

Filters for Communication Lines

ISDN Systems

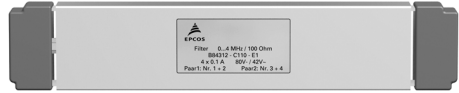
Series/Type: **B84312**

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_{test} | Filter band width ($5 \times f_{\text{test}}$) | Z_L Ω | 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_{rest} | 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 | |

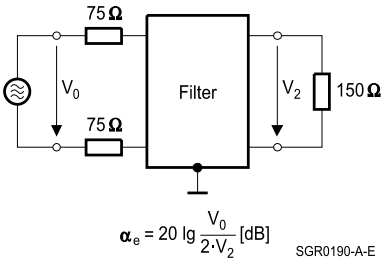
Characteristics and ordering codes

| $V_{R,AC}$ | $V_{R,DC}$ | f_R | Z_L | R_{max} | Number of pairs | Ordering code |
|------------|------------|-----------|----------|-----------|-----------------|-----------------|
| V | V | MHz | Ω | Ω | | |
| 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 |

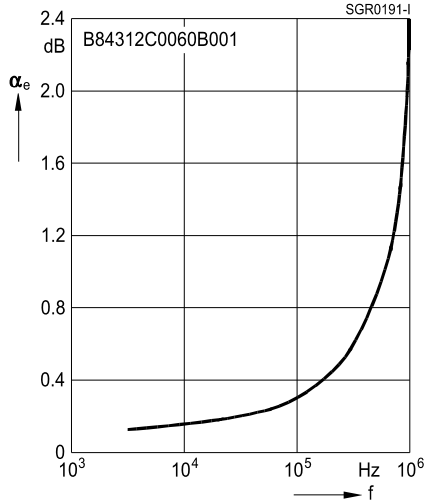
Insertion loss α_e in passband (typical)

B84312C0060B001

Measurement circuit

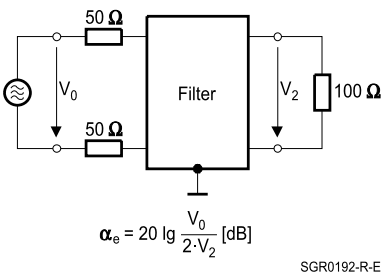


Symmetrical measurement circuit
with $Z_L = 150 \Omega$

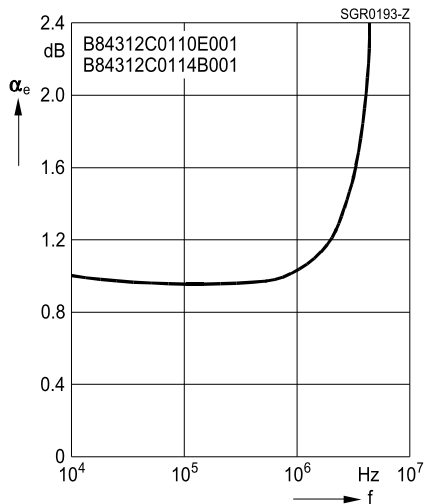


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Measurement circuit

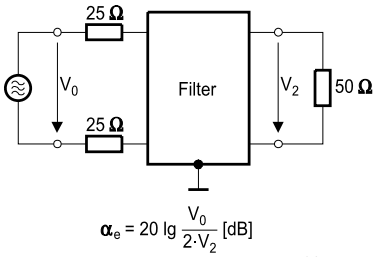


Symmetrical measurement circuit
with $Z_L = 100 \Omega$

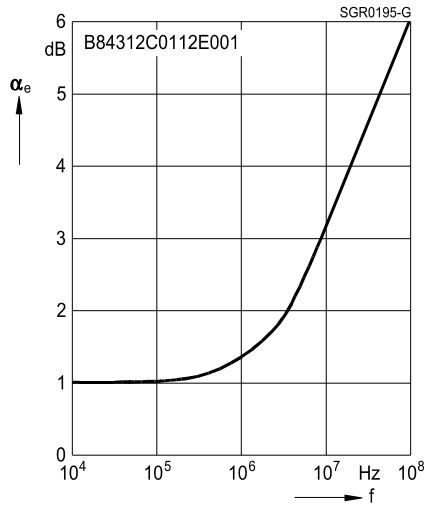


B84312C0112E001

Measurement circuit

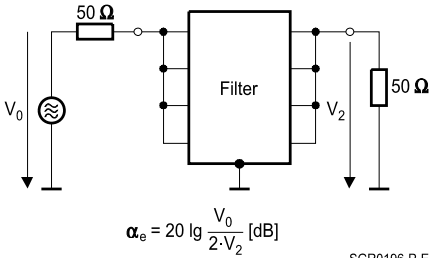


Symmetrical measurement circuit
with $Z_L = 50 \Omega$



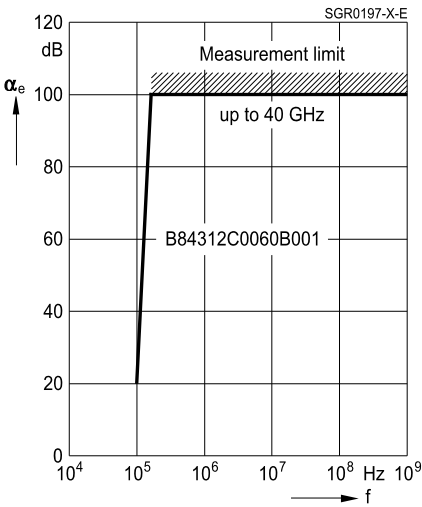
Insertion loss α_e in stopband (typical)

Measurement circuit

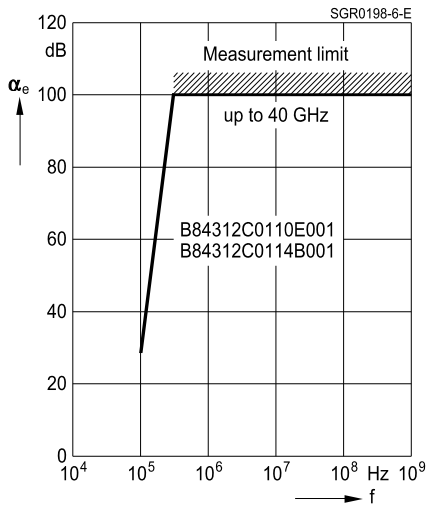


Asymmetrical measurement circuit
to MIL-STD-220A

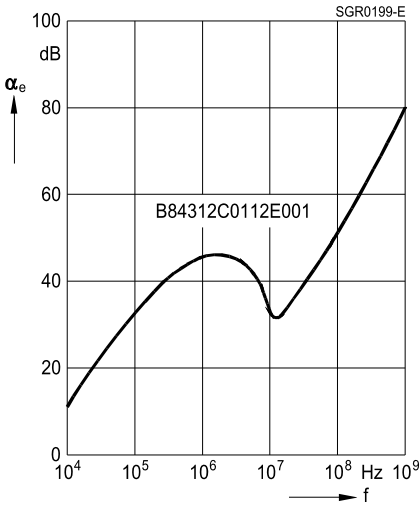
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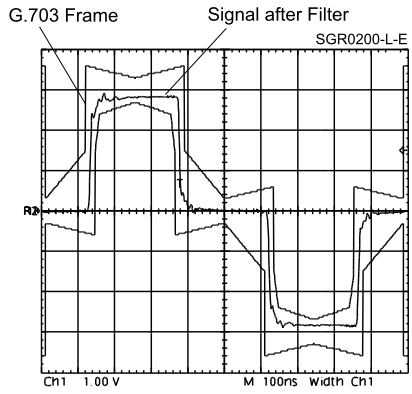
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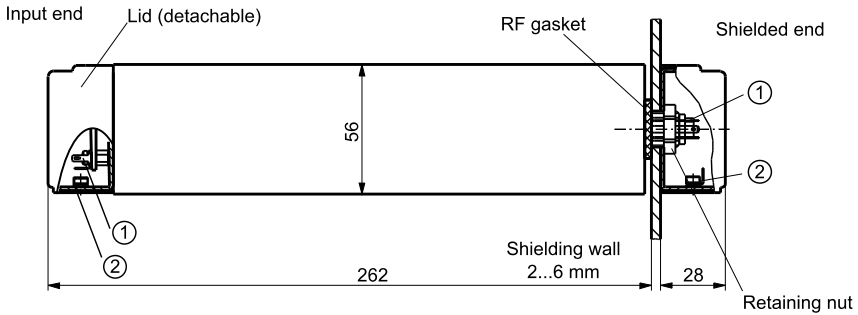
B84312C0112E001



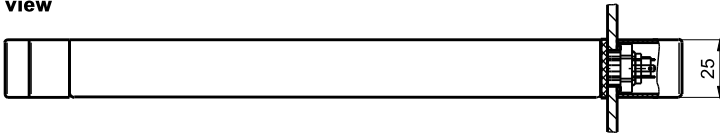
Signal characteristic to CCITT G.703
for filter B84312C0112E001



Dimensional drawing



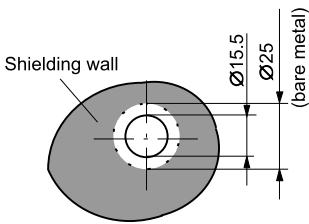
Plan view



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

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