

## HL8838 Series DC Blocks (16 kHz to 145 GHz)

### Features and Technical Specifications HL8838

#### PRODUCT SUMMARY

The HL8838 Series are ultra-broadband DC Blocks with a typical insertion loss of < 3 dB throughout the specified bandwidth range.

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.

The HL8838 is available in two options: ceramic and silicon. The ceramic version offers an extended low-end frequency range while the silicon offers voltage and thermal stability.

#### MODELS & OPTIONS

The following models are available:

**HL8838**, 145 GHz

The following options are available:

**-10**, 10 V breakdown

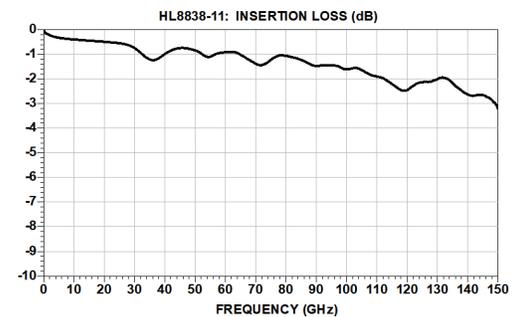
**-11**, 11 V breakdown

**-JJ**, jack RF 1 and RF 2

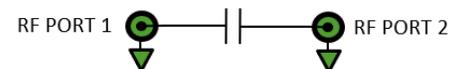
Bandwidth	16 kHz to 145 GHz (opt. -10) 160 kHz to 145 GHz (opt. -11)
Insertion Loss	< 3 dB typ, 3.5 dB max, f ≤ 145 GHz, all options
Return Loss	< 10 dB, f ≤ 145 GHz, all options
Breakdown Voltage	10 V, max (opt. -10) 11 V, max (opt. -11)
Capacitance	100 nF, ceramic (opt. -10) 10 nF, silicon (opt. -11)
Group Delay	≈ 72 ps
Rise Time (10-90%)	2.5 ps, all options
Connectors (PORT 1 / PORT 2)	0.8 mm, jack/jack (opt. -JJ)
Dimensions (L x W x H)	0.947" x 0.375" x 0.375" 24.0 x 9.52 x 9.52 mm
Weight	4.5 g
Temperature Limits	-40° to +70° C, operating
RoHS Compliant	Yes, assembled with lead-free solder
REACH Compliant	Yes
Warranty	1 year, see website



HL8838, Option -11-JJ shown



Typical HL8838 Insertion Loss



HL8838 Schematic and Port Assignments

## HL8838 Plot Diagrams and Mechanical Drawing

Figures 1-4 show the typical S-parameter characteristics of an HL8838 in options -10 and -11.

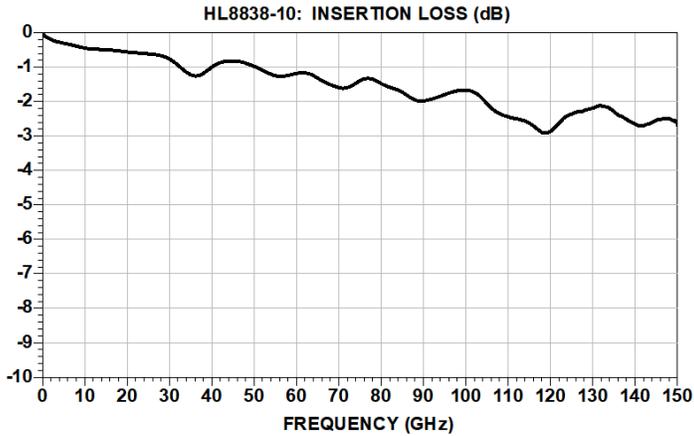


Figure 1: Typical HL8838-10 Bandwidth and Insertion loss

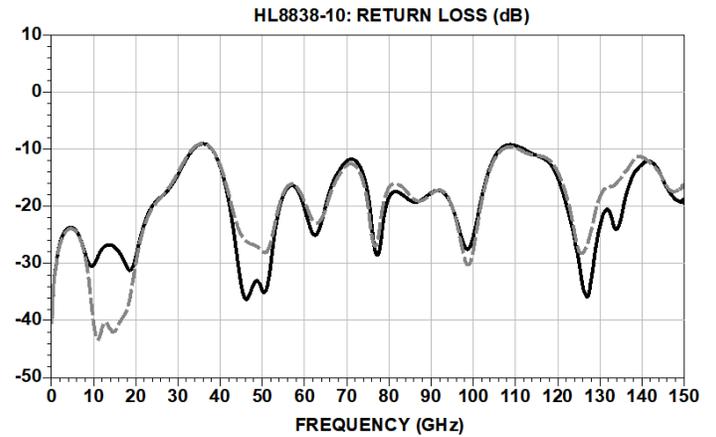


Figure 2: Typical HL8838-10 Return Loss

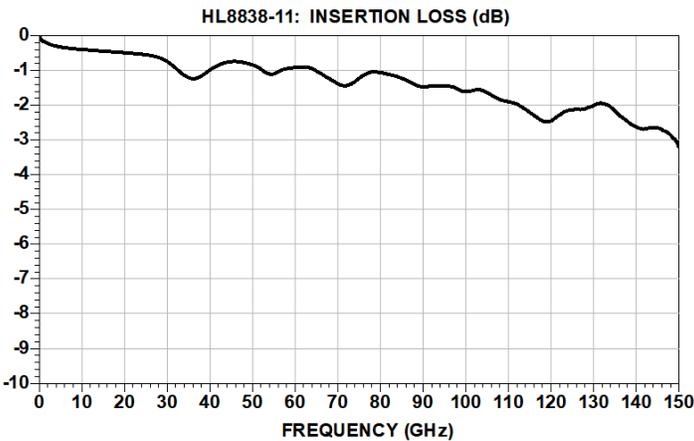


Figure 3: Typical HL8838-11 Bandwidth and Insertion Loss

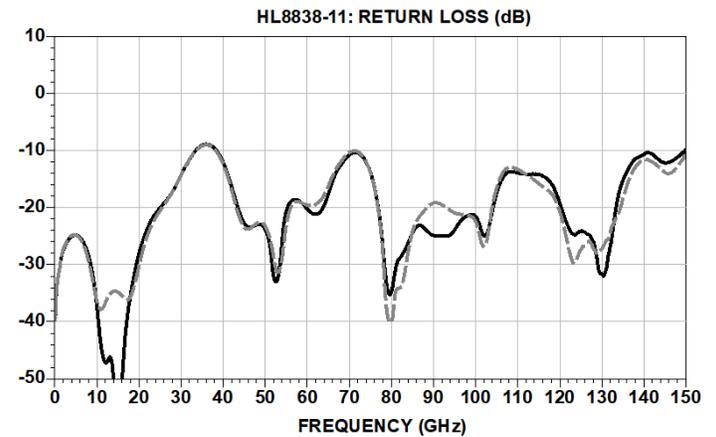


Figure 4: Typical HL8838-11 Return Loss

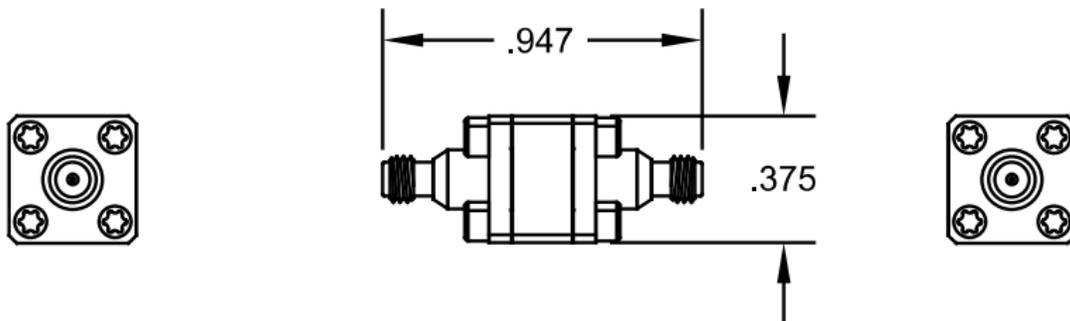


Fig 5: HL8838 Mechanical Drawing (dimensions in inches)