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参考資料

# TEST DATA OF EAM-10-□□□/ESM-10-□□□

## Noise Filter

Nov. 30. 2010

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Prepared by : Tadayuki Noda

Tadayuki Noda — Design Engineer

**COSEL CO.,LTD.**

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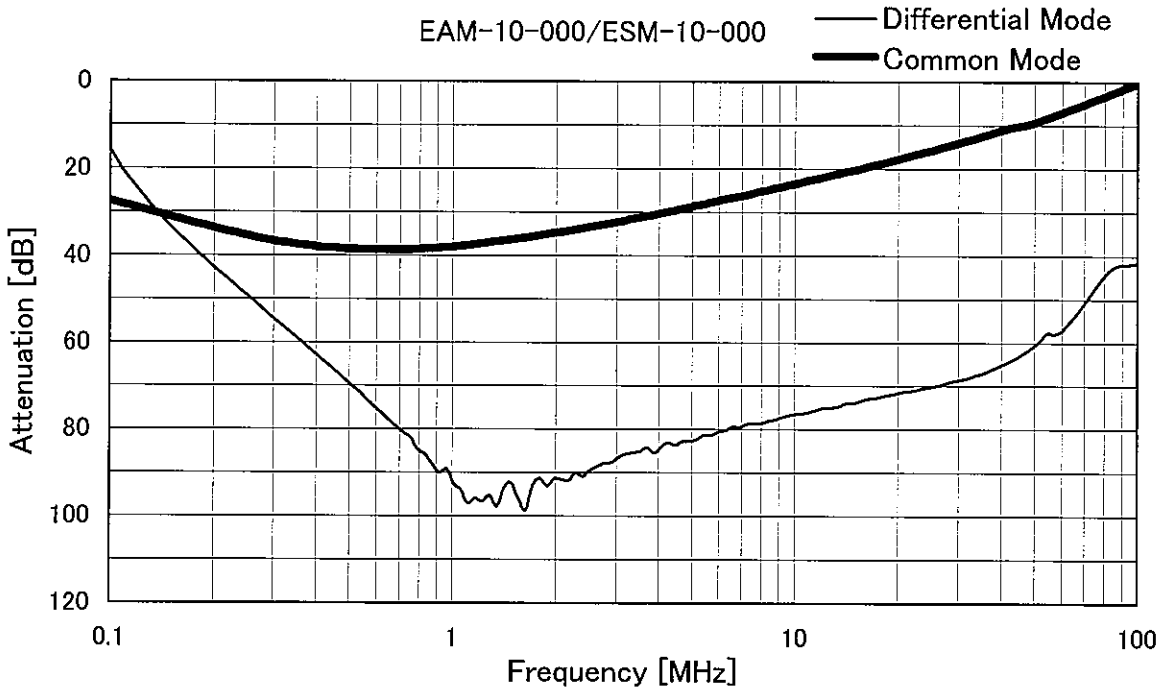
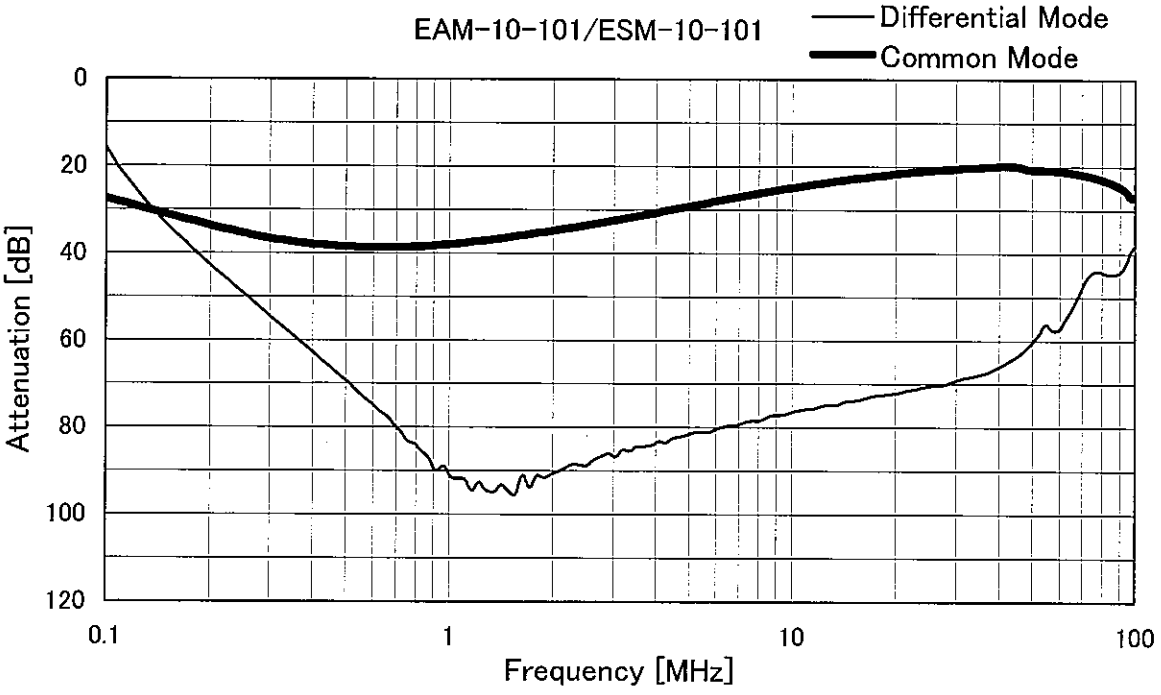
| | | |
|---|---|---|
| Model | EAM-10-□□□/ESM-10-□□□ | |
| Item | Attenuation Characteristics | Temperature 25°C<br>Testing Circuitry Figure A |
| Object | ——————— | |



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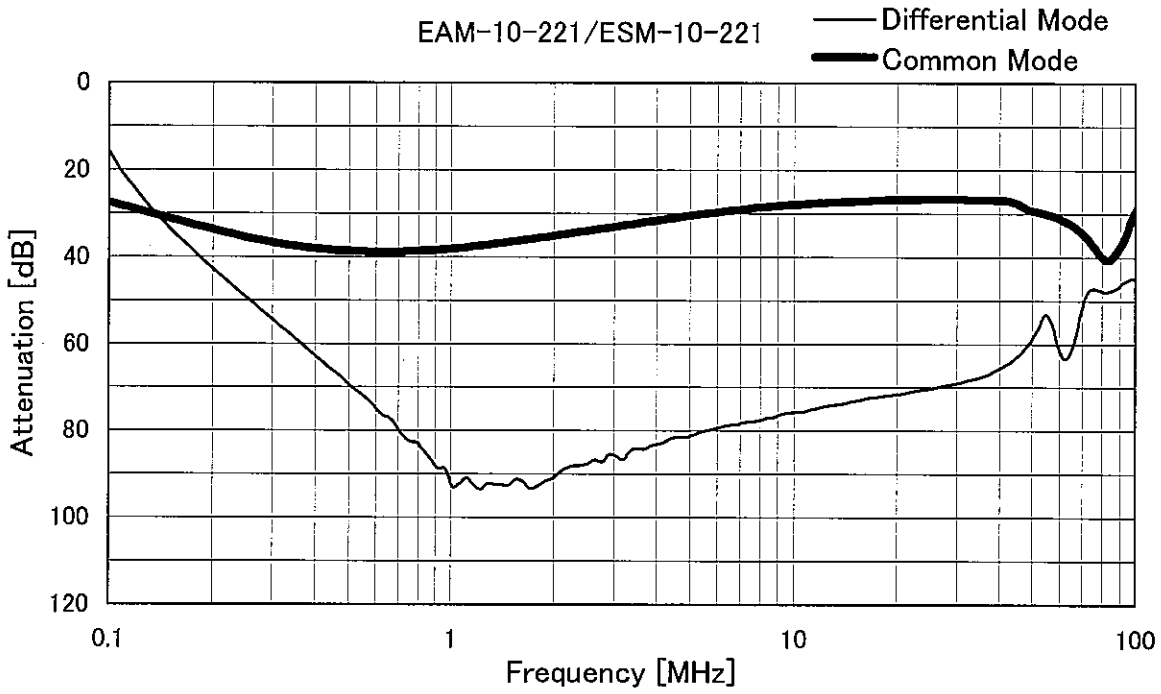


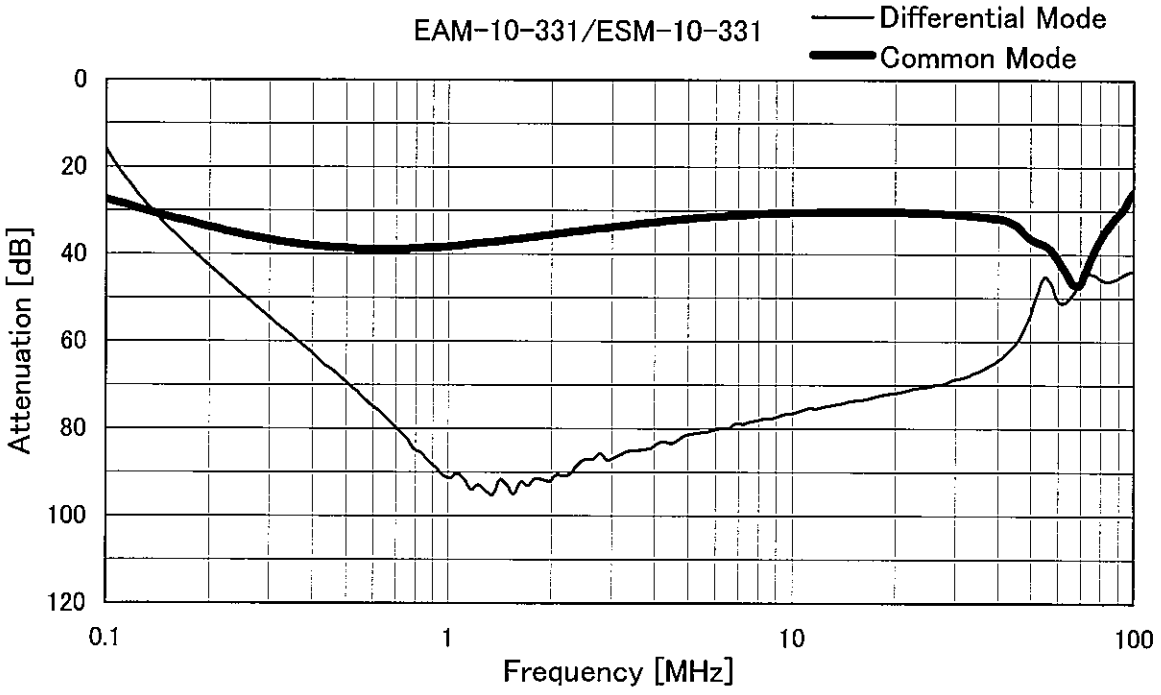

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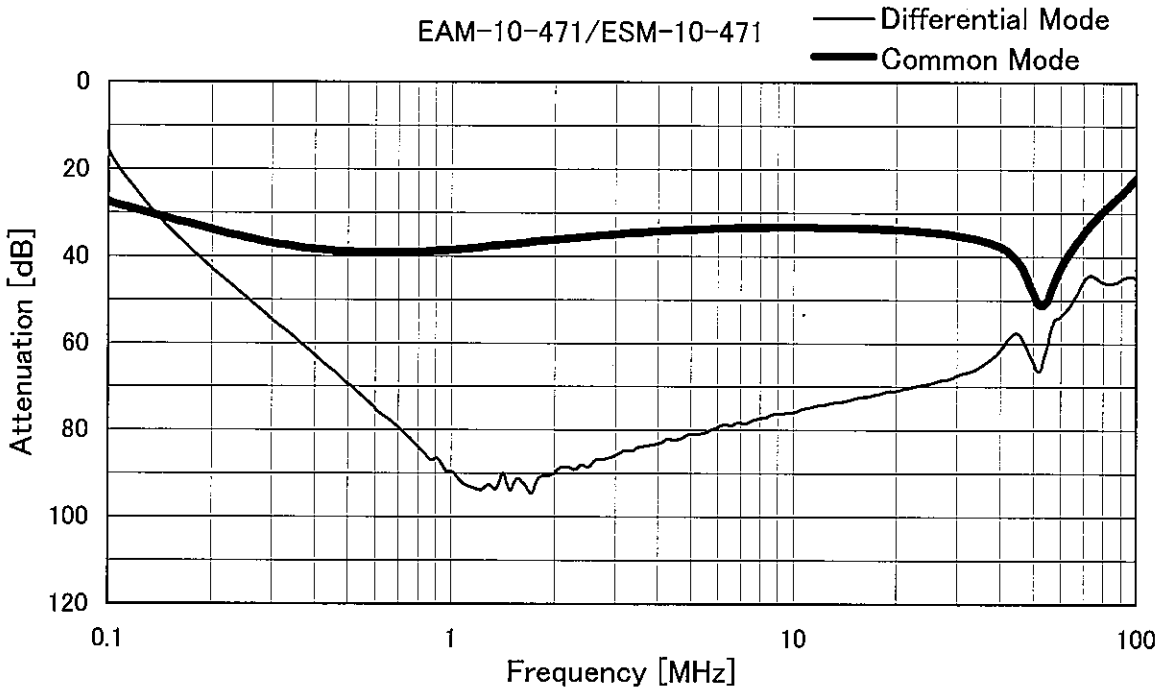
| Model | EAM-10-□□□/ESM-10-□□□ | |
| Item | Attenuation Characteristics | Temperature 25°C<br>Testing Circuitry Figure A |
| Object | ———————— | |



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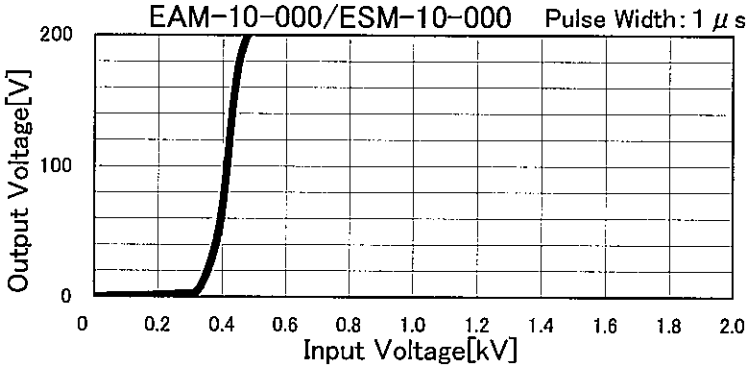
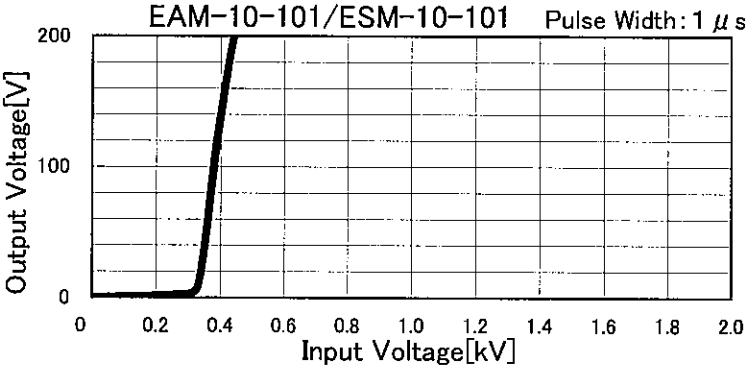
| | | |
|---|---|---|
| Model | EAM-10-□□□/ESM-10-□□□ | |
| Item | Pulse Attenuation Characteristics | Temperature 25°C<br>Testing Circuitry Figure B |
| Object | ———————— | |

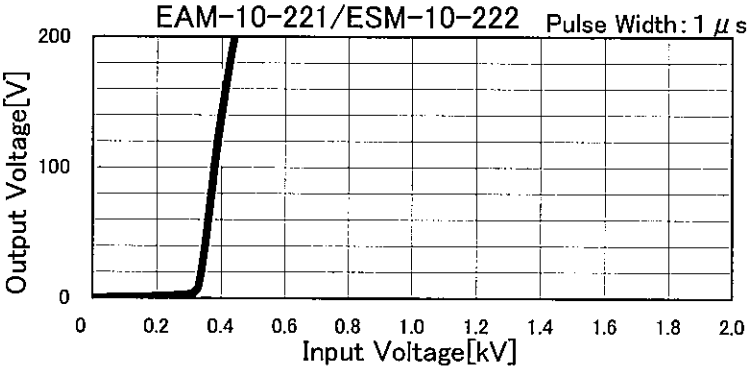
EAM-10-000/ESM-10-000 Pulse Width: 1 μs



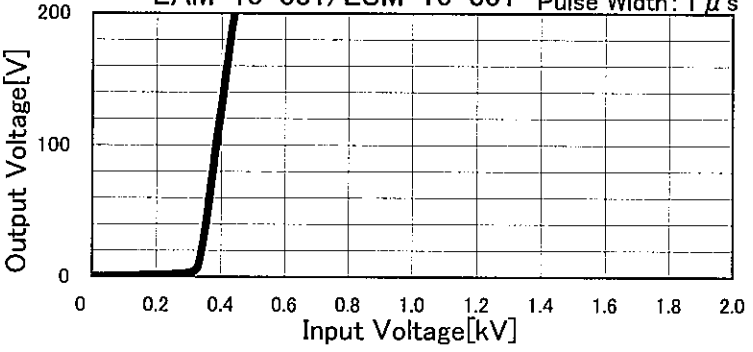

EAM-10-101/ESM-10-101 Pulse Width: 1 μs




EAM-10-221/ESM-10-222 Pulse Width: 1 μs




EAM-10-331/ESM-10-331 Pulse Width: 1 μs



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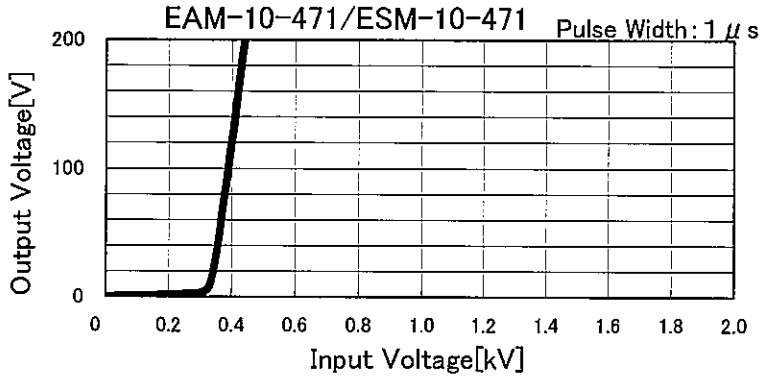
| | |
|---|---|
| Model | EAM-10-□□□/ESM-10-□□□ |
| Item | Pulse Attenuation Characteristics |
| Object | ———————— |

Temperature 25°C
Testing Circuitry Figure B



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| | |
|---|---|
| Model | EAM-10-□□□/ESM-10-□□□ |
| Item | Leakage Current |
| Object | ―――――――――― |

Temperature 25°C
Testing Circuitry Figure C

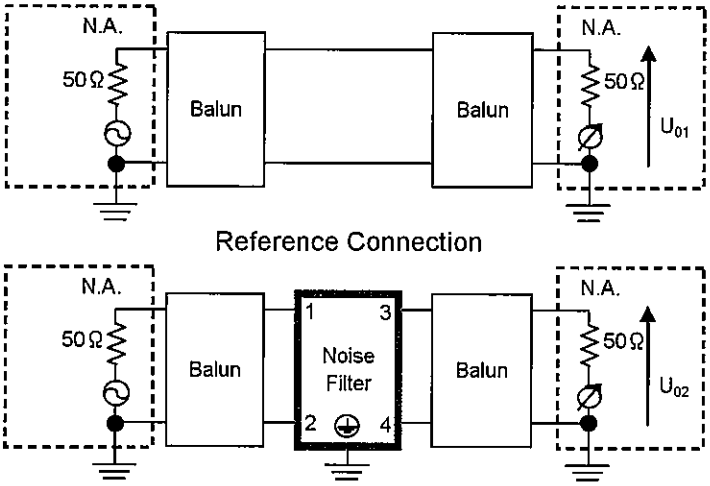
1.Results

[mA]

| Model | Standards | Input Volt. | | | | Note |
|---|---|---|---|---|---|---|
| | | 100 [V] | 125 [V] | 230 [V] | 250 [V] | |
| EAM-10-000<br>ESM-10-000 | UL1283 | 0.002 | 0.002 | 0.004 | 0.005 | |
| EAM-10-101<br>ESM-10-101 | UL1283 | 0.006 | 0.007 | 0.013 | 0.015 | |
| EAM-10-221<br>ESM-10-221 | UL1283 | 0.011 | 0.013 | 0.025 | 0.028 | |
| EAM-10-331<br>ESM-10-331 | UL1283 | 0.015 | 0.019 | 0.038 | 0.042 | |
| EAM-10-471<br>ESM-10-471 | UL1283 | 0.023 | 0.030 | 0.061 | 0.069 | |

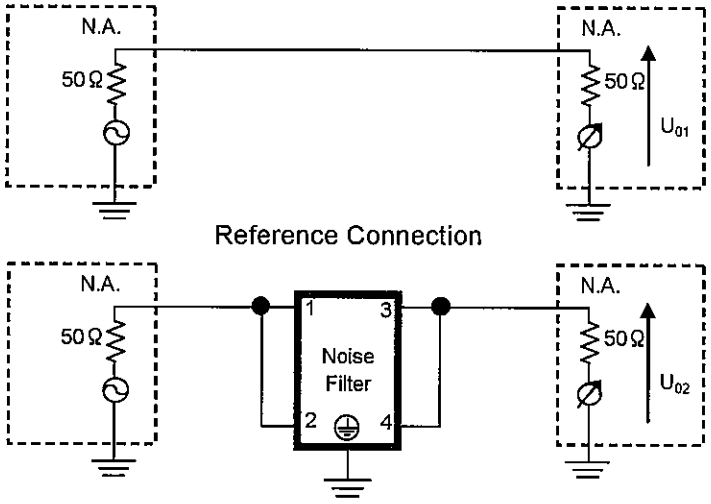
2.Condition

Leakage current value is concluded after measuring both phases of AC input and by choosing the larger one.



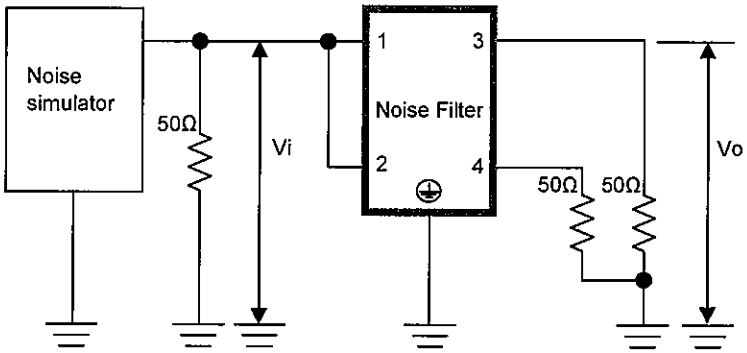

Attenuation = $20\log(U_{01}/U_{02})$ [dB]
$U_{01}$ : Voltage in state without filters
$U_{02}$ : Voltage in state which added filters
N.A. : Network Analyzer

Figure A - 1 Differential mode attenuation measurement

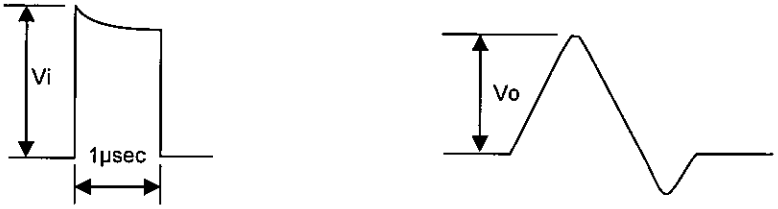



Attenuation = $20\log(U_{01}/U_{02})$ [dB]
$U_{01}$ : Voltage in state without filters
$U_{02}$ : Voltage in state which added filters
N.A. : Network Analyzer

Figure A - 2 Common mode attenuation measurement

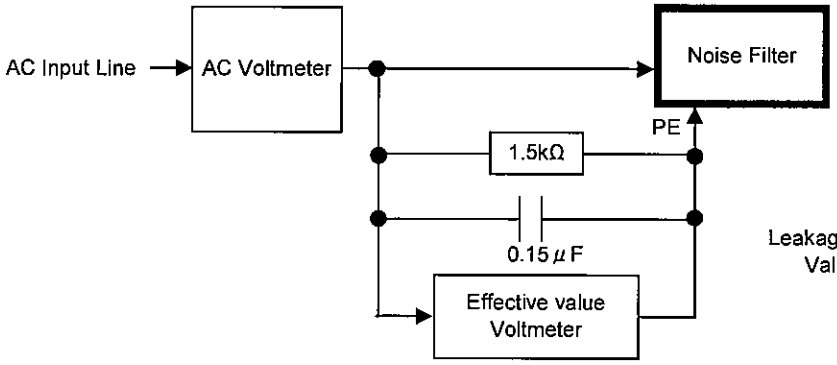



Pulse attenuation measurement




Input impulse waveform　　Output impulse waveform

Figure B Pulse attenuation measurement




$$\text{Leakage Current Value [A]} = \frac{\text{Effective Value of Voltmeter [V]}}{1.5\ [\text{k}\Omega]}$$

Figure C Leakage current measurement ( UL1283 )