

# 610 Series Solder-In Filter/Feedthroughs



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.

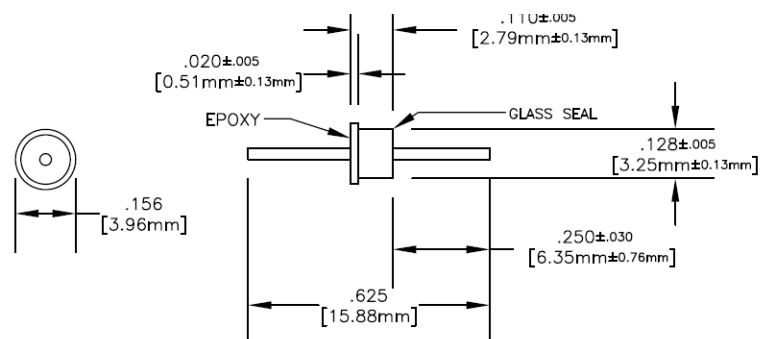
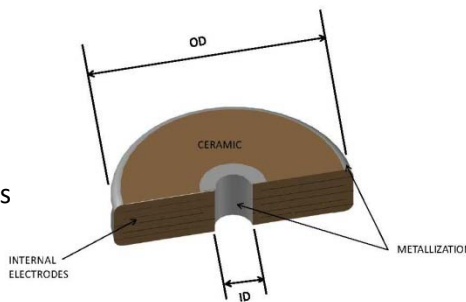
## Features:

- Utilizes MLC discoidal capacitors, the 'heart' of the filter
- Gold plated case offers superior solderability and conductivity
- Low ESR/ESL
- 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
- Colored dots indicate capacitance values
- Designed to MIL-PRF-28861 and can be tested to MIL requirements
- Rated to 10 Amps



## 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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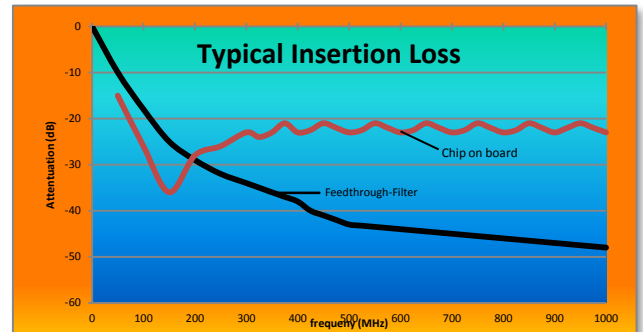


## How to Order:

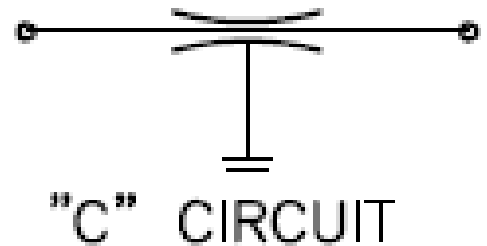
<u>610</u>	--	<u>502</u>	<u>C</u>	<u>S</u>	<u>**</u>
<p><b>610</b>= C-filter/Steel Case (Au plated) Alloy 52 lead-wire <b>612</b>= same as 610 Except Kovar case (Au plated)</p>	placeholder	<p>Capacitance code in PF, 1<sup>st</sup> 2 digits are significant, 3<sup>rd</sup> digit is number of zeros P tolerance assumed unless specified</p>	<p>Voltage rating <b>A</b>=50VDC <b>B</b>=100VDC <b>C</b>=200VDC <b>D</b>=300VDC</p>	<p>Lead-wire <b>S</b>=Standard <b>M</b>=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---->	<u>50V</u>	<u>100V</u>	<u>200V</u>	<u>300V</u>
Max Capacitance (NF) P tolerance assumed	120	100	33	27
<b>Typical Insertion Loss (dB)</b>				
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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## Typical Insertion Loss Performance of Common Filters:

Instec P/N	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

