

# Filters for Communication Lines

## ISDN Systems

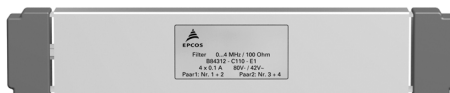
**Series/Type:**      **B84312**

Date: January 2004

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For ISDN-Interfaces  $S_0$ ,  $S_2$ ,  $U_{P0}$   
and  $U_2$  plus Siemens Hicom installations  
Stopband attenuation up to 40 GHz



## Features

- Use of coaxial feed-through capacitors on input and output
- Single or current-balanced chokes depending on requirement
- Insertion loss to CISPR 17

## Installation

Single filters are attached straight to the shielding wall. Larger numbers can be housed in filter cabinets or boxes. Various models and the matching flexible connector fittings are available.

## Overview of ISDN systems and suitable filters

System	Standard	Number of pairs	Transmission rate	Focal frequency $f_{\text{test}}$	Filter band width ( $5 \times f_{\text{test}}$ )	$Z_L$ $\Omega$	Filter (Ordering code)
$S_2$ and/or PCM 30	CCITT, G.703	2	2.048 Mbit/s	1.024 MHz	5.12 MHz	120	B84312C0112E001
$S_0$ ISDN, 2B+D	CCITT, I.430 ETS300012	2	144 kbit/s	96 kHz	480 kHz	85... 160	B84312C0110E001
$U_{P0}$ ISDN, 2B+D	ZVEI	1	304 kbit/s (152 kbit/s in each direction)	192 kHz	960 kHz	100	B84312C0114B001
$U_{2B1Q}$ ISDN, 2B+D	ANSI  T1.601-1988	1	160 kbit/s	40 kHz	200 kHz	135	B84312C0060B001
$U_{K0}$ ISDN, 2B+D	FTZ 1 TR 220	1	160 kbit/s	60 kHz	300 kHz	150	B84312C0060B001
$U_{200}$ 1B+D	Interface for Siemens Hicom	1	160 kbit/s (80 kbit/s in each direction)	128 kHz	640 kHz	130	B84312C0114B001

### General technical data

Rated voltage	$V_{R,AC}$	42 and 100	V	
Rated voltage	$V_{R,DC}$	80 and 100	V	
Rated frequency	$f_R$	See characteristics		Pass bandwidth at $Z_L$
Rated current	$I_R$	100	mA	Referred to +40 °C ambient temperature
Line impedance	$Z_L$	See characteristics		
Test voltage	$V_{test}$	250 VDC, 2 s 250 VDC, 2 s		Line/line Line/case
Maximum DC resistance	$R_{max}$	See characteristics		Per line
Permissible ambient temperature	$T_A$	−25/+40	°C	
Climatic category (EN 60068-1)		25/085/56		−25 °C/+85 °C/56 days damp heat test
Approx. weight		560	g	

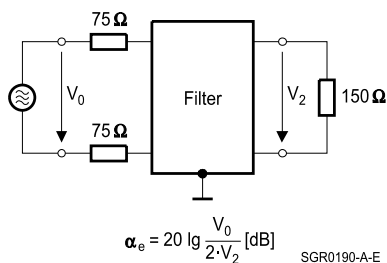
### Characteristics and ordering codes

$V_{R,AC}$	$V_{R,DC}$	$f_R$	$Z_L$	$R_{max}$	Number of pairs	Ordering code
V	V	MHz	$\Omega$	$\Omega$		
100	100	0 ... 0.3	150	2	1	B84312C0060B001
42	80	0 ... 4	100	4.2	1	B84312C0114B001
42	80	0 ... 4	100	4.2	2	B84312C0110E001
42	80	0 ... 10	50	1	2	B84312C0112E001

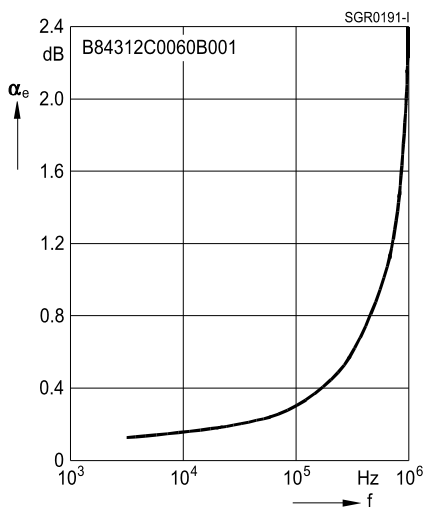
# Insertion loss $\alpha_e$ in passband (typical)

B84312C0060B001

Measurement circuit

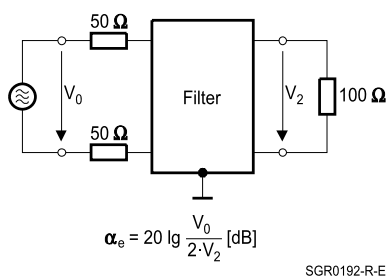


Symmetrical measurement circuit  
with  $Z_L = 150 \Omega$

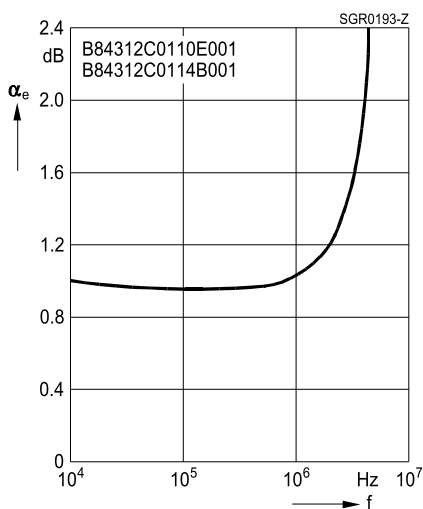


B84312C0110E001, ...C0114B001

Measurement circuit

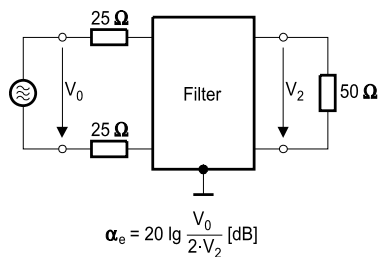


Symmetrical measurement circuit  
with  $Z_L = 100 \Omega$

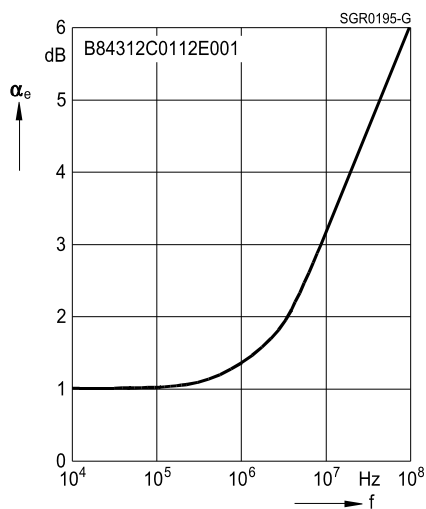


B84312C0112E001

Measurement circuit

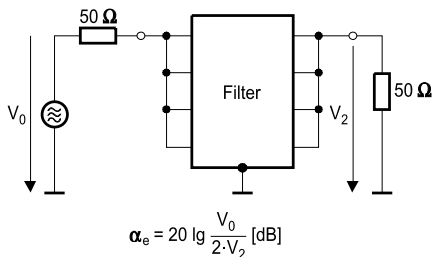


Symmetrical measurement circuit  
with  $Z_L = 50 \Omega$



# Insertion loss $\alpha_e$ in stopband (typical)

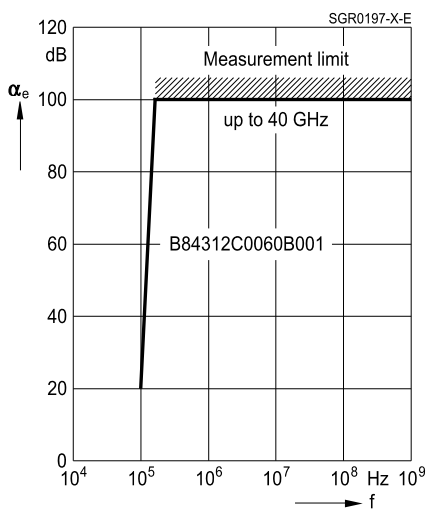
Measurement circuit



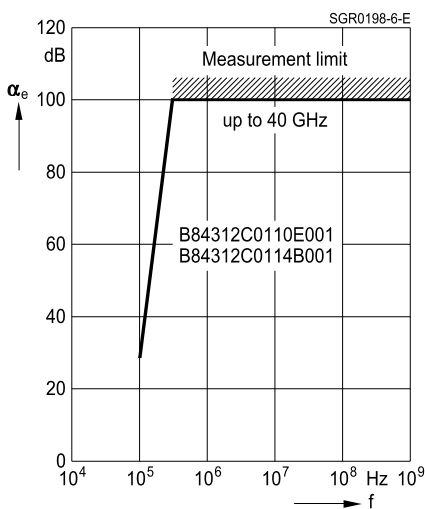
SGR0196-P-E

Asymmetrical measurement circuit  
to MIL-STD-220A

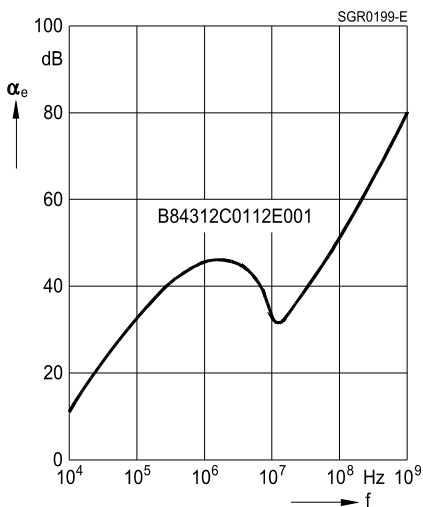
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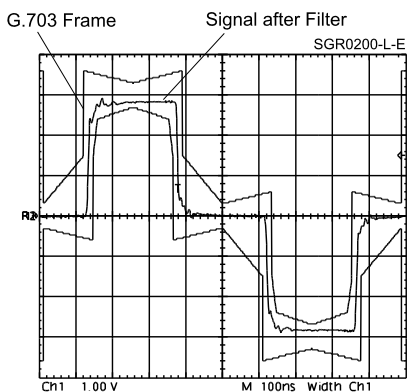
B84312C0110E001, ...C0114B001



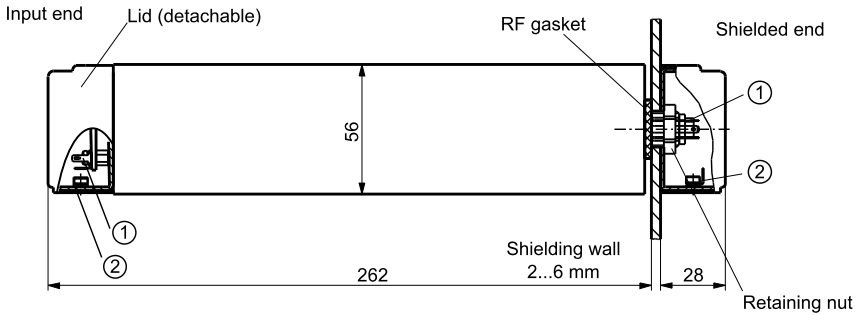
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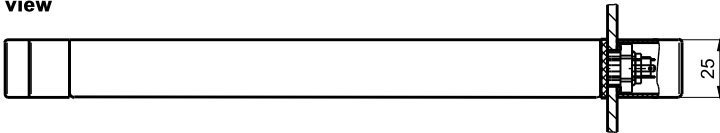
Signal characteristic to CCITT G.703  
for filter B84312C0112E001



### Dimensional drawing



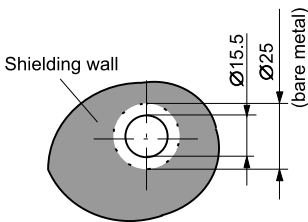
### Plan view



SGR0201-U-E

- ① Line connection at both ends:  
2 x tab connectors for receptacle 2.8 x 0.5 (in accessory bag)
- ② Strain relief with ground connection for cable diameter 4.5 ... 6 mm

### Hole for installation in shielding wall



SGR0185-9-E