

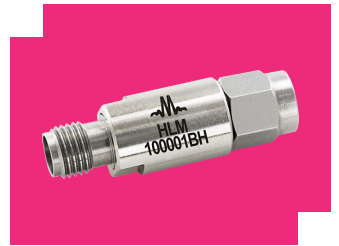
HLM-100001BH

High Power 10GHz Limiter

DEVICE OVERVIEW

General Description

The HLM-100001BH is a wide bandwidth GaAs Schottky diode signal limiter featuring high 27 dBm IP3 and high 4W power handling over a broad DC-10 GHz bandwidth. It offers low 1 dB insertion loss and excellent 25 dB return loss from DC through X band and has a typical 1 dB compression point of 10 dBm. Its high power handling makes it ideal for protecting sensitive components and for applications requiring high linearity.



Features

- Insertion Loss, 1 dB @ 5 GHz Typical
- Power Handling, 4 W CW @ 10 GHz
- Flat Leakage, +9.5 to +12 dBm Typical
- P1dB, +10 dBm Typical
- Compact Inline Bullet Housing

Applications

- RF Transceivers
- Test and Measurement Equipment
- SATCOM

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Connectors	Green Status	Product Lifecycle	Export Classification
HLM-100001BH	High Power 10GHz Limiter	BH	-	REACH RoHS	Released	EAR99

Table Of Contents

- **Device Overview**
 - General Description
 - Features
 - Applications
 - Functional Block Diagram
- **Port Configuration and Functions**
 - Port Diagram
 - Port Functions
- **Revision History**
- **Specifications**
 - Absolute Maximum Ratings
 - Package Information
 - Electrical Specifications
 - Typical Performance Plots
- **Mechanical Data**
 - Outline Drawing

Revision History


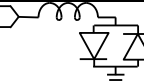

Revision Code	Revision Date	Comment
-	2025-12-01	Initial Release

Port Configuration and Functions

Port Diagram



Port Functions

Port	Function	Connector Type	Description	DC Equivalent Circuit
GND	Ground	-	BH package ground is provided through metal housing and outer coax conductor.	
IN	Input	2.92F	The input port is diode connected for the BH package.	
OUT	Output	2.92M	The output port is diode connected for the BH package.	

Specifications

Absolute Maximum Ratings

Parameter	Maximum Rating	Unit
Maximum Operating Temperature	100	°C
Maximum Storage Temperature	125	°C
Minimum Operating Temperature	-55	°C
Minimum Storage Temperature	-65	°C
RF Power Handling , Average ¹	4	W

RF Power Handling represents an instantaneous, catastrophic limit and it isn't derated for frequency, temperature, pulse conditions, or unit to unit variation

[1] CW @ 10 GHz, 25°C

Package Information

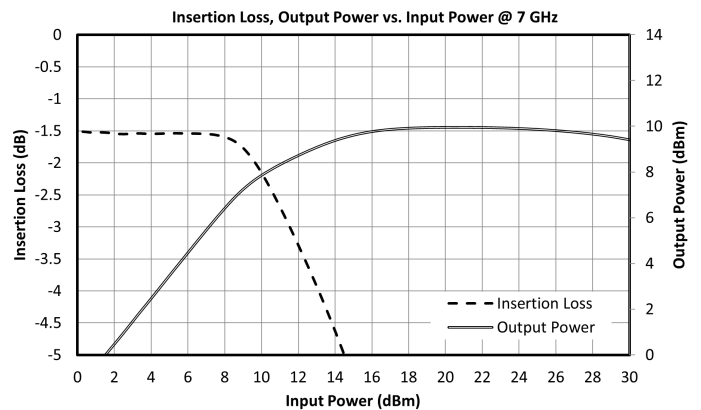
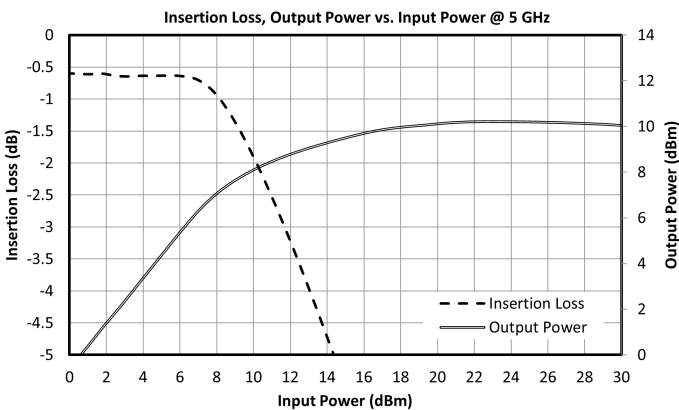
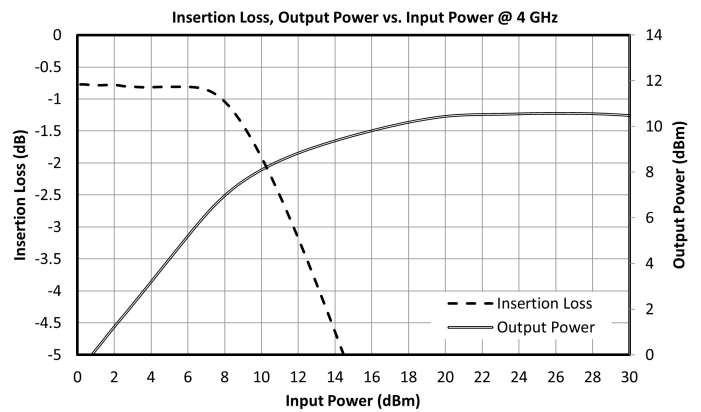
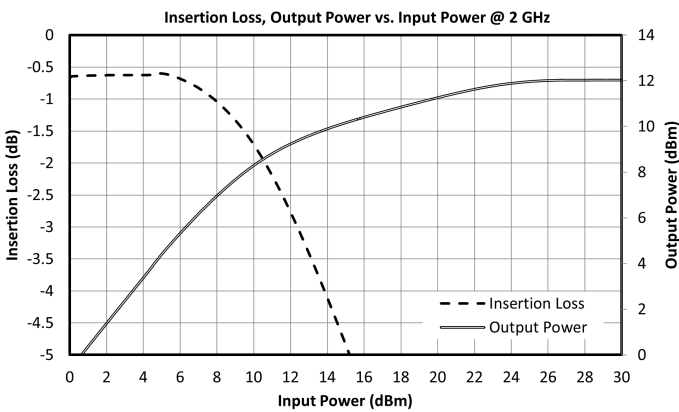
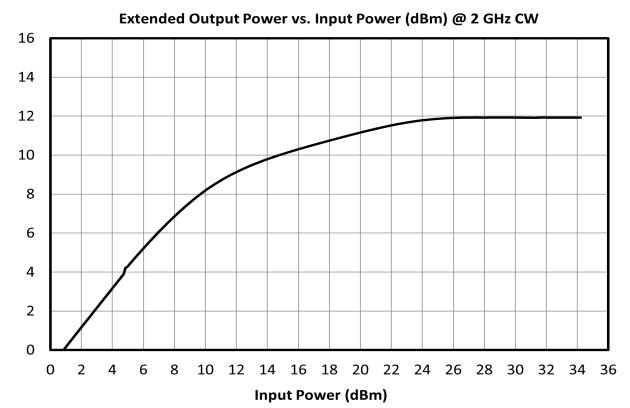
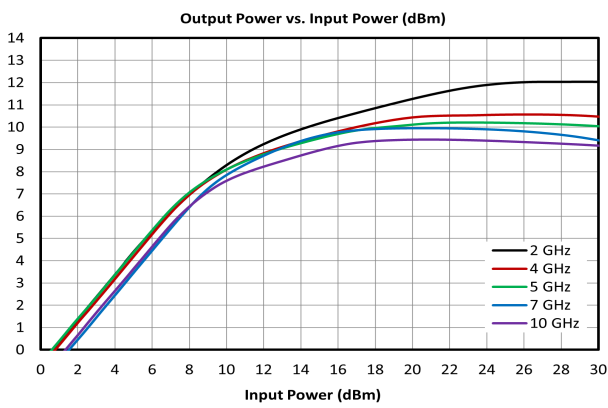
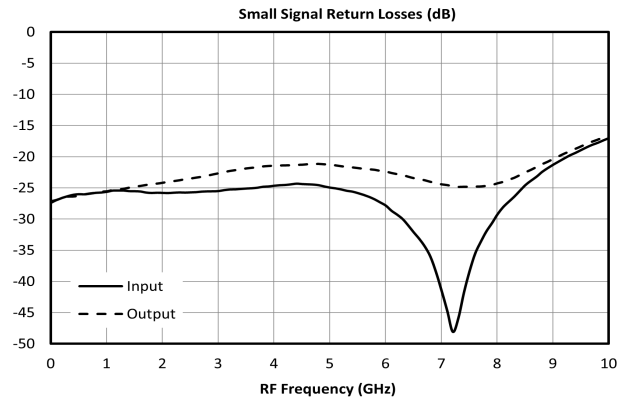
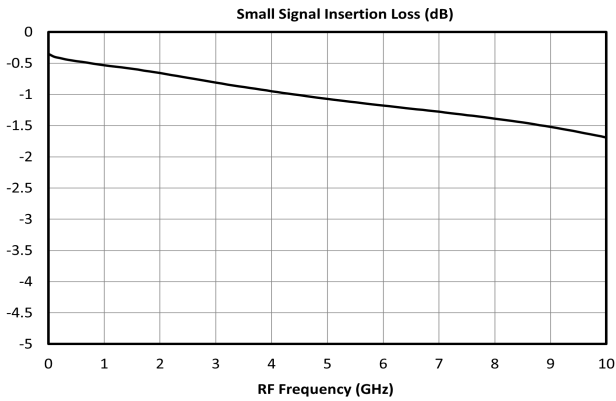
Parameter	Details	Rating
Weight	Package name: BH	9.2g
Dimensions	-	30.1 x 9.5 mm

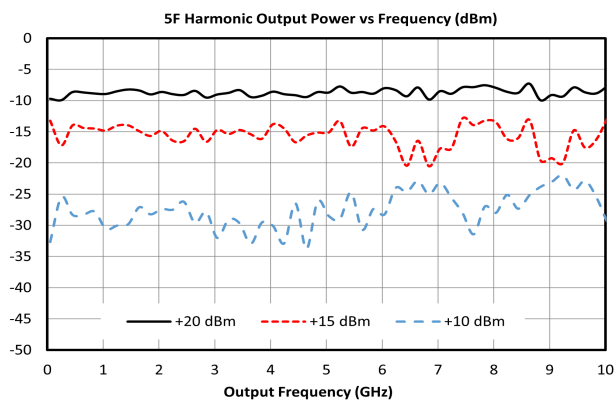
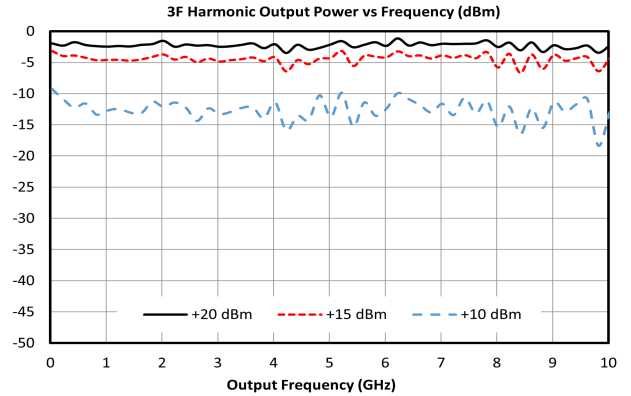
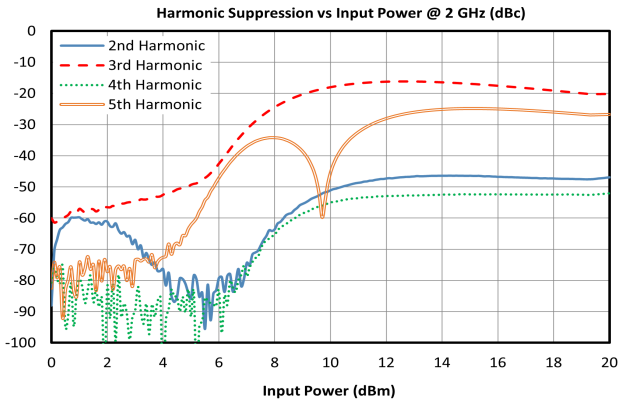
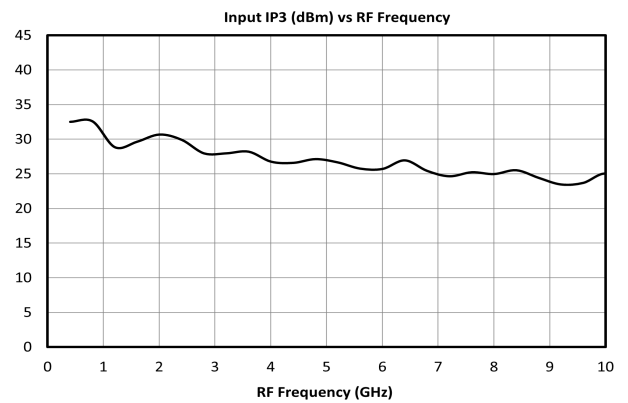
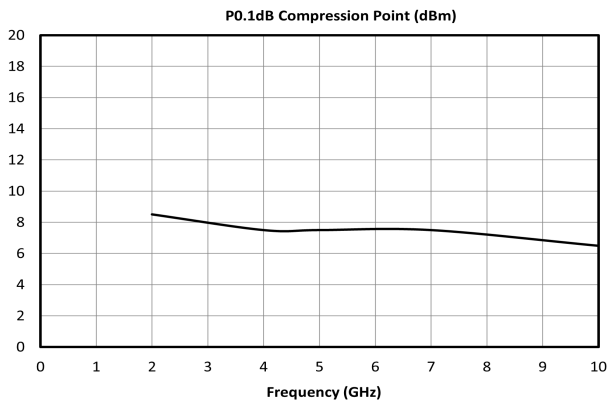
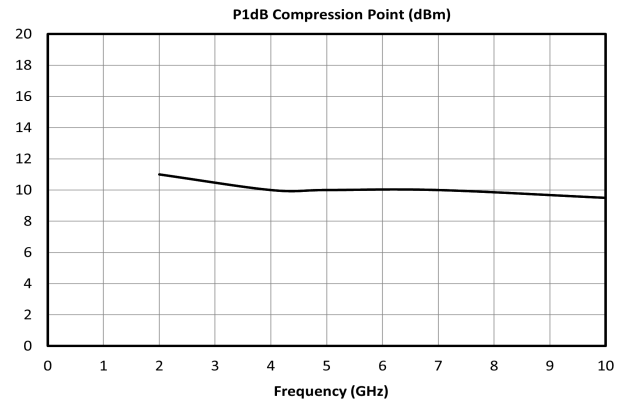
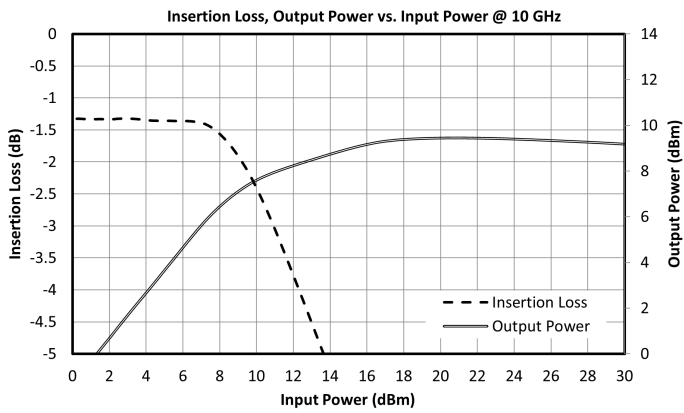
Electrical Specifications

The electrical specifications apply at TA=+25°C in a 50Ω system. Typical data shown is for the connectorized BH-package limiter unless otherwise specified.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Insertion Loss	-	0	10	-	1	-	dB
Return Loss	-	0	10	-	25	-	dB
Flat Leakage	2 GHz CW	-	-	-	12	-	dBm
Flat Leakage	4 GHz CW	-	-	-	10.5	-	dBm
Flat Leakage	5 GHz CW	-	-	-	10.2	-	dBm
Flat Leakage	7 GHz CW	-	-	-	10	-	dBm
Flat Leakage	10 GHz CW	-	-	-	9.5	-	dBm
Input IP3	-5dBm Tone Powers at 1MHz Spacing	0	10	-	27	-	dBm

Typical Performance Plots






Mechanical Data

Outline Drawing


Download : [Outline 2D Drawing](#)

***All Dimensions are typical!**

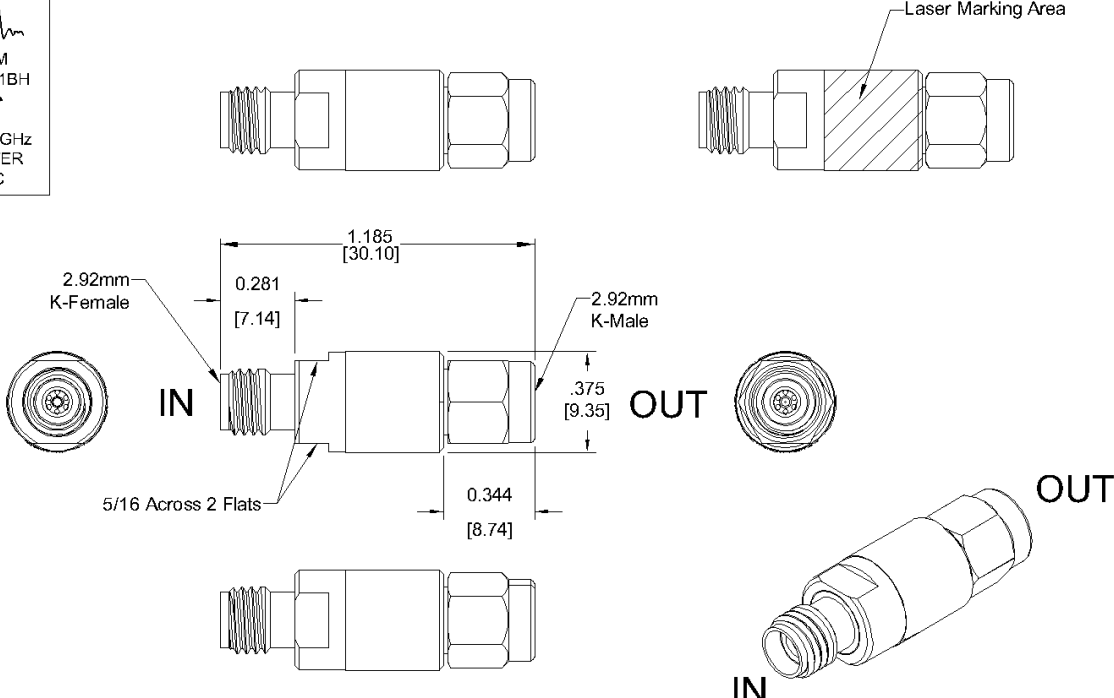
Laser Marking on Part:




HLM
100001BH




DC-10GHz
LIMITER
D/C



Port #	Setup	Ω / VDC	Connector Type
In	In to Gnd	Open Circuit	2.92mm Female
Out	Out to Gnd	Open Circuit	2.92mm Male
In	In to Gnd	0.67V \pm .030	2.92mm Female
Out	Out to Gnd	0.67V \pm .030	2.92mm Male

PROJECTION		REVISIONS			
INCH [MM]		REV.	DESCRIPTION	DATE	APPROVALS
		B	ECN 207-10-17-2025	11/12/25	AT

<small>JUL 2007 IEC 60385-1-2007 S 2010 0403/1/2010 IEC 60385-1-2007 TOLERANCES: FRACTIONS DECIMALS ANGLES 10:1:0.01 0.005 0.01 0.005 0.01 0.005 0.01 0.01</small>		NOTES: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DRAWN BY</td> <td>DATE</td> </tr> <tr> <td>OG</td> <td>4/18/2025</td> </tr> <tr> <td>AVC</td> <td>2/11/2025</td> </tr> <tr> <td>LG</td> <td>2/11/2025</td> </tr> </table>	DRAWN BY	DATE	OG	4/18/2025	AVC	2/11/2025	LG	2/11/2025	 <p>www.markimicrowave.com</p> <p style="text-align: center;">Outline HLM-100001BH</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>SIZE</td> <td>CAGE CODE</td> <td>DWG. NO.</td> </tr> <tr> <td>A</td> <td>0UC32</td> <td>HLM-100001BH</td> </tr> </table>	SIZE	CAGE CODE	DWG. NO.	A	0UC32	HLM-100001BH
DRAWN BY	DATE																
OG	4/18/2025																
AVC	2/11/2025																
LG	2/11/2025																
SIZE	CAGE CODE	DWG. NO.															
A	0UC32	HLM-100001BH															
RoHS Compliant (SN96.5/AG3.5) Components/Assembly <small>Proprietary: This document was originated by and is the property of Marki Microwave. Unauthorized disclosure is prohibited.</small>		DO NOT SCALE DRAWING	SHEET 1 OF 1														

DISCLAIMER

MARKI MICROWAVE, LLC., ("MARKI") PROVIDES TECHNICAL SPECIFICATIONS AND DATA (INCLUDING DATASHEETS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, AND OTHER INFORMATION AND RESOURCES "AS IS" AND WITH ALL FAULTS. MARKI DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

These resources are intended for developers skilled in the art designing with Marki products. You are solely responsible for (1) selecting the appropriate products for your application, (2) designing, validating, and testing your application, and (3) ensuring your application meets applicable standards and other requirements. Marki makes no guarantee regarding the suitability of its products for any particular purpose, nor does Marki assume any liability whatsoever arising out of your use or application of any Marki product.

Marki grants you permission to use these resources only for development of an application that uses Marki products. Other reproduction or use of these resources is strictly prohibited. No license is granted to any other Marki intellectual property or to any third-party intellectual property. Marki reserves the right to make changes to the product(s) or information contained herein without notice.

MARKI MICROWAVE and T3 MIXER are trademarks or registered trademarks of Marki Microwave, LLC. All other trademarks used are the property of their respective owners.

© 2025, Marki Microwave, LLC