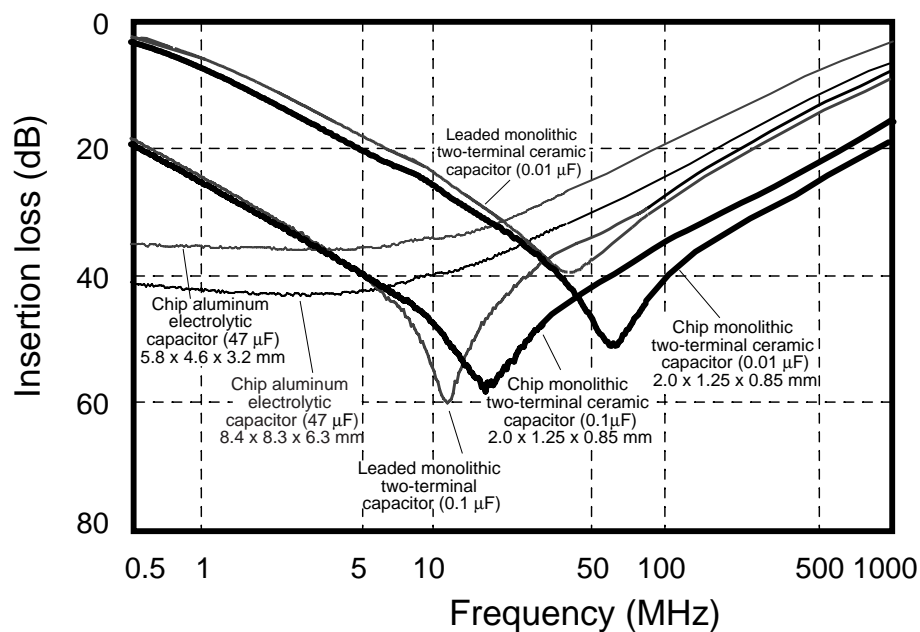


3. Noise Suppression by Low-pass Filters

3.6. Characteristic of Typical Capacitors

Insertion Loss Characteristics of Typical Two-terminal Capacitors

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The above drawing shows examples of insertion loss measurements of typical capacitors. For leaded capacitors, the insertion loss is measured with the lead wires cut to 1 mm.

[Notes]

3. Noise Suppression by Low-pass Filters

3.5. Characteristic of Typical Capacitors

Typical ESL Values for Capacitors

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Type of Capacitor	Residual inductance (ESL)
Leaded disc ceramic capacitor (0.01 μ F)	3.0 nH
Leaded disc ceramic capacitor (0.1 μ F)	2.6 nH
Leaded monolithic ceramic capacitor (0.01 μ F)	1.6 nH
Leaded monolithic ceramic capacitor (0.1 μ F)	1.9 nH
Chip monolithic ceramic capacitor (0.01 μ F, Size: 2.0 x 1.25 x 0.6 mm)	0.7 nH
Chip monolithic ceramic capacitor (0.1 μ F, Size: 2.0 x 1.25 x 0.85 mm)	0.9 nH
Chip aluminum electrolytic capacitor (47 μ F, Size: 8.4 x 8.3 x 6.3 mm)	6.8 nH
Chip tantalum electrolytic capacitor (47 μ F, Size: 5.8 x 4.6 x 3.2 mm)	3.4 nH

The above table shows typical residual inductances (ESL) values for capacitors, which are calculated from the impedance curves shown on the previous page.

[Notes]

The residual inductance varies depending on the type of capacitor. It can also vary in the same type of capacitor, depending on the dielectric material and the structure of the electrode pattern.