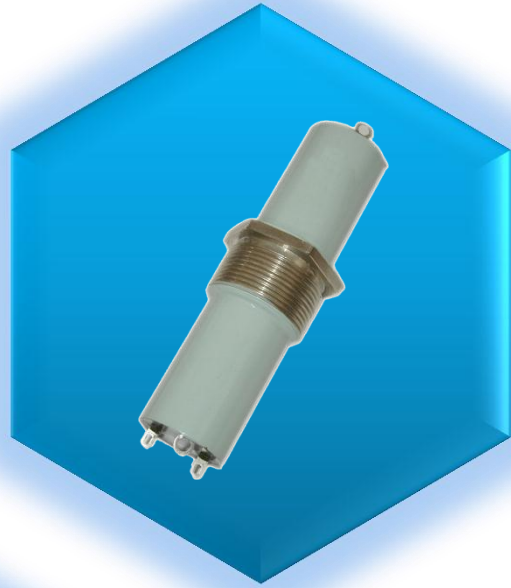
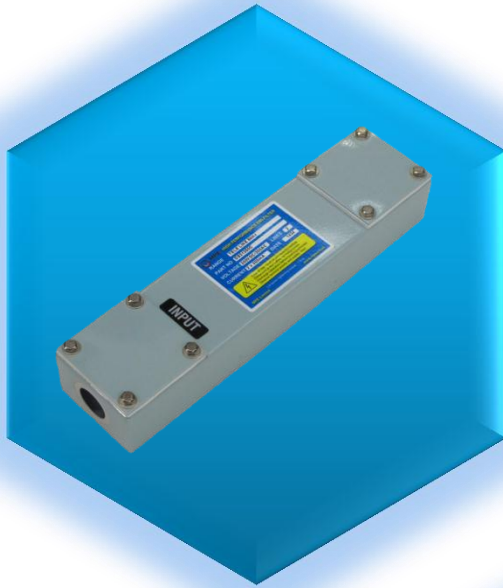




MPE
Quality, Reliability, Performance

FILTERS FOR ANALOGUE TELEPHONE LINES

FILTERS FOR ANALOGUE TELEPHONE LINES



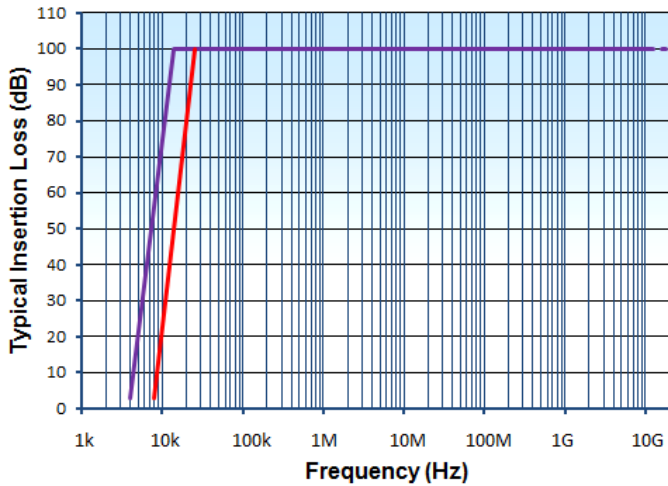
FM00699

MPE Limited
Hammond Road
Knowsley Industrial Park
Liverpool L33 7UL



Description

A range of high performance communications filters designed for carrying analogue telephone circuits into shielded rooms and communications cabins, and also used as in-line filters for Information Security applications. Filters are offered in two performance variants each available with varistor transient protection to offer additional protection of circuits against the effects of EMP and other conducted transients.



Asymmetric Performance in 50Ω System With or Without Load



Features

- Use on 300Ω/600Ω analogue telephone lines for telephone, fax and modem circuits
- High performance or extended performance
- 2 lines to 240 lines as standard
- Available with transient suppression (TS)
- Performance exceeds 100dB
- Performance extends to beyond 40GHz
- Choice of packaging and mounting styles
- Filter circuits approved by British Telecom and other PTT's
- Circuits supplied as high symmetry matched pairs
- Pass band ripple <2dB (300Ω)
- Filters incorporate MPE self-healing capacitors for high reliability
- Temperature range -40°C to +55°C
- Custom designs available with different packaging, performance, and transient suppression options
- RoHS compliant

Electrical Specification

Filter Series	Insertion Loss (50Ω) *	Pass Band	Voltage Rating	Current Rating	DC Resistance	Impedance	Varistor Rating
High Performance	100dB 25kHz-10GHz	0-8kHz	250V ac/dc	300mA	8Ω	300Ω line-earth 600Ω line-line	-
High Performance + TS	100dB 25kHz-10GHz	0-8kHz	95Vac/ 125Vdc	300mA	8Ω	300Ω line-earth 600Ω line-line	4500A (8/20μs)
Extended Performance	100dB 14kHz-10GHz	0-4kHz	250V ac/dc	125mA**	9Ω	300Ω line-earth 600Ω line-line	-
Extended Performance + TS	100dB 14kHz-10GHz	0-4kHz	95Vac/ 125Vdc	125mA**	9Ω	300Ω line-earth 600Ω line-line	4500A (8/20μs)

* NB Rectangular cases are recommended where 100dB is needed beyond 1GHz

** 300mA with reduced performance



HIGH PERFORMANCE TELEPHONE LINE FILTERS				
Old Part Number	New Part Number	No of Lines	Case Style	Weight (kg)
THP23402	DS23402	2	1	0.8
THP31350C	DS31350C	2	2	1
THP31351C	DS31351C	4	3	2
THP31352C	DS31352C	8	4	4
THP23443C	DS23443C	32	5	17
THP26904C	DS26904C	40	6	21
THP31010C	DS31010C	100	7	60
THP31020C	DS31020C	200	8	120
THP31024C	DS31024C	240	8	140

HIGH PERFORMANCE TELEPHONE LINE FILTERS WITH TRANSIENT SUPPRESSION				
Old Part Number	New Part Number	No of Lines	Case Style	Weight (kg)
THP23579V	DS23579V	2	1	0.8
THP31350CV	DS31350CV	2	2	1
THP31351CV	DS31351CV	4	3	2
THP31352CV	DS31352CV	8	4	4
THP23585CV	DS23585CV	32	5	17
THP26905CV	DS26905CV	40	6	21
THP31011CV	DS31011CV	100	7	60
THP31021CV	DS31021CV	200	8	120
THP31025CV	DS31025CV	240	8	140

EXTENDED PERFORMANCE TELEPHONE LINE FILTERS				
Old Part Number	New Part Number	No of Lines	Case Style	Weight (kg)
TEP23559	DS23559	2	1	0.8
TEP31355C	DS31355C	2	2	1
TEP31356C	DS31356C	4	3	2
TEP31357C	DS31357C	8	4	4
TEP23561C	DS23561C	32	5	17
TEP26906C	DS26906C	40	6	21
TEP31030C	DS31030C	100	7	60
TEP31040C	DS31040C	200	8	120
TEP31044C	DS31044C	240	8	140

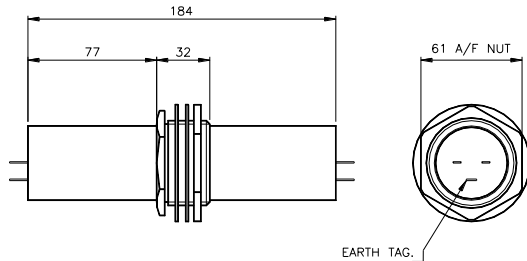
EXTENDED PERFORMANCE TELEPHONE LINE FILTERS WITH TRANSIENT SUPPRESSION				
Old Part Number	New Part Number	No of Lines	Case Style	Weight (kg)
TEP23582V	DS23582V	2	1	0.8
TEP31355CV	DS31355CV	2	2	1
TEP31356CV	DS31356CV	4	3	2
TEP31357CV	DS31357CV	8	4	4
TEP23586CV	DS23586CV	32	5	17
TEP26907CV	DS26907CV	40	6	21
TEP31031CV	DS31031CV	100	7	60
TEP31041CV	DS31041CV	200	8	120
TEP31045CV	DS31045CV	240	8	140

Notes: Lines are supplied as matched pairs, hence 1 telephone circuit = 1 matched pair = 2 lines
Filters of 100 lines and above are modular so intermediate numbers of lines can be offered in multiples of 20
Other custom packaging options are available.



Mechanical Details / Dimensions

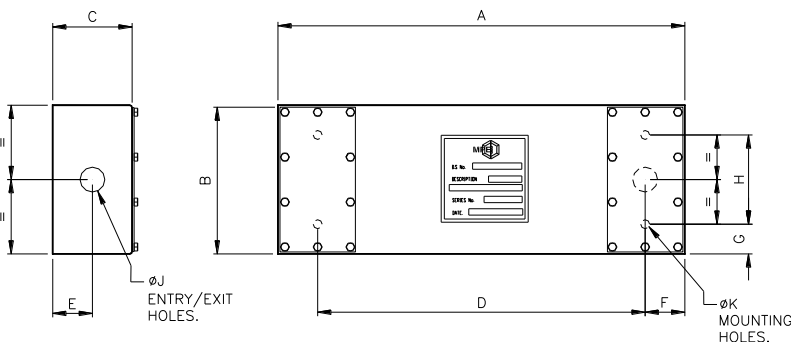
Case Style 1



Mechanical details – case style 1

Case material electroplated brass/steel
 Finish paint
 Terminals 6.3mm spade tags
 Earth terminal solder tag
 Mounting hole 52mm

Case Styles 2, 3, 4, 5, 6



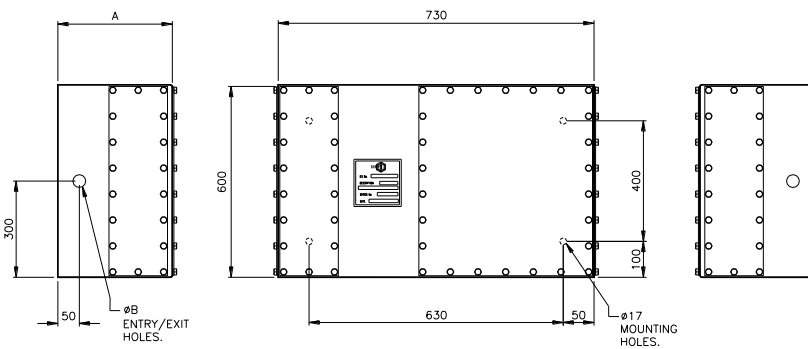
Dimensions – case styles 2 - 6

Case Style	No of Lines	Major Dimensions (mm)		
		A	B	C
2	2	250	60	35
3	4	250	120	35
4	8	250	240	35
5	32	547	200	143
6	40	547	250	143

Case Style	Additional Dimensions (mm)						
	D	E	F	G	H	J	K
2	210*	17	20	13*	34*	20	6
3	210	17	20	20	80	20	6
4	210	17	20	20	200	20	6
5	460	30	40	40	120	25.4	7
6	460	30	43.5	50	150	25.4	7

*For case style 2 with cable entry "C", cable hole is used for mounting instead of screw holes on exit end

Case Style 7, 8



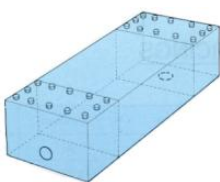
Dimensions – case styles 7, 8

Case Style	No of Lines	Dimensions (mm)	
		A	B
7	100	250	32
8	200, 240	475	50

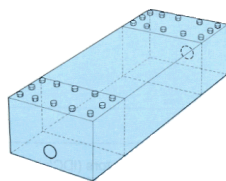
Mechanical details – case styles 2- 8

Case material electroplated steel
 Finish paint (except base)
 Terminals 4.8mm spade tags
 Cable entry options see below
 Fixing kit optional
 Varistor mounting on input terminals (where fitted)

Cable Entry Options



Part No DS XXXX / C
 End entry base exit
 (standard cable entry configuration)

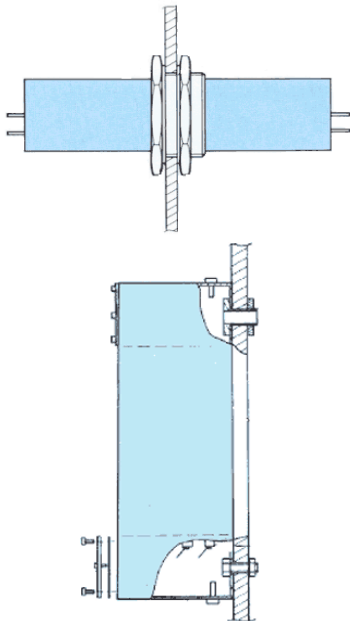


Part No DS XXXX / A
 End entry end exit
 (alternative cable entry)

On rectangular filters, two different cable entry options are available as shown. Standard configuration is suffix C for shielded room mounting, i.e. end entry, base exit. For end entry and end exit, substitute suffix C with suffix A in the part number.



Installation Details



Typical Installation of Tubular Filters

Mounting surface should be clean and unpainted to ensure a good earth bond and RF seal
 Terminals should be enclosed by the user
 Mounting hole size 52mm
 Max tightening torque 58 N-m

Typical Installation of Rectangular Filters

Mounting surface should be clean and unpainted to ensure a good earth bond and RF seal
 Fixing screws and gland tubes can be supplied as an option

Recommended torque figures:
 M5 lid fixings: 1N-m
 M6 earth & mounting: 2.5N-m
 M16 mounting screw: 20N-m

Safety

After installation of the filter, any exposed terminals should be enclosed by the user to prevent any danger of electric shock, and to provide screening of incoming and outgoing lines.
 Ensure filter capacitors are discharged before touching terminals.
 Filters must be solidly and permanently earthed.

Filter Selection and Ordering Guide

Step 1

Choose telephone circuit type

Class B - standard 300/600Ω analogue circuits
 (normal incoming PSTN lines and modems)
 Covered by this brochure

Class A - complex impedance digital circuits
 (local building digital exchanges)

Ask for separate Class A brochure

Step 2

Choose required filter performance

Standard high performance circuit
 100dB from 25kHz to 10GHz
 Choose DSXXXXV for transient suppressed

Extended performance circuit
 100dB from 14kHz to 10GHz
 Choose DSXXXXXV for transient suppressed

Step 3

Choose number of lines required and select part number from page 3

Step 4

If end cable entry and exit needed then change part number suffix from C to A (see page 4)
 and add fixing kit to order if required