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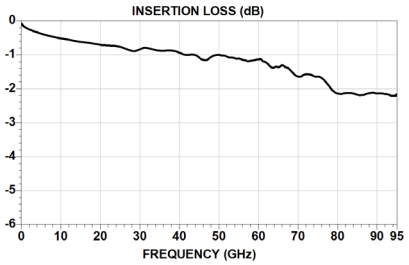
HL9538 DC Blocking Adapter (1.0 mm to 1.85 mm)

Features and Technical Specifications[1]

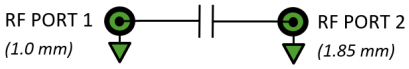
Bandwidth[2]	160 kHz to 95 GHz (opt. -11) 280 kHz to 95 GHz (opt. -30)
Amplitude Match	± 0.1 dB, f ≤ 95 GHz (opt. -M)
Phase Match	± 4°, f = 40 GHz (opt. -M)
Insertion Loss See *Fig. 1*	< 2 dB, f ≤ 95 GHz, all options
Return Loss See *Fig. 3*	15 dB, 160k Hz < f ≤ 60 GHz, all options 10 dB, 60 GHz < f < 95 GHz, all options
Breakdown Voltage	11 V, max (opt. -11) 30 V, max (opt. -30)
Group Delay See *Fig. 4*	≈ 110 ps
Rise Time (10-90%)	3.2 ps, all options
Capacitance	10 nF (opt. -11) 5.6 nF (opt. -30)
Impedance	50 Ω
Connectors (PORT 1 / PORT 2)	-JP: 1.0 mm jack / 1.85 mm plug -PJ: 1.0 mm plug / 1.85 mm jack -JJ: 1.0 mm jack / 1.85 mm jack -PP: 1.0 mm plug / 1.85 mm plug
Dimensions (W x D x H), including connectors	1.211" x 0.377" x 0.377" 30.8 x 9.57 x 9.57 mm
Weight	8 g (0.28 oz.)
Temperature Limits	-40° to +70° C, operating
RoHS Compliant	Yes, assembled with lead-free solder
REACH Compliant	Yes
Warranty	1 year, see website



HL9538, Option -M-JP shown



Typical HL9538 Insertion and Return Loss



HL9538 Schematic and Port Assignments

PRODUCT SUMMARY

The HL9538 is an ultra-broadband DC blocking adapter between series (1.0 mm to 1.85 mm) with a typical insertion loss of < 2 dB throughout the specified bandwidth range. Incorporating both the DC block and the series adapter into a single device removes interfaces which improves overall system performance.

The DC block will remove DC bias from the input signal to prevent damage to DC-sensitive devices or equipment.

These devices are suitable for use in 224 Gbps PAM4 communications systems, optical communication systems, high-speed data systems, level shifting, cascading, and interfacing between devices with incompatible DC operating points.

They can also be used to improve RF power measurements when a power meter with DC sensitivities is used.

MODELS & OPTIONS

The following model is available:

HL9538, 95 GHz

The following options are available:

-M, matched pair
-U, unmatched part(s)

-11, 11 V breakdown
-30, 30 V breakdown

CONNECTOR OPTIONS

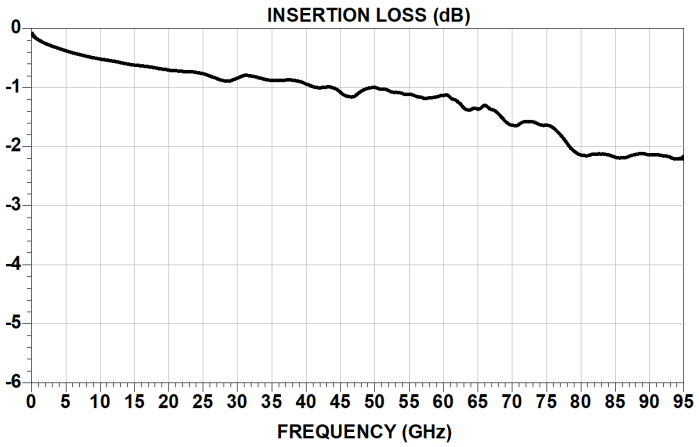
-JP, jack RF 1, plug RF 2 (standard configuration)
-PJ, plug RF 1, jack RF 2
-JJ, jack RF 1 and RF 2
-PP, plug RF 1 and RF 2

Note 1 - Unless otherwise noted, the specifications in this table are typical for Model Number HL9438 using the standard connector configuration (-JP, 1.0 mm jack / 1.85mm plug).

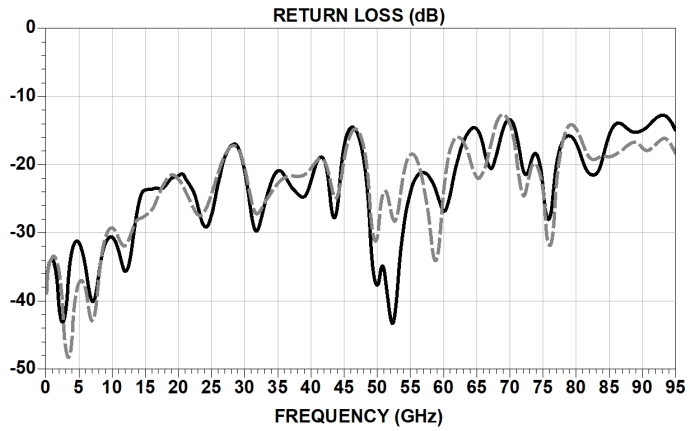
Note 2 - 1.85 mm connectors can produce unwanted moding above 67 GHz. All parts are screened to minimize or eliminate this undesired response.

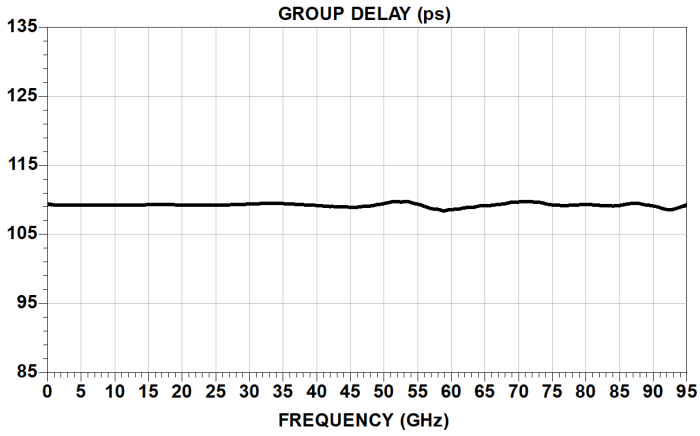
HL9538 Data Plots

The following data plots show the typical S-parameter and group delay characteristics of an HL9538-U-11-JP.









HL9538 Mechanical Drawing

The drawing contained here is for the HL9538-JP configuration. Dimensions are also noted on page 1.

