



**MPE**  
Quality, Reliability, Performance

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## Product Overview

# High Performance Feedthrough Products



High Performance Feedthrough Products  
10/12

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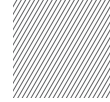


FM 00699



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## Introduction



MPE Limited is a world leading manufacturer of high performance EMC/EMP filters and capacitor solutions for supply to the defence, ICT, specialist automotive and other professional industries.

Our history, spanning over 9 decades, is a testament to our unrelenting commitment to

**Quality,  
Reliability &  
Performance.**

### Our Mission

To be the number one choice for high performance EMC/EMP filter solutions.

### Quality

Based in Liverpool, UK, MPE Limited is a world leading manufacturer of high performance EMC/EMP filters and capacitor products for supply to the automotive, defence, telecoms and other professional industries.

Our history, spanning over 9 decades, is a testament to our unrelenting commitment to Quality, Reliability & Performance.

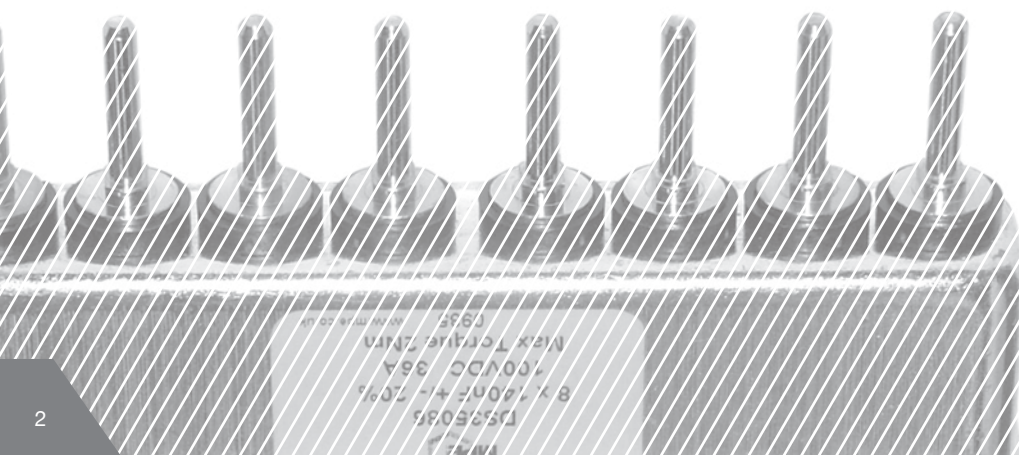
### Reliability

MPE has gained a much envied reputation for delivering quality products, with the highest levels of reliability. These high reliability levels are ensured and maintained through a diligent approach to design and manufacture; the ability to perform all critical processes and manufacture all critical components in house; coupled with a programme of continuous investment in both people and infrastructures.

### Performance

MPE prides itself on the high performance of all products produced. With almost 100 combined design years' experience and over 90 year' manufacturing history, MPE can be sure that the materials, designs and processes it employs deliver both the highest levels of performance and the maximum cost effectiveness.

MPE are an established member of both the EMCIA and EEF organisations, hold numerous product and industry accreditations and are ISO9001 certified.





### High Performance Feedthrough Products

MPE have been designing and manufacturing feedthrough capacitors for more than 40 years and plastic film feedthrough capacitors for over 30 years. Today, MPE remain at the forefront of feedthrough design, utilising the latest improvements in materials and manufacturing techniques.

MPE's range of feedthrough capacitor products are designed for use within demanding applications where high frequency filtering is a pre requisite. Such applications could fall within the telecoms, IT, medical or defence arenas or indeed any general filter circuits requiring high frequency suppression.

The current range of MPE feedthrough products all benefit from self-healing metallised plastic film material and utilise a solderless capacitor manufacturing technique to avoid heat damage and further extend the life and reliability of the product.

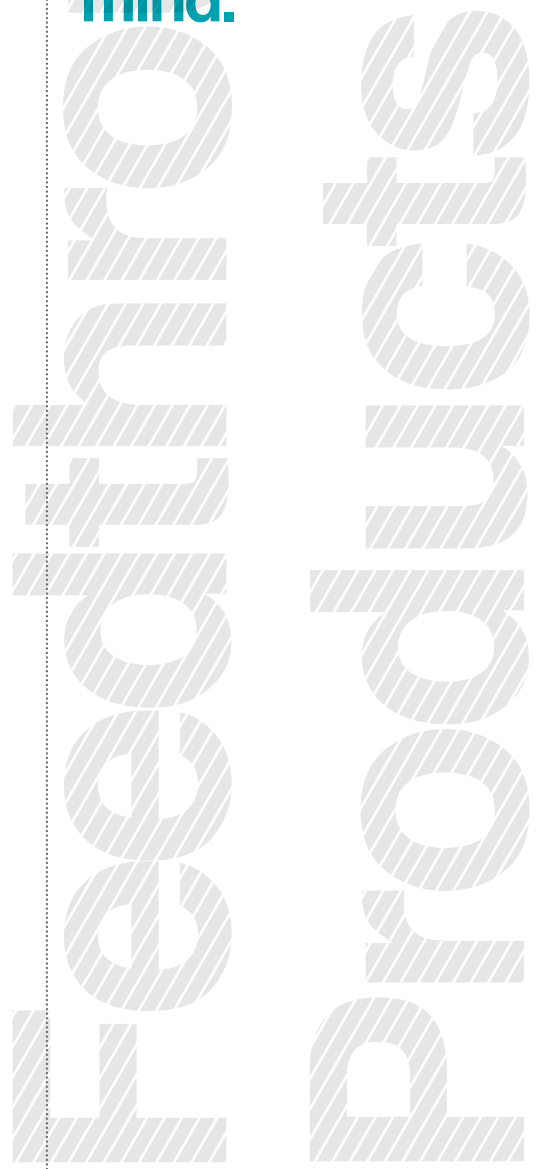
Normal two terminal capacitors resonate with their lead inductance in the region 1-10MHz. This limits their use as suppression components above a few MHz. MPE's feedthrough capacitors have no major resonance as they have no lead inductance and the performance of these units continues to increase with frequency.

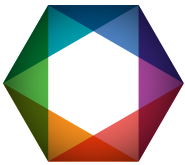
MPE's feedthrough range are also manufactured for through bulkhead mounting and the compact design ethos ensures that the minimum of space envelopes is required.

All MPE feedthrough products are designed with high volume manufacture in mind. Historically, products have been manufactured and delivered in the 1000s per week and MPE has the capacity to ensure such volume production can be regularly achieved if required.

Should a unit of a more bespoke nature be required, MPE offer a rapid design service for custom applications where special packaging, mounting, termination or multiple lines may be a requirement.

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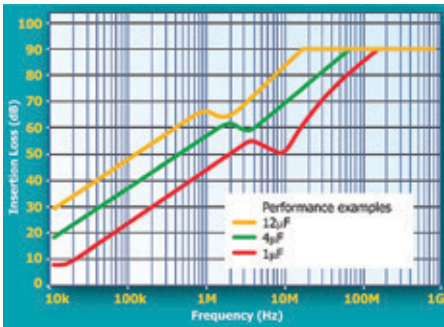
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## Overview

The insertion loss graph below shows the measured insertion loss performance of the DC 20A range.

### Typical insertion loss DC - 20A



Performance examples

top	12µF
middle	4µF
bottom	1µF

## Benefits

- Compact design to fit minimum space envelope
- The highest levels of reliability
- Self-healing capacitor technology utilised throughout
- Tested to 2250V to ensure maximum safety (AC versions)
- Designed for high volume manufacture
- Multi line options available for ease of use and cost effectiveness

## Product Range Overview: see website for full details

Current Rating (A)	Part Number	Capacitance Value (µF ±20%)	Voltage Rating (V DC)	Typical Insertion Loss (dB) in 50 Ω system with/without load							
				10 kHz	30 kHz	100 kHz	300 kHz	1 MHz	10 MHz	100 MHz	1 GHz
DC 20A	FC23647	1	250	5	14	24	34	44	52	84	90
DC 20A	FC23649	4	100	16	26	36	46	56	70	90	90
DC 20A	FC23652	12	30	26	36	46	56	62	86	90	90
DC 100A	FC25187	4	250	16	26	36	46	56	70	90	90
DC 100A	FC25189	14	100	27	37	47	57	63	87	90	90
DC 100A	FC25192	40	30	36	46	56	66	66	90	90	90
DC Multi Line 4 Way	FC34671	4	250	16	26	36	46	56	70	90	90
DC Multi Line 4 Way	FC34673	14	100	27	37	47	57	63	87	90	90
DC Multi Line 4 Way	FC34676	40	30	36	46	56	66	66	90	90	90

Description	Part Number	Capacitance Value (nF ±20%)	Max Leakage Current (mA) @250V 50Hz	Typical Insertion Loss (dB) in 50 Ω system with/without load							
				10 kHz	30 kHz	100 kHz	300 kHz	1 MHz	10 MHz	100 MHz	1 GHz
AC 20A	FC23689	100	9.4	-	-	5	14	24	44	70	84
AC 100A	FC25180	100	9.4	-	-	5	14	24	44	70	84
AC 100A Multi Line 4 Way	FC34690	100	9.4	-	-	5	14	24	44	70	84

\*FC23689 test voltage is 1250V

All feedthrough products are RoHS compliant.

The above represents only a very small selection of the MPE product range. Many other variations are available and details of the full range can be found within the product section of the MPE website [www.mpe.co.uk](http://www.mpe.co.uk).

Images representative of:



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DC 20A



DC 100A



DC Multi Line'

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