	50V	100V	200V	300V	400V	500V
Max Capacitance (uF) P tolerance assumed	10	8	6	4.8	3	1.5
Typical Insertion Loss (dB)						
30KHz	30	29	26	25	21	15
150KHz	45	43	41	39	35	28
300KHz	51	49	47	45	41	35
1MHz	61	59	57	55	51	45
10MHz	>70	>70	>70	>70	69	63
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70



"C" Circuit

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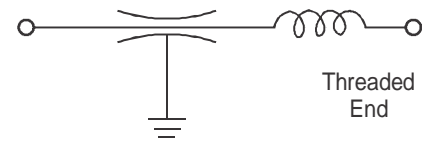
Hermetically Sealed EMI Filters, 710-730 Series Bolt Style

Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome



711 Series 0.375" Bolt L1-Filter

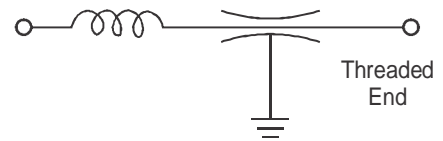
Rated Voltage	50V	100V	200V	300V	400V	500V
Max Capacitance (uF) P tolerance assumed	7	5	4	3.2	2	0.8
Typical Insertion Loss (dB)						
30KHz	28	25	24	21	17	9
150KHz	42	39	37	35	31	23
300KHz	48	45	43	41	37	29
1MHz	58	55	54	51	45	39
10MHz	>70	>70	>70	>70	65	58
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70



"L1" Circuit

712 Series 0.375" Bolt L2-Filter

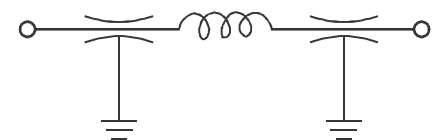
Rated Voltage	50V	100V	200V	300V	400V	500V
Max Capacitance (uF) P tolerance assumed	7	5	4	3.2	2	0.8
Typical Insertion Loss (dB)						
30KHz	28	25	24	21	17	9
150KHz	42	39	37	35	31	23
300KHz	48	45	43	41	37	29
1MHz	58	55	54	51	45	39
10MHz	>70	>70	>70	>70	65	58
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70



"L2" Circuit

713 Series 0.375" Bolt PI-Filter

Rated Voltage	50V	100V	200V	300V	400V	500V
Max Capacitance (uF) P tolerance assumed	7	5	4	3.2	2	0.8
Typical Insertion Loss (dB)						
30KHz	28	27	23	21	17	9
150KHz	40	37	35	35	31	23
300KHz	48	45	43	41	37	30
1MHz	58	55	53	51	47	40
10MHz	>70	>70	>70	>70	>70	51
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70



"PI" Circuit

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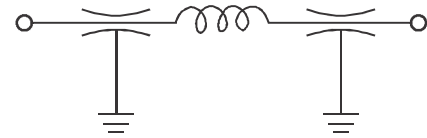
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Hermetically Sealed EMI Filters, 710-730 Series Bolt Style

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714 Series 0.375" Bolt T-Filter

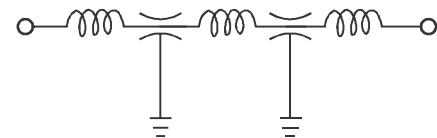
Rated Voltage	50V	100V	200V	300V	400V	500V
Max Capacitance (uF) P tolerance assumed	7	5	4	3.2	2	0.8
Typical Insertion Loss (dB)						
30KHz	28	25	23	21	17	10
150KHz	42	39	37	35	31	23
300KHz	48	45	43	41	37	30
1MHz	58	56	53	51	47	39
10MHz	>70	>70	>70	>70	65	57
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70



"T" Circuit

715 Series 0.375" Bolt Double-T-Filter

Rated Voltage	50V	100V	200V	300V	400V	500V
Max Capacitance (uF) P tolerance assumed	7	5	4	3.2	2	0.8
Typical Insertion Loss (dB)						
30KHz	30	27	25	23	20	11
150KHz	44	41	39	37	33	25
300KHz	50	47	45	43	39	30
1MHz	57	55	55	53	48	41
10MHz	>70	>70	>70	>70	>70	50
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70



Multi Section "TT" Circuit

Typical Insertion Loss Performance of Common Filters Insertion Loss (dB)

P/N	Filter Type	Cap Value	Voltage Rating	Insertion Loss (dB)						
				30KHz	150KHz	300KHz	1MHz	10MHz	100MHz	1GHz
710-105B	C-Filter	1.0	100VDC	13	27	33	43	62	>70	>70
710-133J	C-Filter	0.013	500VDC				7	26	45	65
710-405B	C-Filter	4.0	100VDC	20	34	39	50	60	>70	>70
711-145B	L1-Filter	1.4	100VDC	15	28	33	44	60	>70	>70
712-255B	L2-Filter	2.5	100VDC	21	34	39	50	60	>70	>70
713-155A	PI-Filter	1.5	50VDC	15	28	34	40	52	>70	>70
713-605A	PI-Filter	6.0	50VDC	28	42	48	58	>70	>70	>70
714-245B	T-Filter	2.4	100VDC		11	18	33	70	>70	>70
714-254C	T-Filter	0.25	200VDC	21	34	40	50	>70	>70	>70
715-205B	TT-Filter	2.0	100VDC	20	33	39	48	>70	>70	>70

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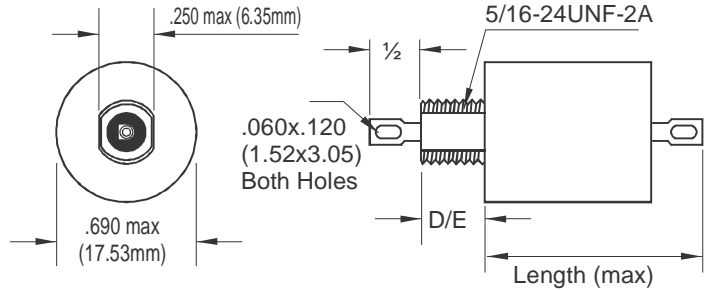
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Hermetically Sealed EMI Filters, 710-730 Series Bolt Style

Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome



730 Series .690" OD (5/16"-24 UNF-2A) Bolt Style Filters:



How to Order:

733

730= C-filter
731= L1-filter
732= L2-filter
733= PI-filter
734= T-filter
735= Double T-filter

--

Place holder

503

Capacitance code in PF, 1st 2 digits are significant, 3rd digit is number of zeros
P tolerance assumed unless specified

B

Voltage rating
A=50VDC
B=100VDC
C=200VDC
D=300VDC
E=400VDC
J=500VDC
G=1000vdc

P

Length
A=0.793"
B=0.761"
C=0.770"
D=special

A

B

Current rating
1=1Amp
2=2Amp
3=3Amp
4=4Amp
5=5Amp
A=10Amp
B=15Amp

2

Thread length
A=0.187"
D=0.312"

2

Terminal length
1=0.160"
2=0.250"

Special requirements (to be assigned by the factory)

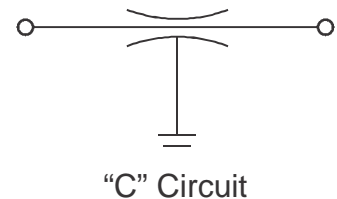


Maximum Cap Values

The below table gives the maximum cap values available and typical Insertion Loss performance by voltage rating:

730 series .690" Bolt C Filter

Rated Voltage	50V	100V	200V	300V	400V	500V	1000V
Max Capacitance (uF) P tolerance assumed	35	30	24	18	12	11	4
Typical Insertion Loss (dB)							
30KHz	44	43	41	38	34	33	24
150KHz	58	56	54	52	49	48	38
300KHz	64	62	60	58	54	53	44
1MHz	>70	>70	70	68	65	64	54
10MHz	>70	>70	>70	>70	>70	>70	>70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70



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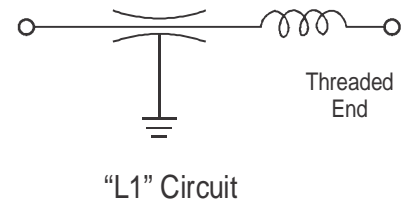
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Hermetically Sealed EMI Filters, 710-730 Series Bolt Style

Source include Cinch, Tyco • MIL-24308 Qualified, QPL Listed • In-stock, small Qty like 5 pcs welcome

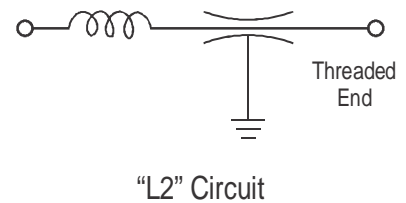
731 series .690" Bolt L1-Filter

Rated Voltage	50V	100V	200V	300V	400V	500V	1000V
Max Capacitance (uF) P tolerance assumed	24	20	15	12	8	7	2.5
Typical Insertion Loss (dB)							
30KHz	41	39	37	34	31	30	21
150KHz	54	53	51	49	45	44	35
300KHz	60	59	57	54	51	50	41
1MHz	70	69	67	65	61	60	51
10MHz	>70	>70	>70	>70	>70	>70	70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70



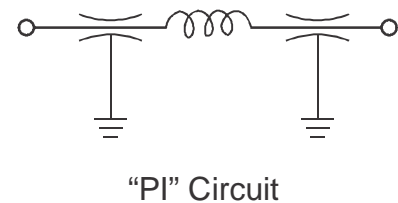
732 series .690" Bolt L2-Filter

Rated Voltage	50V	100V	200V	300V	400V	500V	1000V
Max Capacitance (uF) P tolerance assumed	24	20	15	12	8	7	2.5
Typical Insertion Loss (dB)							
30KHz	41	39	37	34	31	30	21
150KHz	54	53	51	49	45	44	35
300KHz	60	59	57	54	51	50	41
1MHz	70	69	67	65	61	60	51
10MHz	>70	>70	>70	>70	>70	>70	70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70



733 series .690" Bolt PI-Filter

Rated Voltage	50V	100V	200V	300V	400V	500V	1000V
Max Capacitance (uF) P tolerance assumed	24	20	15	12	8	7	2.5
Typical Insertion Loss (dB)							
30KHz	41	39	37	35	31	30	21
150KHz	54	53	51	48	45	44	35
300KHz	60	59	57	54	51	50	41
1MHz	67	66	65	63	60	59	51
10MHz	>70	>70	>70	>70	>70	>70	>70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70



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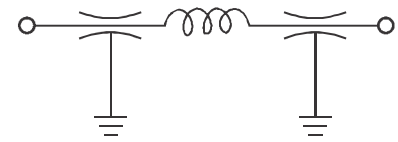
Hermetically Sealed EMI Filters, 710-730 Series Bolt Style

Choice of 'C' and 'PI' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome



734 series .690" Bolt T-Filter

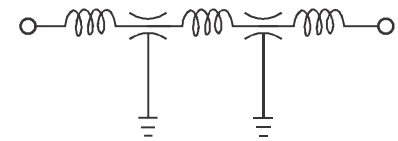
Rated Voltage	50V	100V	200V	300V	400V	500V	1000V
Max Capacitance (uF) P tolerance assumed	24	20	15	12	8	7	2.5
Typical Insertion Loss (dB)							
30KHz	41	39	37	34	31	30	21
150KHz	54	53	51	49	45	44	35
300KHz	60	59	57	54	51	50	41
1MHz	70	69	67	65	61	60	51
10MHz	>70	>70	>70	>70	>70	>70	70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70



"T" Circuit

735 series .690" Bolt Double T-Filter

Rated Voltage	50V	100V	200V	300V	400V	500V	1000V
Max Capacitance (uF) P tolerance assumed	24	20	15	12	8	7	2.5
Typical Insertion Loss (dB)							
30KHz	41	39	37	35	31	30	21
150KHz	54	53	51	48	45	44	35
300KHz	60	59	57	54	51	50	41
1MHz	67	66	65	63	60	59	51
10MHz	>70	>70	>70	>70	>70	>70	>70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70



Multi Section "TT" Circuit

Typical Insertion Loss Performance of Common Filters (dB)

P/N	Filter Type	Insertion Loss (dB)						
		30KHz	150KHz	300KHz	1MHz	10MHz	100MHz	1GHz
730-605B	C-Filter	29	42	49	58	>70	>70	>70
731-254C	L1-Filter		15	21	31	50	70	>70
731-754J	L1-Filter	11	25	30	41	61	>70	>70
732-364E	L2-Filter	6	18	24	35	55	>70	>70
733-285B	PI-Filter	22	36	42	52	>70	>70	>70
734-154E	T-Filter		11	17	27	47	65	>70
735-254E	TT-Filter	3	15	21	31	47	>70	>70

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Solder-in EMI Feed-thru Filters, 610 Series

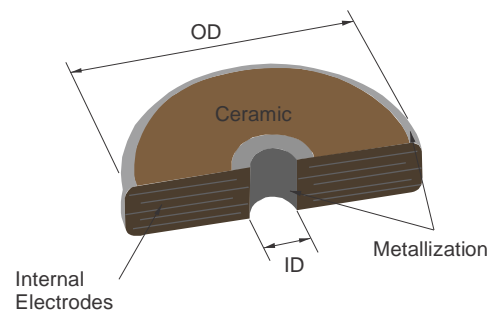
Source include Cinch, Tyco • MIL-24308 Qualified, QPL Listed • In-stock, small Qty like 5 pcs welcome

Instec Solder-In filter/feedthroughs offer a robust design that can withstand harsh environments. The glass seal in combination with the monolithic ceramic discoidal capacitor with circumferential soldering of the ID and OD provide a hermetic barrier to the chassis or plate. These miniature filters are ideal for applications where small size and high performance are required. Always gold plated, Instec 610 Series filter/feedthroughs offer high conductivity and excellent solderability. C filter designs offer predictable insertion loss over the frequency range.



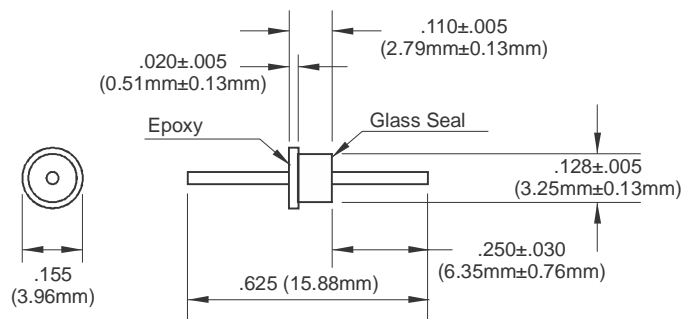
Features:

- Utilizes MLC discoidal capacitors, the 'heart' of the filter
- Gold plated case offers superior solderability and conductivity
- Low ESR/ESL
- Rated to 10 Amps
- Colored dots indicate capacitance values
- Designed to MIL-PRF-28861 and can be tested to MIL requirements
- Infinite paths to ground allow for lowest impedance to ground available
- Better filtering than MLCC chips and more robust than tubular capacitors
- Now available in Kovar case for superior thermal matching to the ceramic capacitor



Applications:

- High Frequency/Microwave
- Telecom and Military Communications
- Multi-circuit filter assemblies
- Industrial Controls
- Oscillators
- Attenuators
- Low noise amplifiers
- High temperature applications



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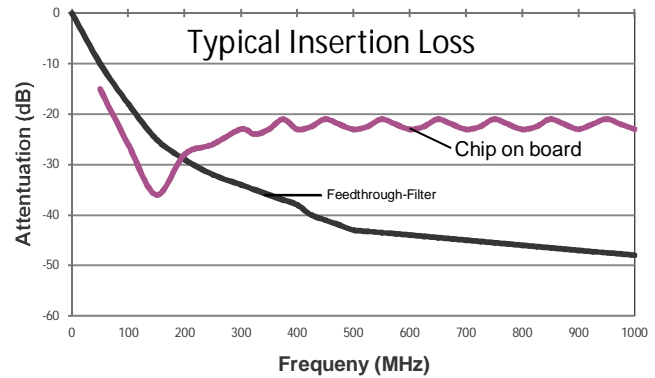
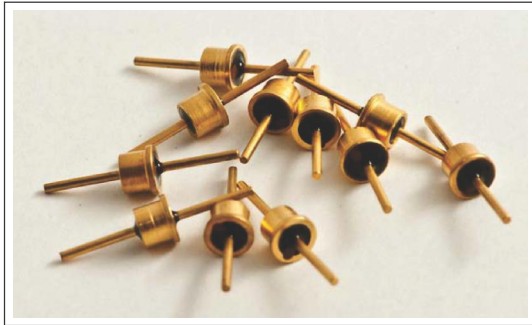
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Solder-in EMI Feed-thru Filters, 610 Series

Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome



610 Series Solder-in Filters/Feedthru



How to Order:

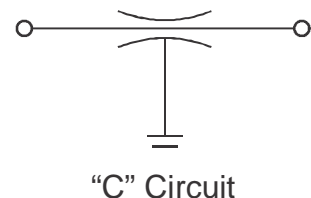
610	==	502	C	S	**
<p>610= C-filter/steel case (Au plated) Alloy 52 lead-wire 612= Same as 610 except Kovar case (Au plated)</p>	<p>placeholder</p>	<p>Capacitance code in PF, 1st 2 digits are significant, 3rd digit is number of zeros P tolerance assumed unless specified</p>	<p>Voltage rating A=50VDC B=100VDC C=200VDC D=300VDC</p>	<p>Lead-wire S=Standard M=Rounded leads</p>	<p>Special requirements (to be assigned by the factory)</p>



Maximum Cap Values

The below table gives the maximum cap values available and typical Insertion Loss performance by voltage rating:

Rated Voltage	50V	100V	200V	300V
Max Capacitance (NF) P tolerance assumed	120	100	33	27
Typical Insertion Loss (dB)				
1MHz	23	20	12	10
10MHz	41	38	32	28
100MHz	59	56	50	45
1GHz	>70	>70	65	62
10GHz	>70	>70	>70	>70



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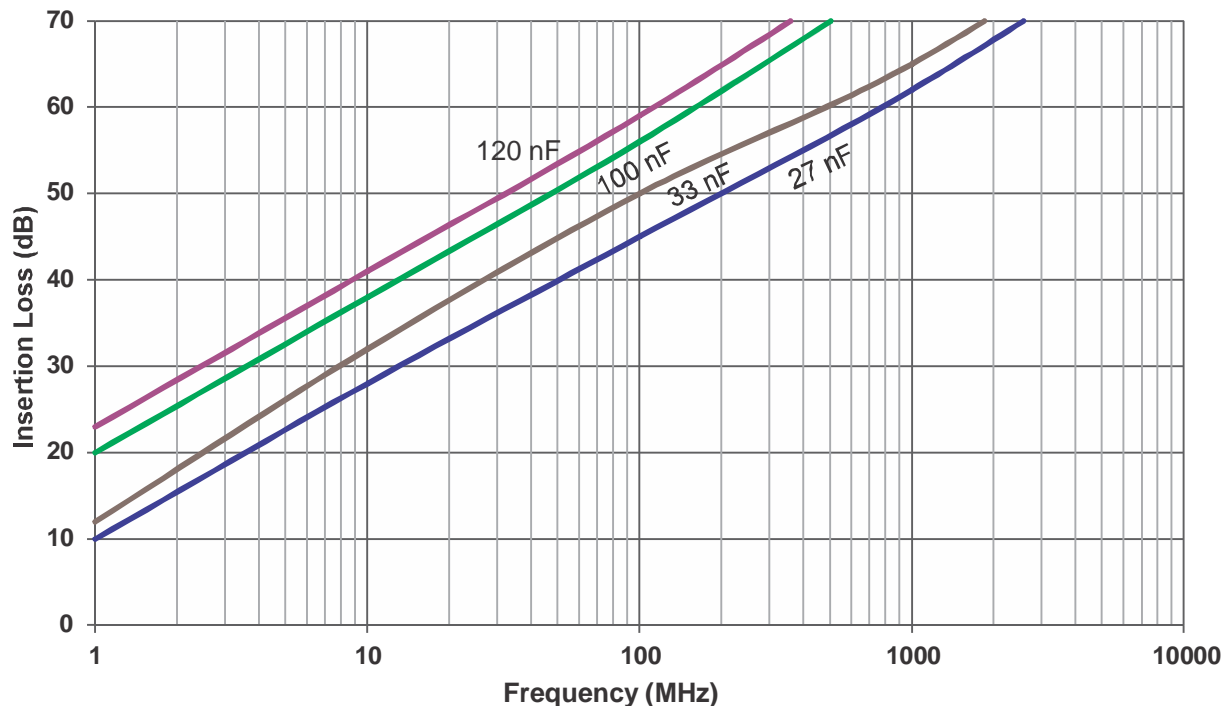
Solder-in EMI Feed-thru Filters, 610 Series

Source include Cinch, Tyco • MIL-24308 Qualified, QPL Listed • In-stock, small Qty like 5 pcs welcome

Typical Insertion Loss Performance of Common Filters

P/N	Filter Type	Cap Value	Voltage Rating	Current Rating	Insertion Loss (dB)				
					1MHz	10MHz	100MHz	1GHz	10GHz
610-101CS	C-Filter	100 pf	200VDC	10A			3	20	40
610-122CS	C-Filter	1200 pf	200VDC	10A		4	20	40	55
610-153BS	C-Filter	15,000 pf	100VDC	10A	7	25	40	60	>70
610-272BS	C-Filter	2700 pf	100VDC	10A		10	25	40	60
610-333AS	C-Filter	33,000 pf	50VDC	10A	12	32	50	65	>70
610-501CS	C-Filter	500 pf	200VDC	10A			15	34	40
610-502BS	C-Filter	5000 pf	100VDC	10A		15	30	50	70
610-502CS	C-Filter	5000 pf	200VDC	10A		15	30	50	70

Typical Insertion Loss - FT Capacitors



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