CINCH MIL/AERO
Circulars

EMI Filter Connector

Overview

Eliminates EMI/RFI Noise

All electrical devices have the potential to emit electromagnetic or radio frequency interference (EMI/RFI). To combat this, designers sometimes incorporate in-line filters in their PCB layouts to help eliminate or reduce the amount of interference radiated within the circuitry. However, as electronics become smaller and more complicated, space saving techniques become more critical.

Cinch Mil/Aero Circular EMI filtered connectors offer a full range of frequencies, insulation resistance, dielectric withstanding voltage, operating voltage or capacitance. As these connectors have been developed from standard connector specifications, custom Cinch EMI filtered connectors can be integrated into connectors such as the MIL-DTL- 38999 and MIL-DTL-26482 style connectors, making them fully compatible with their non-filtered counterparts. Cinch's engineering group can assist you in maximizing your space allocation by providing these modified connector profiles.

Proven Performance

Cinch has supplied high quality and reliable custom connectors to national and international markets, and is currently recommended by major manufacturers.

Availability

Cinch's vertically integrated capabilities offer comparable lead times for prototype and production quantities. Our CAD system can select the most appropriate solution for your requirements and provide you with concept sketches for review. Contact your Cinch representative or factory salesperson to receive the assistance you need to resolve your EMI/RFI concerns.

Features

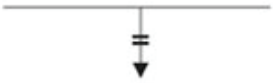
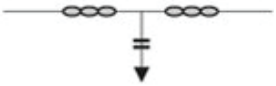
- Used in avionics guidance systems
- Machined aluminum shells
- Planar array filter capacitors
- Electroless nickel plating; other platings available

Specifications

- Pi, C, LC, CL, and T filter type configurations
- Low profile packages or panel, board, and flex mounting
- Solder cup, crimp, or PC tails
- Normal operating temperatures from -55°C to +125°C

Specifications

KEY: Capacitor Inductor

Filter Type Configurations	Circuit Schematic	Ideal Application
Pi		Unknown or medium source and unkown or medium load impedance
C		High source and high load impedance
LC*		Low source and high load impedance
CL*		High source and low load impedance
T*		Low source and low load impedance

Pi Filter Electrical Performance, Minimum No Load Insertion Loss (dB) @25C

CAPACITANCE (NF) +/- 20% @ 1KHZ, .1 VRMS	5	1	4	10	20	40	75	100	200
1 (MHz)	**	**	**	2	5	7	15	18	22
5 (MHz)	**	**	5	10	13	18	36	48	52
10 (MHz)	2	3	12	18	27	38	48	54	58
100 (MHz)	22	28	43	54	58	59	60	62	63
500 (MHz)	36	47	52	58	60	61	62	64	64
1000 (MHz)	40	50	55	60	62	63	64	65	65

C Filter Electrical Performance, Minimum No Load Insertion Loss (dB) @25C

CAPACITANCE (NF) +/- 20% @ 1KHZ, .1 VRMS	5	1	4	10	20	40	75	100	200
1 (MHz)	**	**	1	4	6	14	18	21	26
5 (MHz)	**	**	2	10	16	25	30	38	41
10 (MHz)	2	4	3	18	27	34	38	40	45
100 (MHz)	20	23	27	33	44	49	54	56	58
500 (MHz)	33	38	40	42	50	57	58	59	62
1000 (MHz)	36	41	43	46	53	60	61	62	64

*For more information on the LC, CL and T filter type configurations, please contact us at inquiry@us.cinch.com

cinch CONNECTIVITY SOLUTIONS a bel group

Asia Pacific
+86 21 5442 7668
ccs.asia.sales@as.cinch.com

Europe, Middle East & Africa
+44 (0) 1245 342060
CinchConnectivity@eu.cinch.com

North America
+1 630 705 6000
inquiry@us.cinch.com

belfuse.com/cinch