



# Filters for Communication Lines

## ISDN Systems

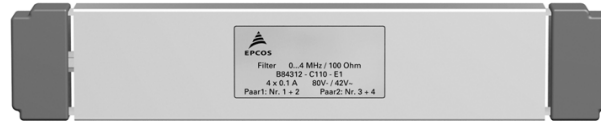
**Series/Type:**        **B84312**

Date: January 2004

© EPCOS AG 2004. Reproduction, publication and dissemination of this data sheet, enclosures hereto and the information contained therein without EPCOS' prior express consent is prohibited.  
Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

**ISDN systems**

**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

**ISDN systems**
**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		Line/line
		250 VDC, 2 s		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	

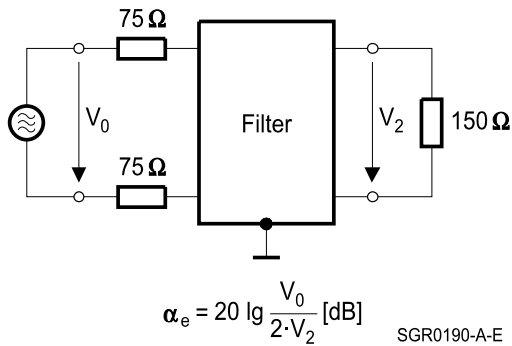
**Characteristics and ordering codes**

$V_{R,AC}$	$V_{R,DC}$	$f_R$	$Z_L$	$R_{max}$	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

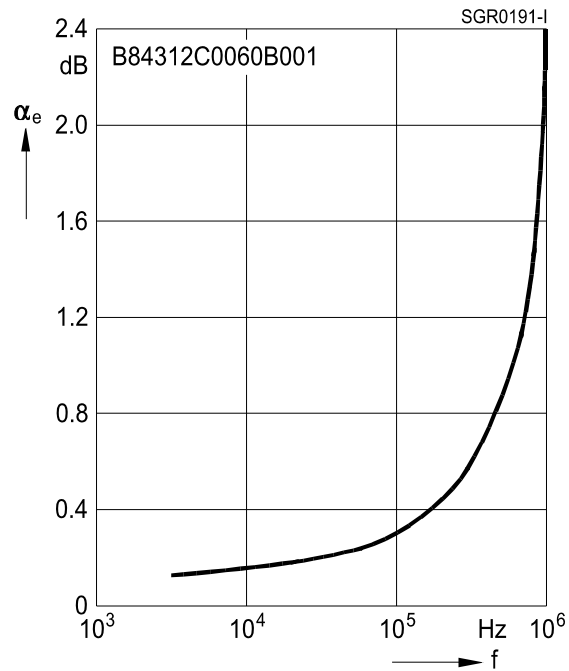
**Insertion loss  $\alpha_e$  in passband (typical)**

B84312C0060B001

Measurement circuit

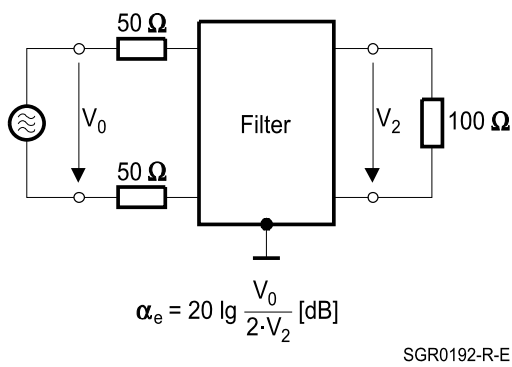


Symmetrical measurement circuit  
with  $Z_L = 150 \Omega$

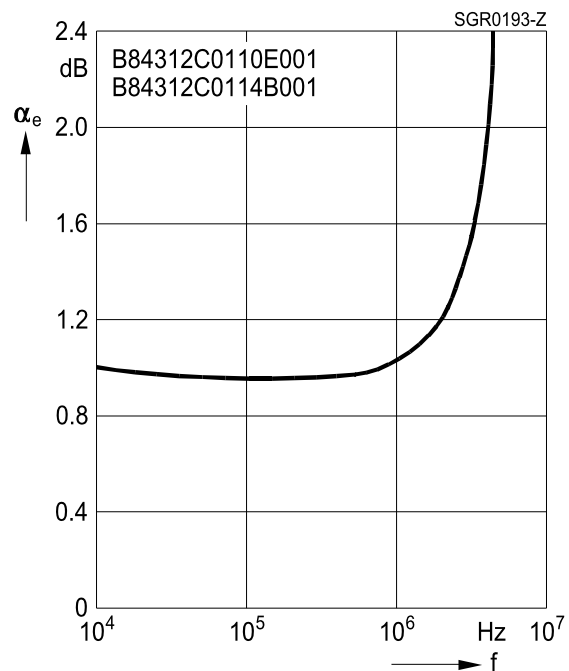


B84312C0110E001, ...C0114B001

Measurement circuit

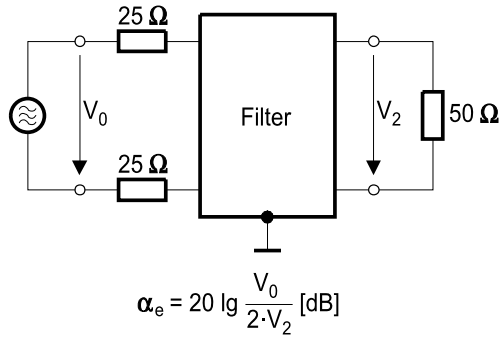


Symmetrical measurement circuit  
with  $Z_L = 100 \Omega$

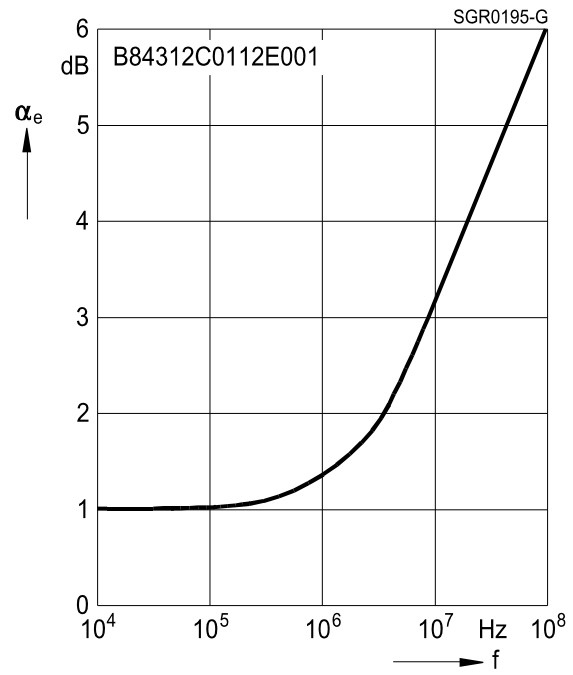


B84312C0112E001

Measurement circuit

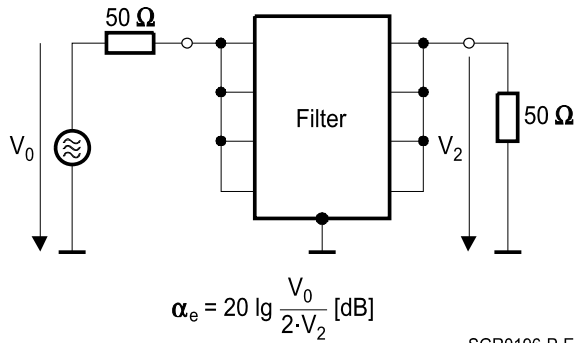


Symmetrical measurement circuit  
with  $Z_L = 50 \Omega$



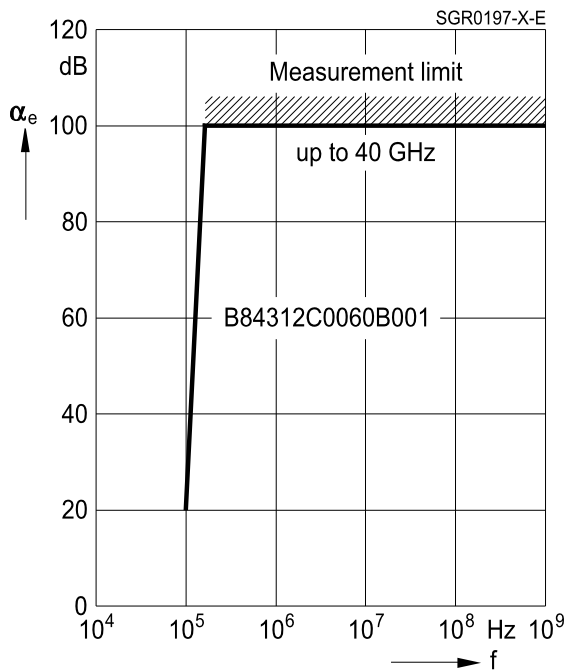
**Insertion loss  $\alpha_e$  in stopband (typical)**

Measurement circuit

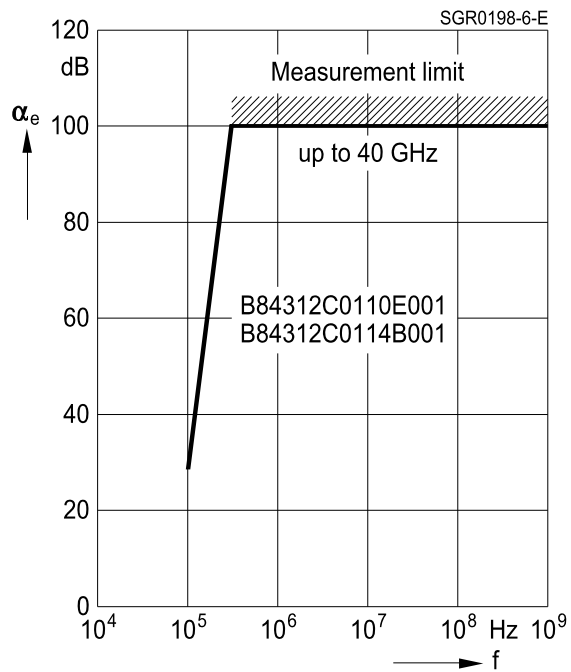


Asymmetrical measurement circuit  
to MIL-STD-220A

B84312C0060B001

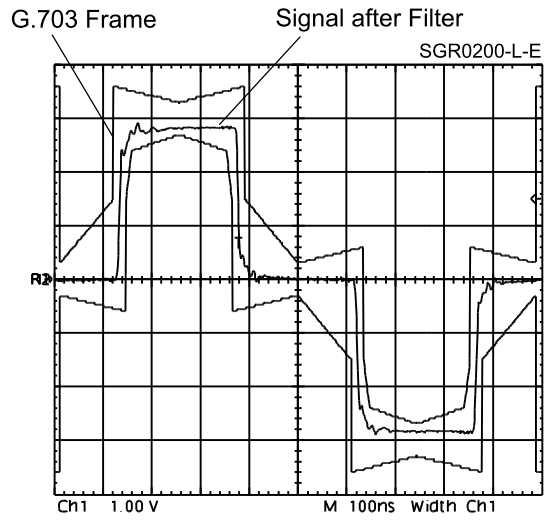
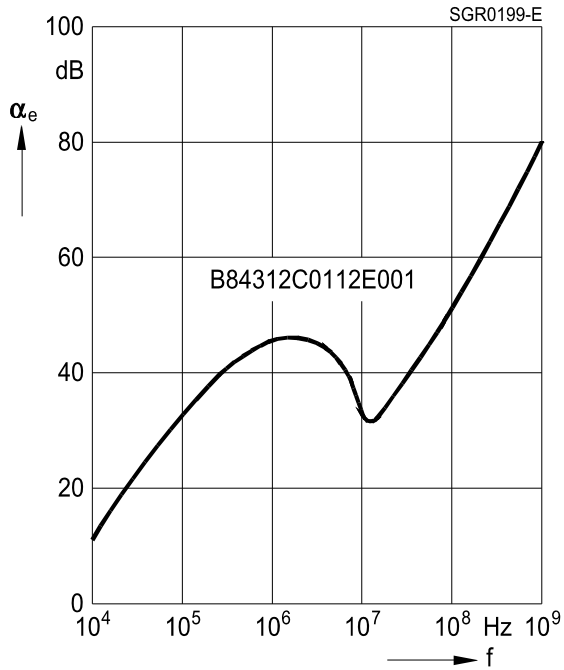


B84312C0110E001, ...C0114B001

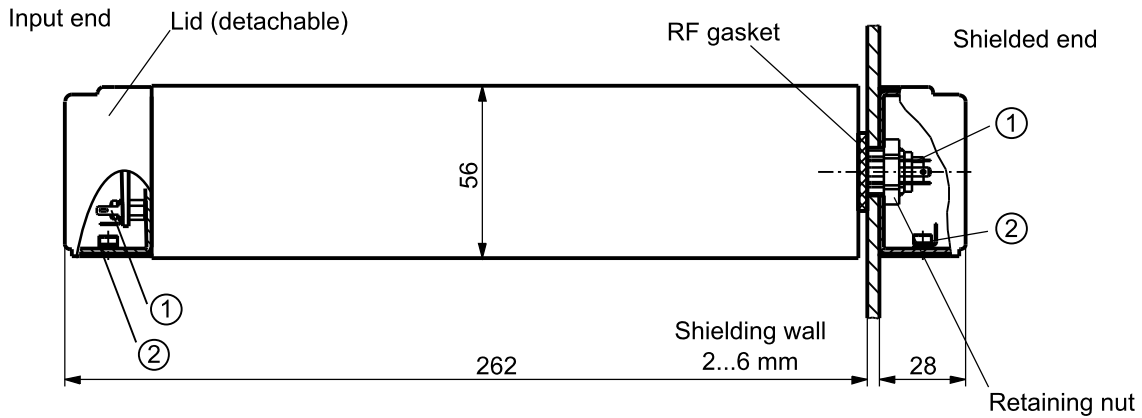


B84312C0112E001

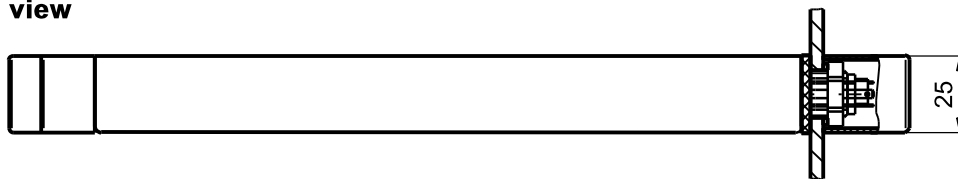
Signal characteristic to CCITT G.703  
for filter B84312C0112E001



**Dimensional drawing**



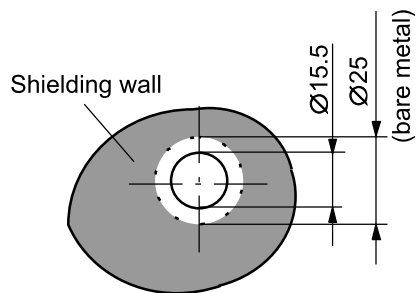
**Plan view**



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