

EMI Suppression Filters (EMIFIL[®]) for AC Power Lines



Hybrid Choke Coil

PLY10 Series

The PLY10 is a compact and high-performance hybrid choke coil that can handle differential mode noise caused by the harmonics currents regulation circuit as well as common mode noise. It can handle noise problems much more compactly than a combination of a conventional common mode choke coil and a differential mode choke coil.

■ Features

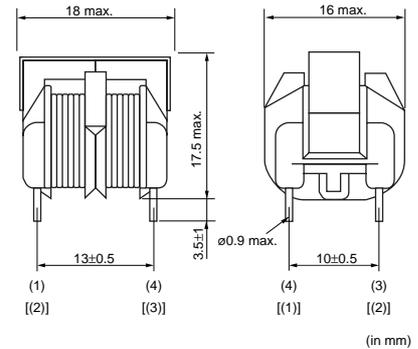
1. PLY10 has both functions of a common mode choke coil and a differential mode choke coil in its compact body.
2. Low profile in vertical core layout
3. PLY10 has the same pin layout as a general common mode choke coil which enables it to replace conventional components.
4. Both a standard winding and a sectional winding for higher frequency noise is available.

■ EMI Problem for harmonics currents regulation

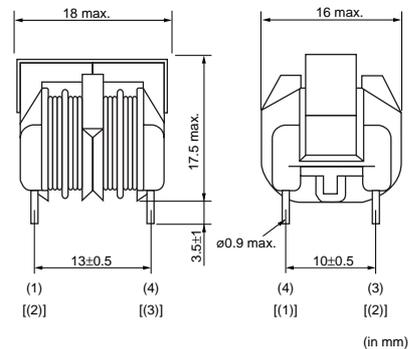
There are some methods that meet harmonics currents regulations (IEC1000-3, EN60555-2) such as an active filter and one converter. However, they cause new EMI problems of differential mode noise because they use active components. For that reason, additional filter components to meet differential mode noise must be applied.



Standard Winding



Sectional Winding



● Standard Winding

Part Number	Common Mode Inductance (min.) (mH)	Normal Mode Inductance (min.) (μH)	Rated Current (A)	Rated Voltage (Vac)
PLY10AN9012R0R2	0.9	65	2.0	300
PLY10AN1121R8R2	1.1	90	1.8	300
PLY10AN1521R6R2	1.5	110	1.6	300
PLY10AN2121R4R2	2.1	150	1.4	300
PLY10AN2821R2R2	2.8	190	1.2	300
PLY10AN4321R0R2	4.3	300	1.0	300
PLY10AN6220R8R2	6.2	400	0.8	300
PLY10AN8720R7R2	8.7	530	0.7	300
PLY10AN9920R6R2	9.9	690	0.6	300
PLY10AN1430R5R2	14.0	1000	0.5	300

Operating Temperature Range: -25°C to 60°C Winding Temperature Rise (at Rated Current): 60°C (max.)

● Sectional Winding

Part Number	Common Mode Inductance (min.) (mH)	Normal Mode Inductance (min.) (μH)	Rated Current (A)	Rated Voltage (Vac)
PLY10AN7012R0D2	0.7	50	2.0	300
PLY10AN1121R7D2	1.1	65	1.7	300
PLY10AN1421R4D2	1.4	110	1.4	300

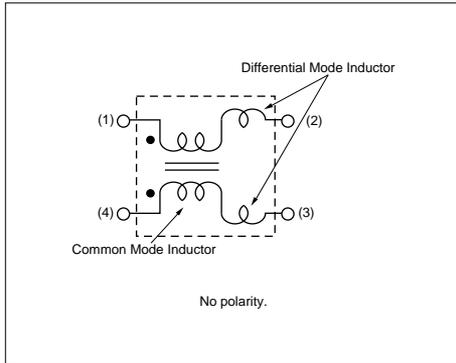
Continued on the following page.

Continued from the preceding page.

Part Number	Common Mode Inductance (min.) (mH)	Normal Mode Inductance (min.) (μH)	Rated Current (A)	Rated Voltage (Vac)
PLY10AN2321R2D2	2.3	160	1.2	300
PLY10AN3521R0D2	3.5	240	1.0	300
PLY10AN4420R8D2	4.4	320	0.8	300
PLY10AN8720R7D2	8.7	500	0.7	300
PLY10AN9720R6D2	9.7	670	0.6	300
PLY10AN1130R5D2	11.0	840	0.5	300

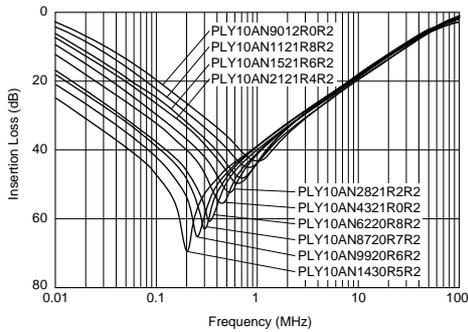
Operating Temperature Range: -25°C to 60°C Winding Temperature Rise (at Rated Current): 60°C (max.)

Equivalent Circuit Diagram

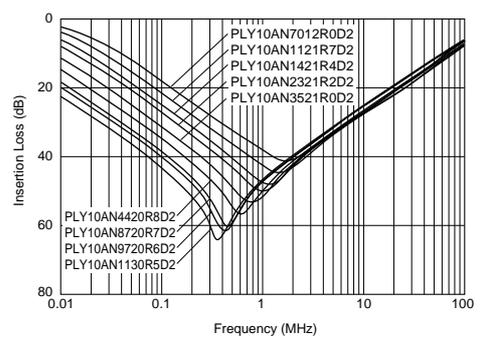


Common Mode Insertion Loss - Frequency Characteristics

Standard Winding

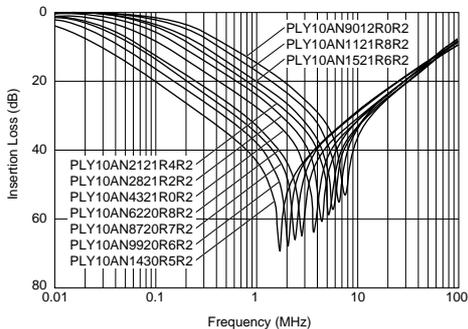


Sectional Winding

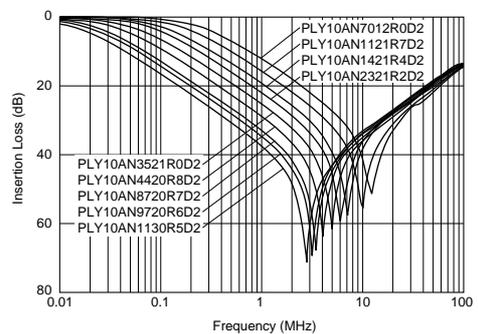


Differential Mode Insertion Loss - Frequency Characteristics

Standard Winding



Sectional Winding



PLY10 Series (Safety Standard Recognized)

The PLY10 is a compact and high-performance hybrid choke coil that can handle differential mode noise caused by the harmonics currents regulation circuit as well as common mode noise. It can handle noise problems much more compactly than a combination of a conventional common mode choke coil and a differential mode choke coil.

■ Features

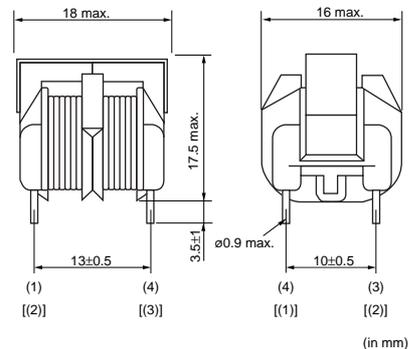
1. PLY10 has both functions of a common mode choke coil and a differential mode choke coil in its compact body.
2. Low profile in vertical core layout
3. PLY10 has the same pin layout as a general common mode choke coil which enables it to replace conventional components.
4. Safety standards: EN60065

■ EMI Problem for harmonics currents regulation

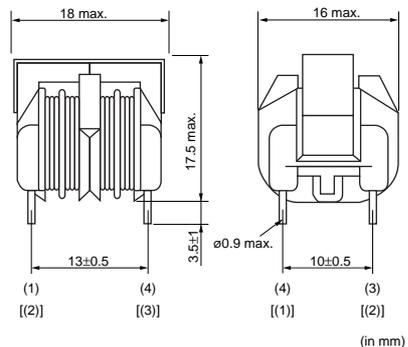
There are some methods that meet harmonics currents regulations (IEC1000-3, EN60555-2) such as an active filter and one converter. However, they cause new EMI problems of differential mode noise because they use active components. For that reason, additional filter components to meet differential mode noise must be applied.



Standard Winding



Sectional Winding



● Standard Winding

Part Number	Common Mode Inductance (min.) (mH)	Normal Mode Inductance (min.) (μH)	Rated Current (A)	Rated Voltage (Vac)
PLY10AS9012R0R2	0.9	65	2.0	300
PLY10AS1121R8R2	1.1	90	1.8	300
PLY10AS1521R6R2	1.5	110	1.6	300
PLY10AS2121R4R2	2.1	150	1.4	300
PLY10AS2821R2R2	2.8	190	1.2	300
PLY10AS4321R0R2	4.3	300	1.0	300
PLY10AS6220R8R2	6.2	400	0.8	300
PLY10AS8720R7R2	8.7	530	0.7	300
PLY10AS9920R6R2	9.9	690	0.6	300
PLY10AS1430R5R2	14.0	1000	0.5	300

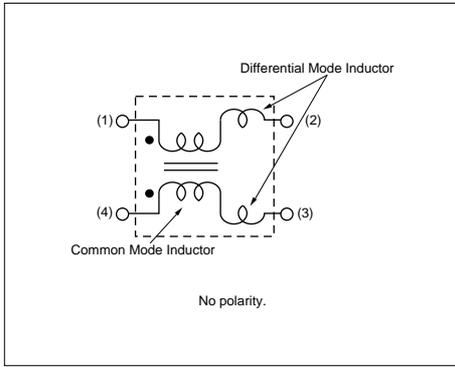
Operating Temperature Range: -25°C to 60°C Winding Temperature Rise (at Rated Current): 60°C (max.)

● Sectional Winding

Part Number	Common Mode Inductance (min.) (mH)	Normal Mode Inductance (min.) (μH)	Rated Current (A)	Rated Voltage (Vac)
PLY10AS7012R0D2	0.7	50	2.0	300
PLY10AS1121R7D2	1.1	65	1.7	300
PLY10AS1421R4D2	1.4	110	1.4	300
PLY10AS2321R2D2	2.3	160	1.2	300
PLY10AS3521R0D2	3.5	240	1.0	300
PLY10AS4420R8D2	4.4	320	0.8	300
PLY10AS8720R7D2	8.7	500	0.7	300
PLY10AS9720R6D2	9.7	670	0.6	300
PLY10AS1130R5D2	11.0	840	0.5	300

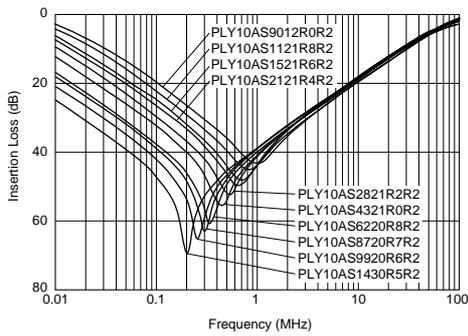
Operating Temperature Range: -25°C to 60°C Winding Temperature Rise (at Rated Current): 60°C (max.)

■ Equivalent Circuit Diagram

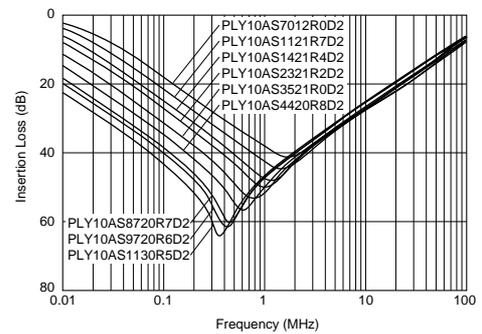


■ Common Mode Insertion Loss - Frequency Characteristics

Standard Winding

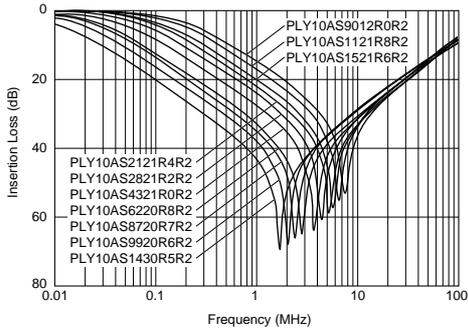


Sectional Winding



■ Differential Mode Insertion Loss - Frequency Characteristics

Standard Winding



Sectional Winding

