Tech Notes

Application Note

Recommended combinations of products in the ALT series and common mode filters/chokes

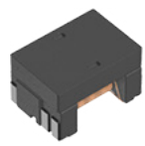
In the context of the IoT market, higher transmission speeds (1Gbps to 10Gbps) are becoming required for wired communication even as the spread of wireless communication using 5th-generation mobile communication systems (5G) continues. In security cameras and other such devices, the use of power supply systems which consolidate power lines in Ethernet cables is becoming more widespread, and the demand for pulse transformers compatible with these systems is growing accordingly. Trends are also being seen toward mounting multiple pulse transformers on a single circuit board, which will generate demand for smaller sizes.
The products in the ALT pulse transformer series have structural designs unique to TDK, and the SMD types are compatible with automatic mounting.
Our product lineup includes discrete-type products of pulse transformers and common mode chokes mounted on LAN interfaces, with expanded flexibility in part layouts compared to conventional integrated module types (such as measures to save space by mounting on both the front and rear faces of circuit boards).
Furthermore, by conforming to the automatic winding method, these products ensure higher quality and reliability than those of toroidal coil products, whose wire processing is difficult during the manufacturing process, and they are optimal pulse transformers for information equipment, whose communication quality is becoming more important.
These are the S-parameters for combinations of pulse transformers and common mode chokes recommended by TDK in response to individual Ethernet standards.

Compatible standards

10GBASE-T

Pulse transformer	Recommended Common Mode Filters
ALT4532H-121-T10G  LxWxT(mm) 4.5x3.2x2.9(Max) [1812 inch]	ACM2012H-900-2P-T05  LxWxT(mm) 2.00x1.20x1.30(Max) [0804 inch]

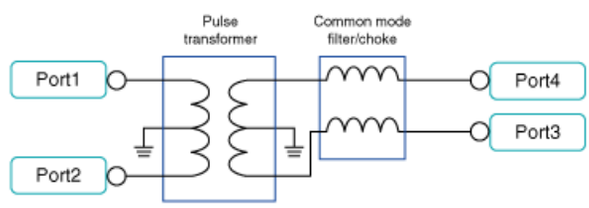
1000BASE-T/2.5GBASE-T/5GBASE-T, PoE+[600mA]

Pulse transformer	Recommended Common Mode Filters
ALT4532P-181-T05G  LxWxT(mm) 4.5x3.2x2.9(Max) [1812 inch]	ACM2012H-381-2P-T05  LxWxT(mm) 2.00x1.20x1.30(Max) [0804 inch]

100/1000BASE-T

Pulse transformer	Recommended Common Mode Filters
ALT4532M-201-T001  LxWxT(mm) 4.5x3.2x2.9(Max) [1812 inch]	ACM2012-900-2P-T002 ACM2012-361-2P-T002  LxWxT(mm) 2.00x1.20x1.30(Max) [0804 inch]
ALT3232M-151-T001  LxWxT(mm) 3.2x3.2x2.9(Max) [1212 inch]	MCZ1210AH900L2TA0G  LxWxT(mm) 1.25x1.00x0.6(Max) [0504 inch]

Typical Circuit Structure and Measurement Condition



Connection diagram
KEYSIGHT ENA Series
Network Analyzer E5071C 300kHz - 20GHz

Recommended combinations

10GBASE-T

Pulse transformer	Recommended Common Mode Filters	S-parameter	Evaluation Boards
ALT4532H-121-T10G	ACM2012H-900-2P-T05	View	

1000BASE-T/2.5GBASE-T/5GBASE-T, PoE[600mA]

Pulse transformer	Recommended Common Mode Filters	S-parameter	Evaluation Boards
ALT4532P-181-T05G	ACM2012H-900-2P-T05	View	

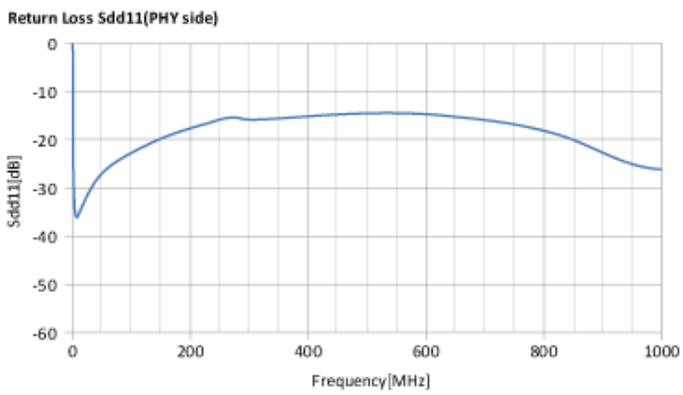
100/1000BASE-T

Pulse transformer	Recommended Common Mode Filters	S-parameter	Evaluation Boards
ALT4532M-201-T001	ACM2012-900-2P-T002	View	ALT4532-EVA-01A
	ACM2012-361-2P-T002	View	
	MCZ1210AH900L2TA0G	View	

Pulse transformer	Recommended Common Mode Filters	S-parameter	Evaluation Boards
ALT3232M-151-T001	ACM2012-900-2P-T002	View	
	ACM2012-361-2P-T002	View	
	MCZ1210AH900L2TA0G	View	

S-parameter

ALT4532H-121-T10G + ACM2012H-900-2P-T05 *10GBASE-T*



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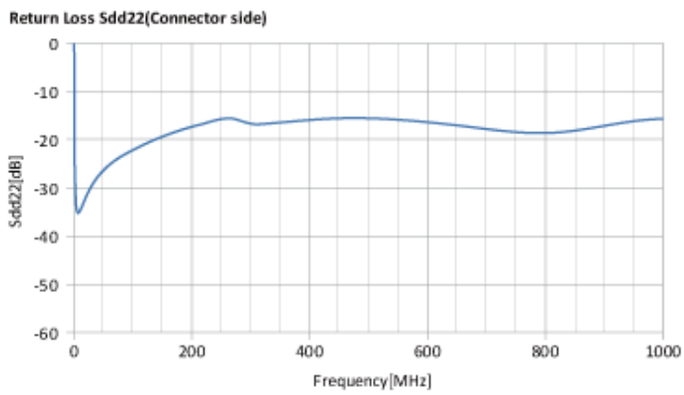

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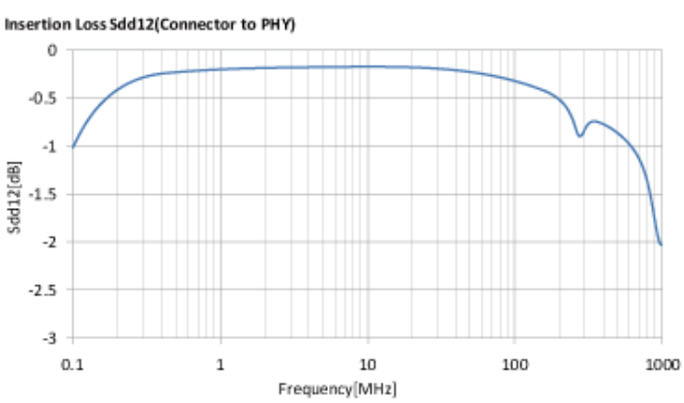

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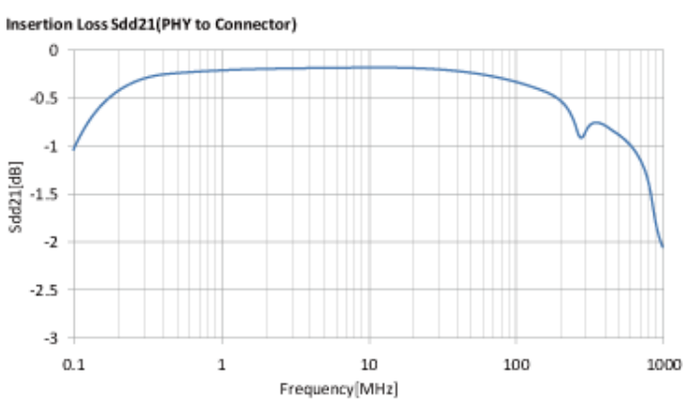

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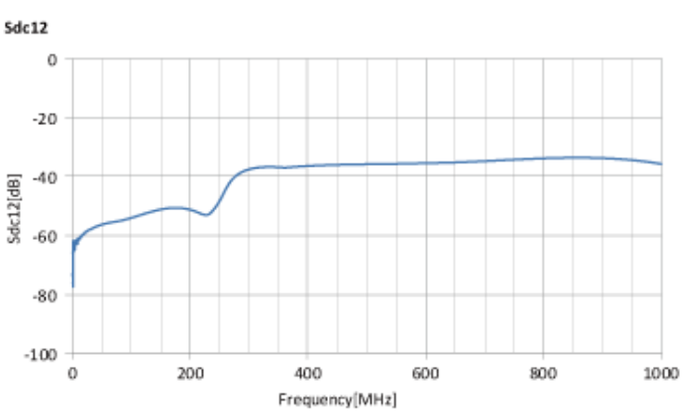

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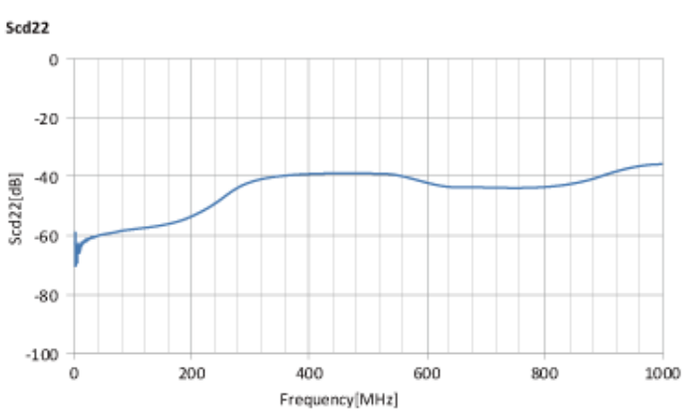

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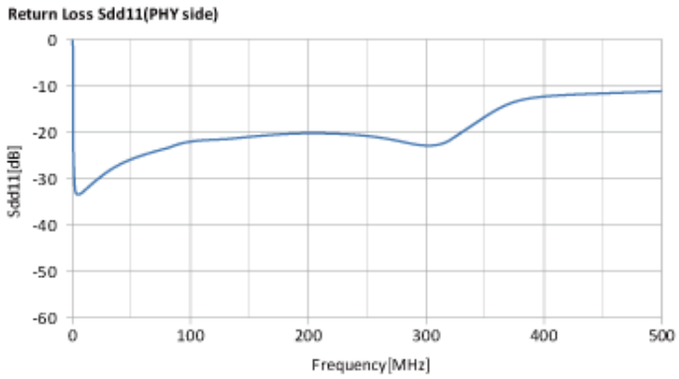

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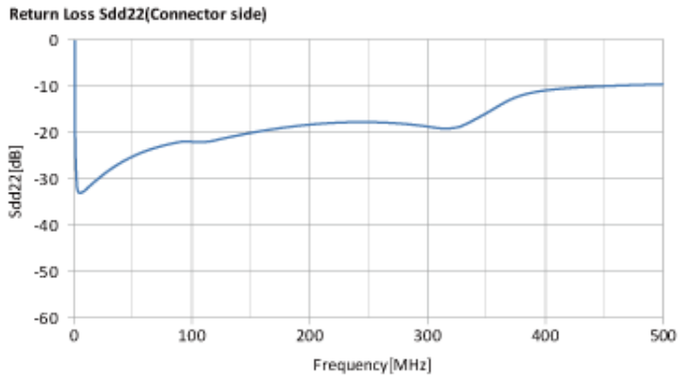

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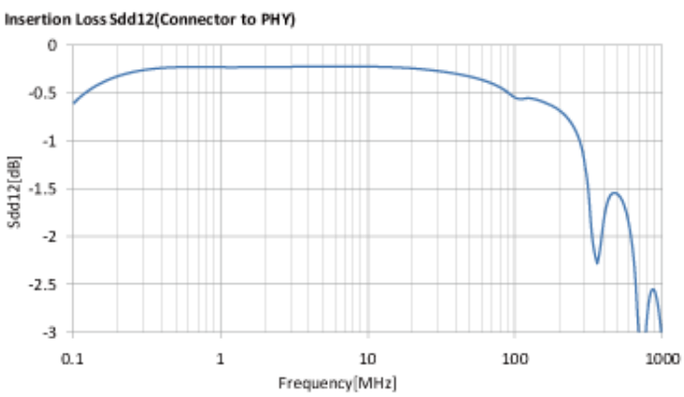

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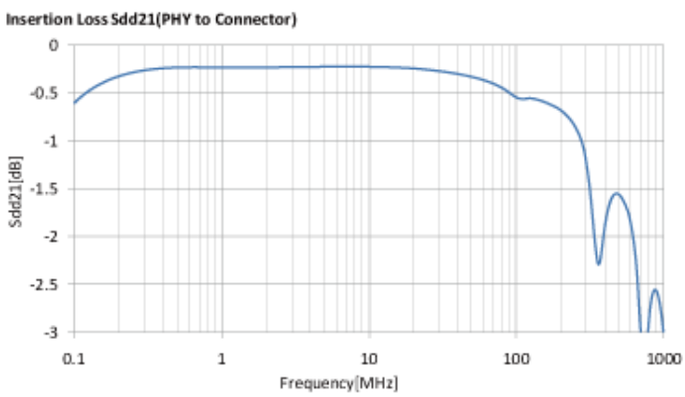

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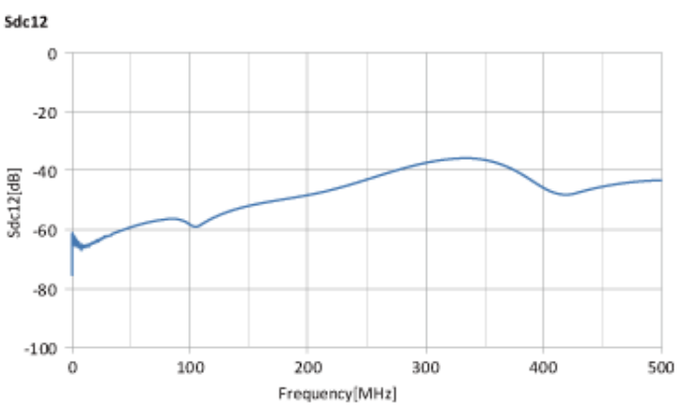

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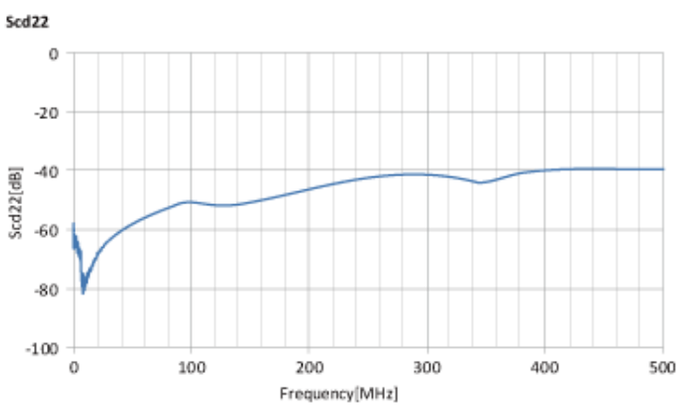

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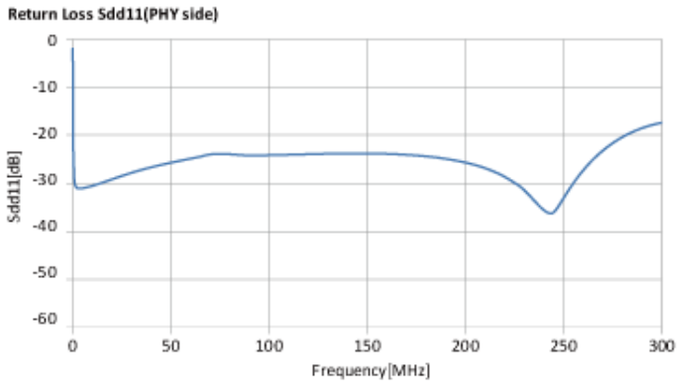

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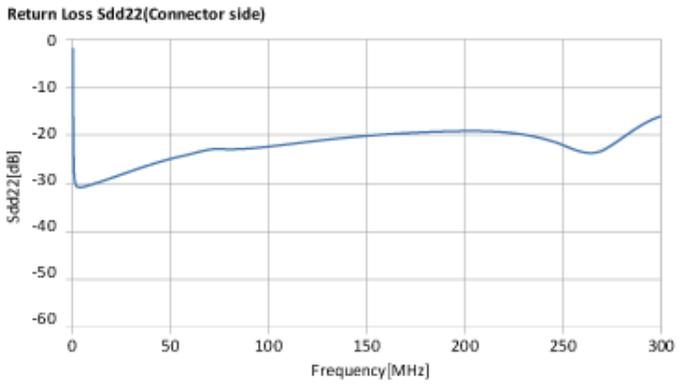

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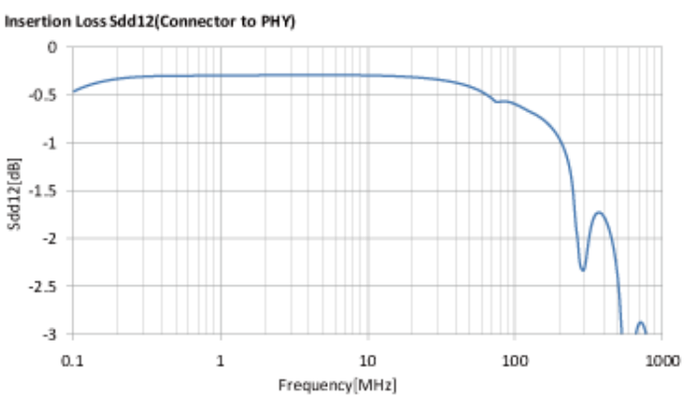

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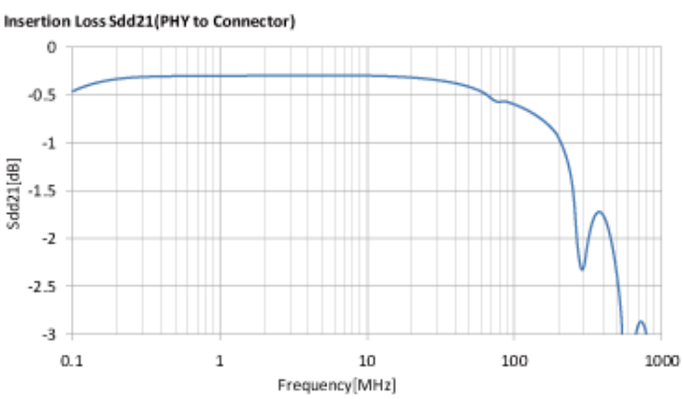

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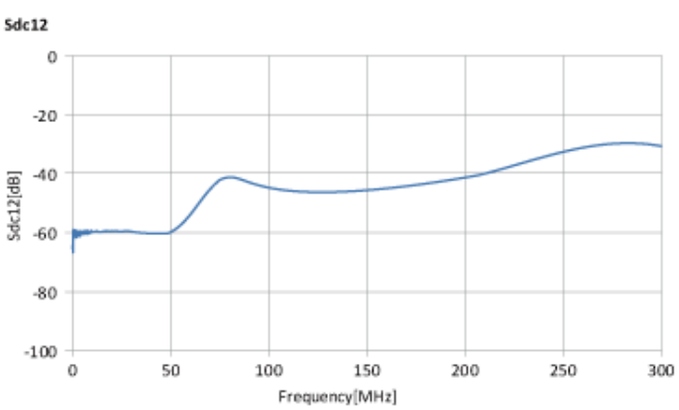

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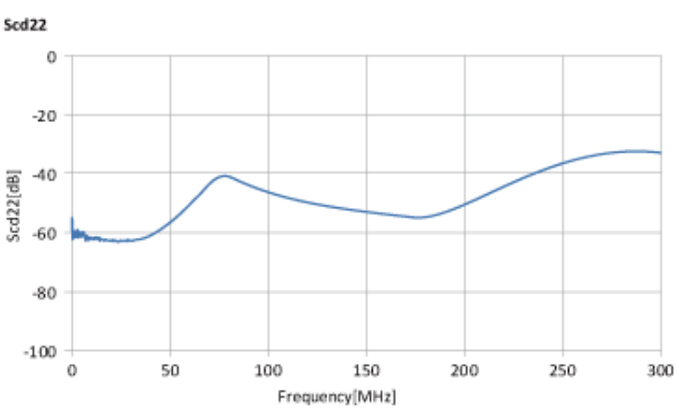

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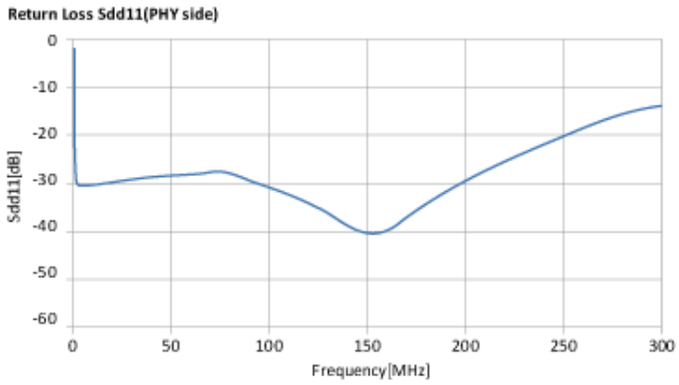

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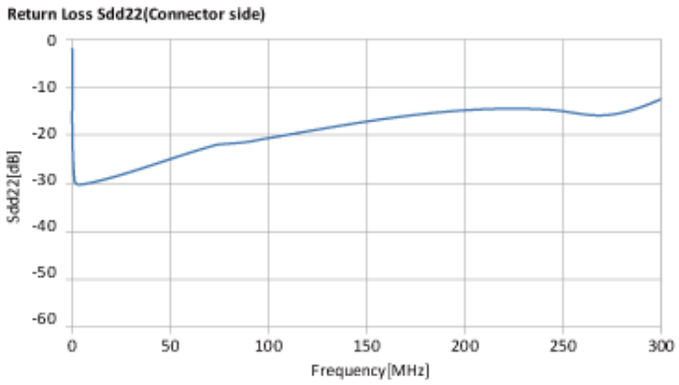

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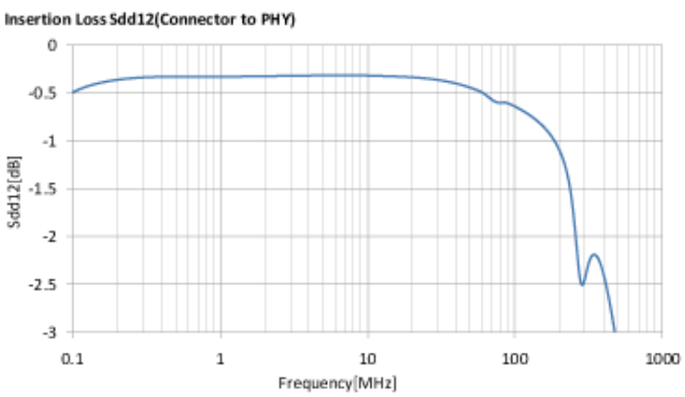

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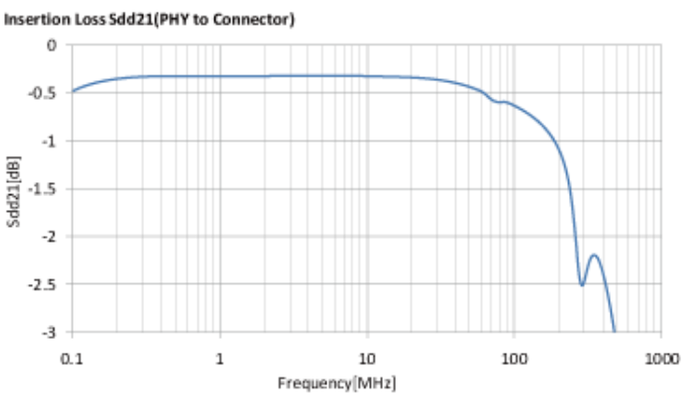

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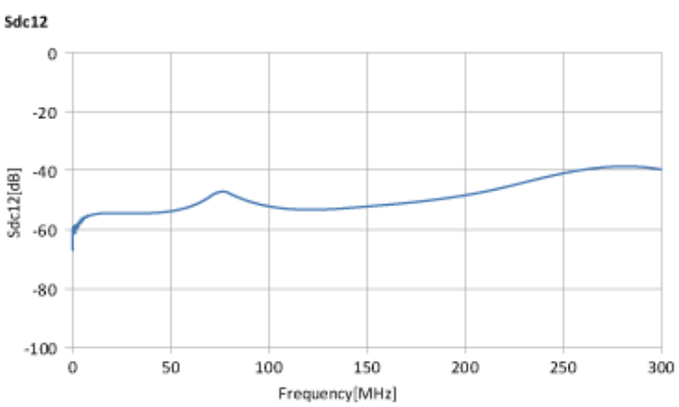

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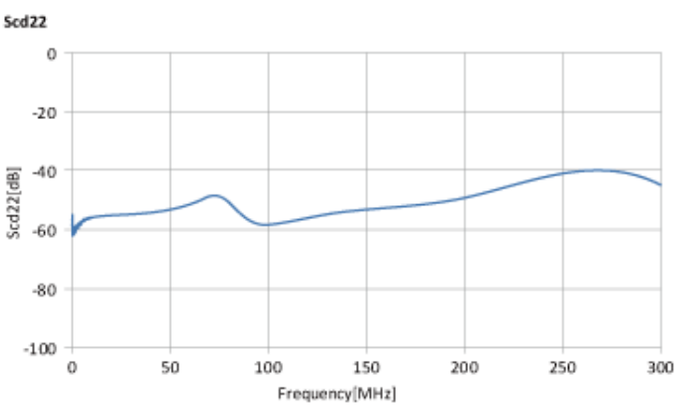

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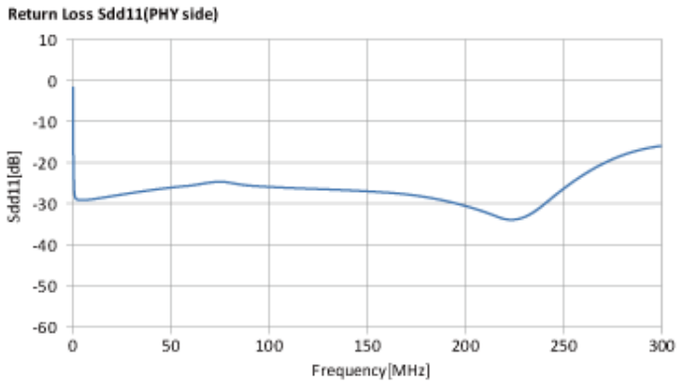

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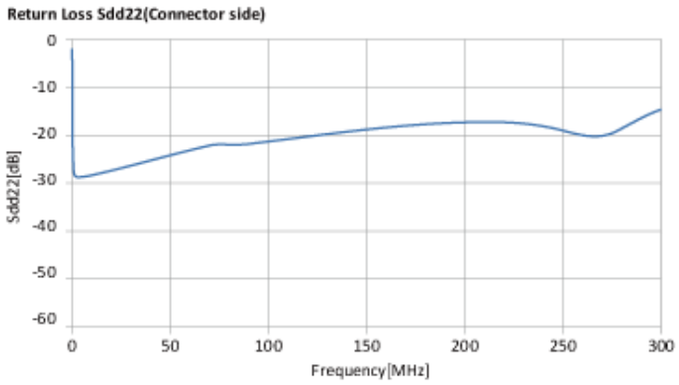

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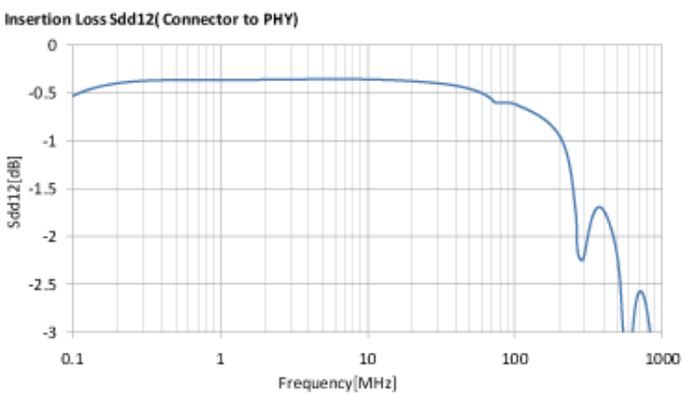

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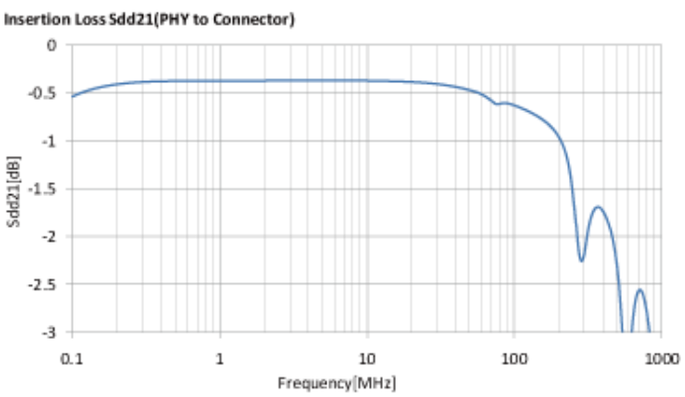

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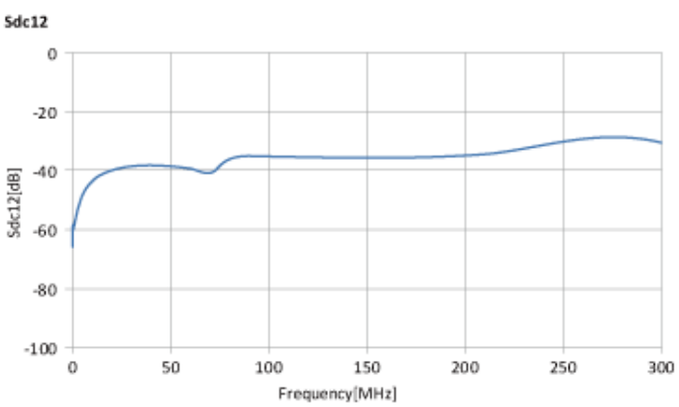

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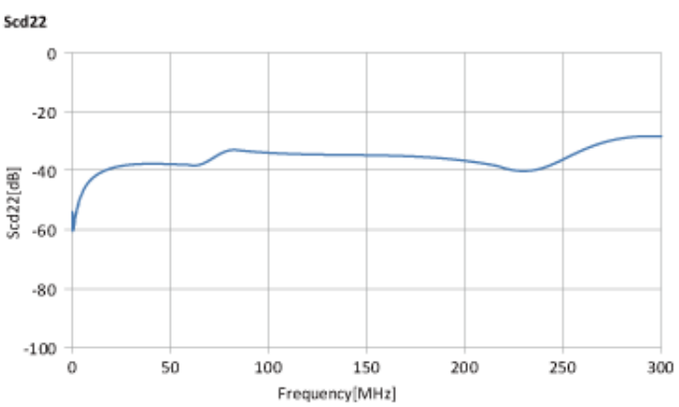

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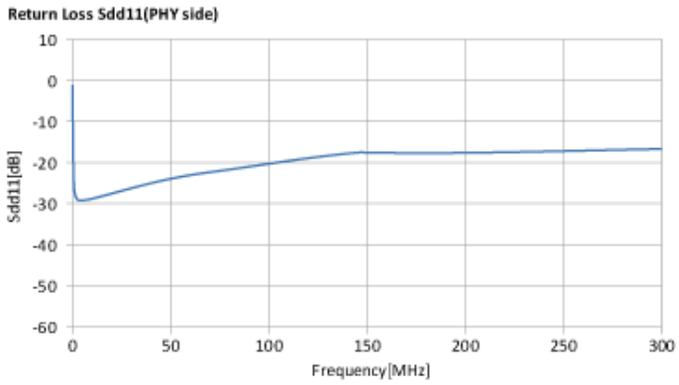

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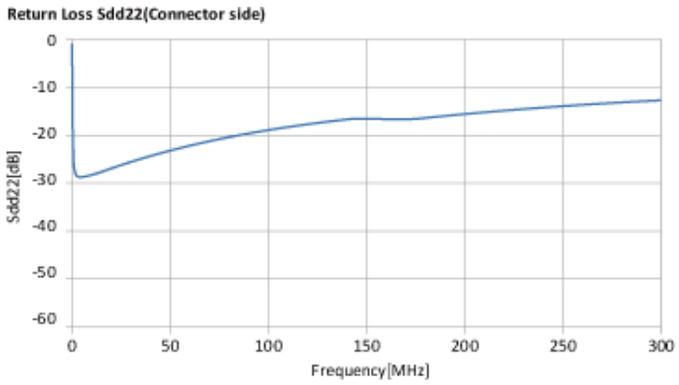

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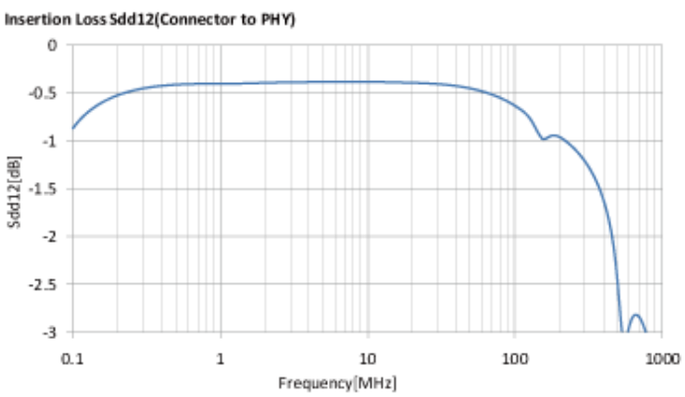

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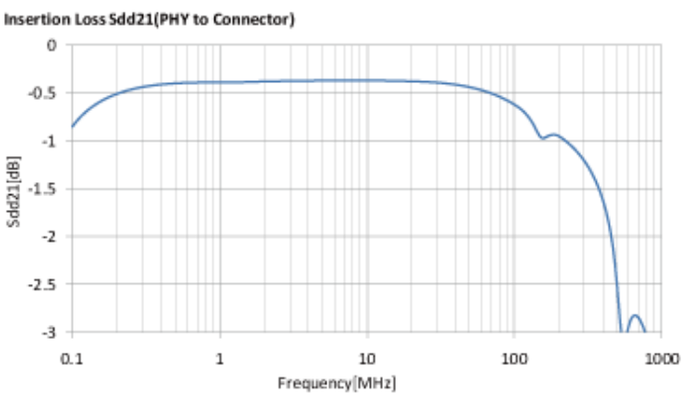

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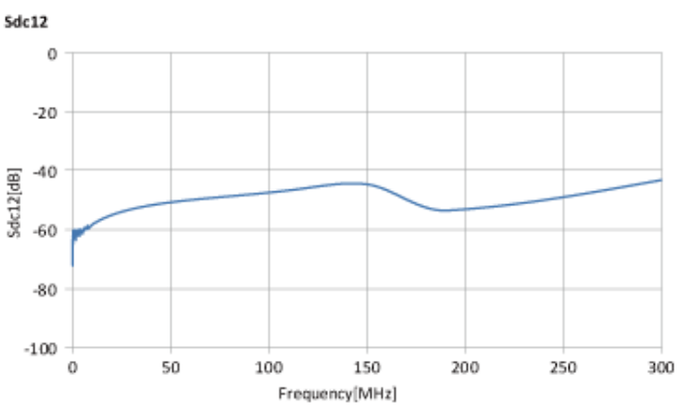

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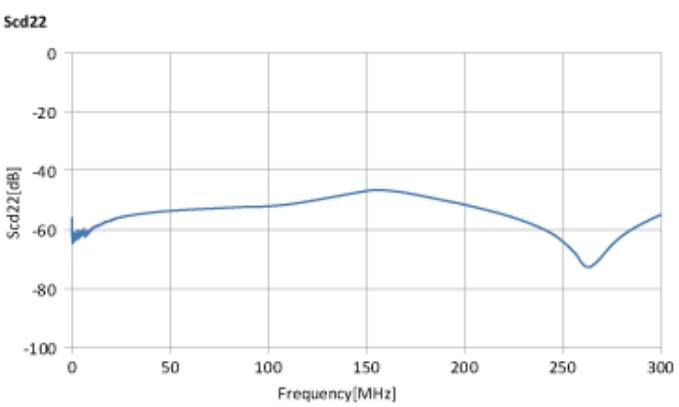

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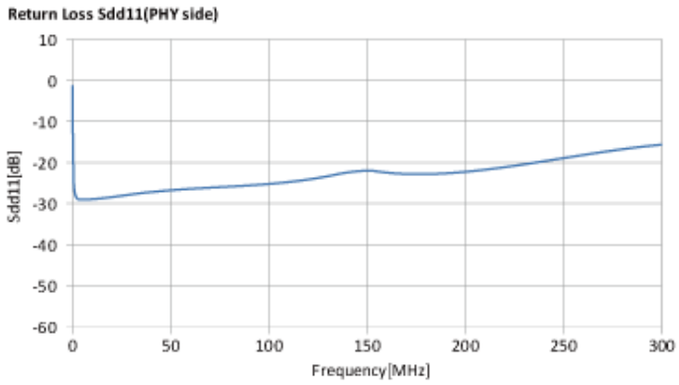

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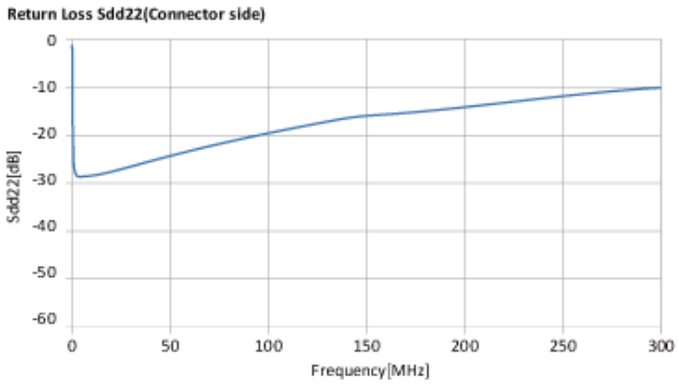

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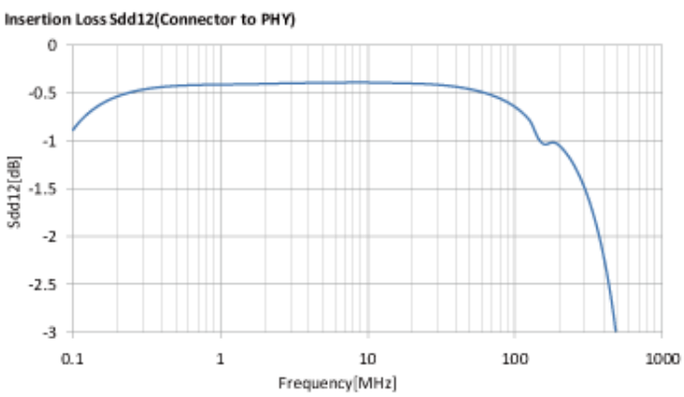

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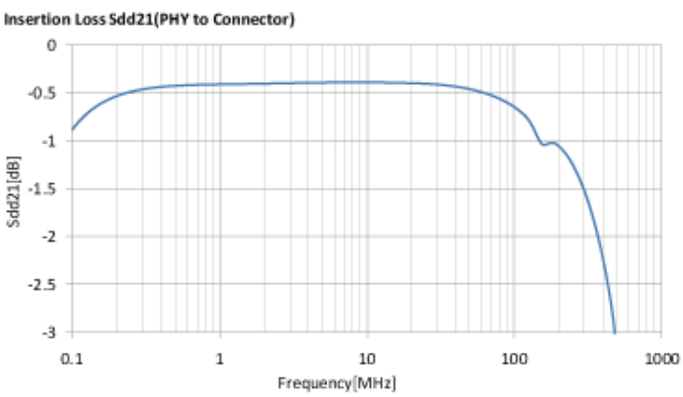

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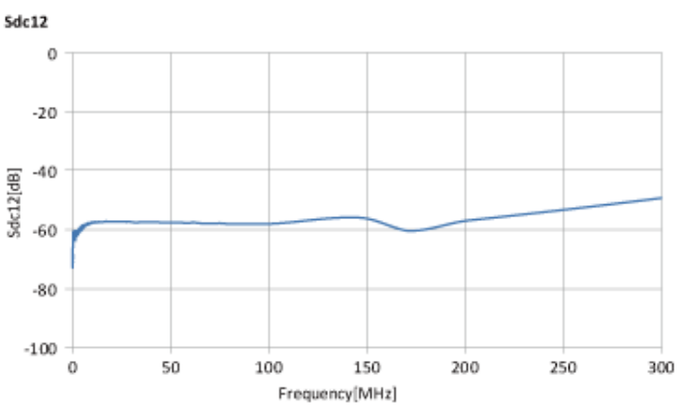

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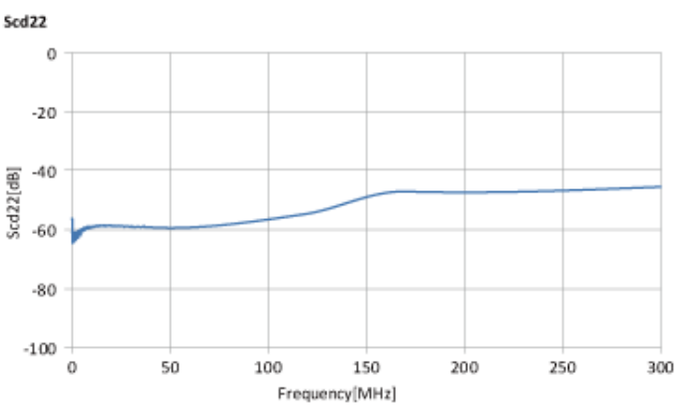

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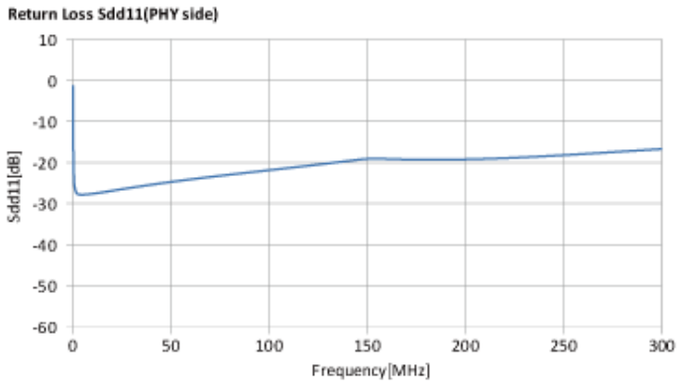

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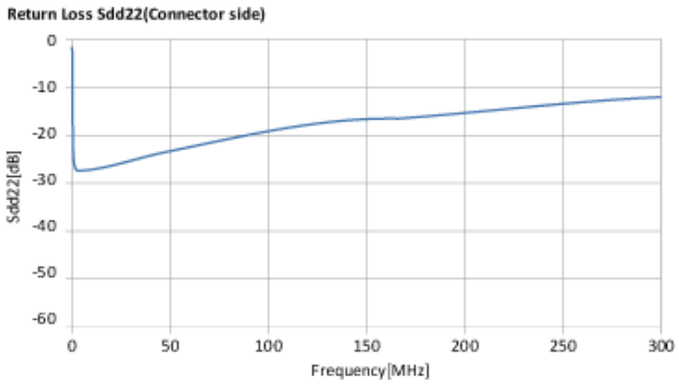

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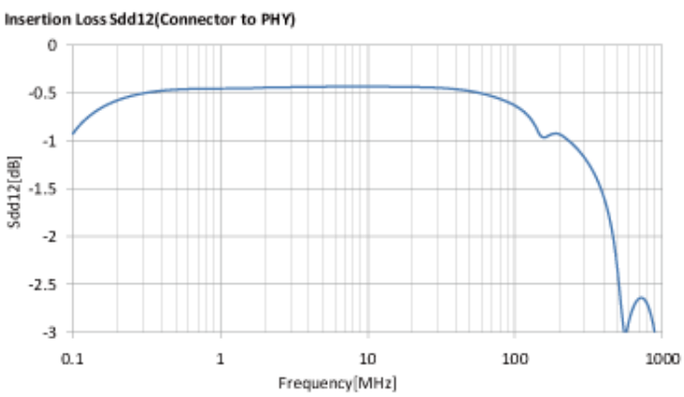

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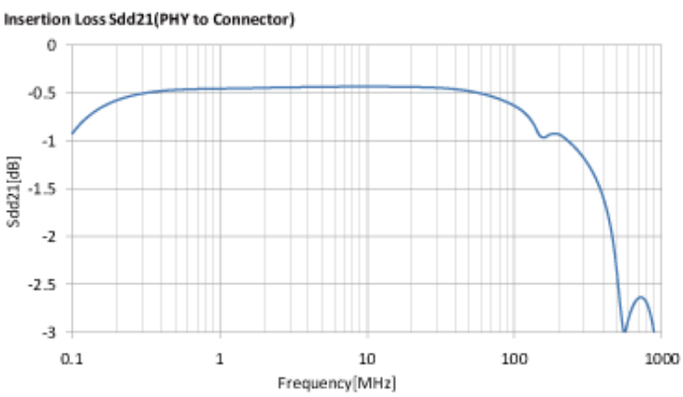

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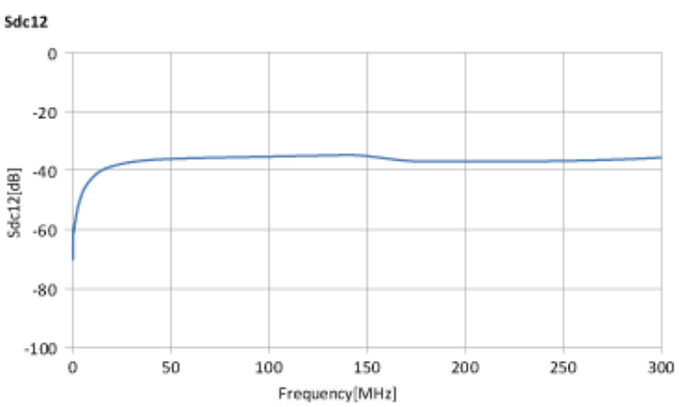

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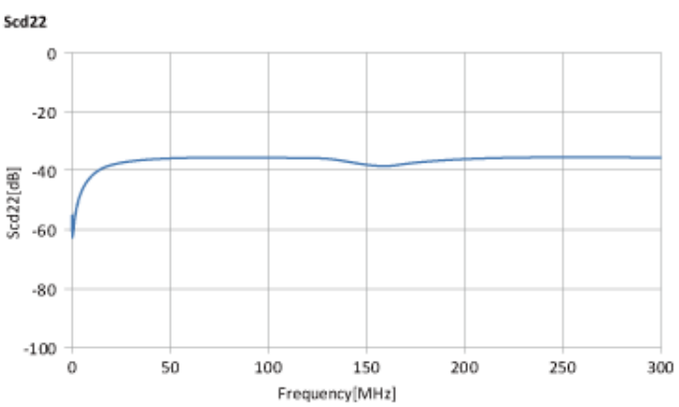
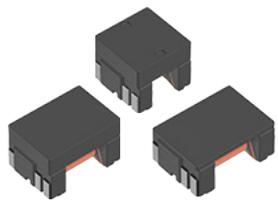


Scd22

Related pages

Pulse Transformers and Modules for LAN product information

Various information on TDK Group's Pulse Transformers and Modules for LAN are comprehensively provided on this page.



Inquiries on products, sales, or technical matters

Common Mode Filters / Chokes product information

Various information on TDK Group's Common Mode Filters / Chokes are comprehensively provided on this page.

Inquiries on products, sales, or technical matters