

HLM-40ABH

High Power 40GHz Limiter

DEVICE OVERVIEW

General Description

The HLM-40ABH is a wide bandwidth GaAs Schottky diode signal limiter featuring high IP3 and medium power handling. It offers low insertion loss and low return loss from DC through Ka band and has a typical 1dB compression point of 9dBm. Its medium power handling makes it ideal for protecting sensitive components and for applications requiring high linearity.



[Download s-parameters here](#)

Features

- DC to 40 GHz limiter
- 2W CW Power Handling @ 2 GHz
- 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-40ABH	High Power 40GHz Limiter	BH	<u>Standard</u>	REACH RoHS	Released	EAR99

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Revision History


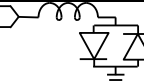

Revision Code	Revision Date	Comment
-	2024-11-14	Initial Release

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	2	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

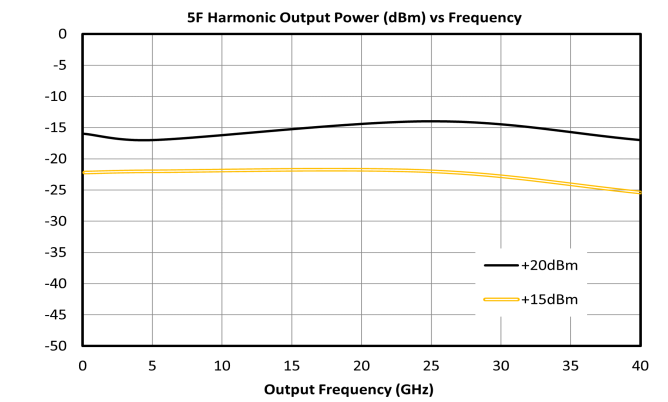
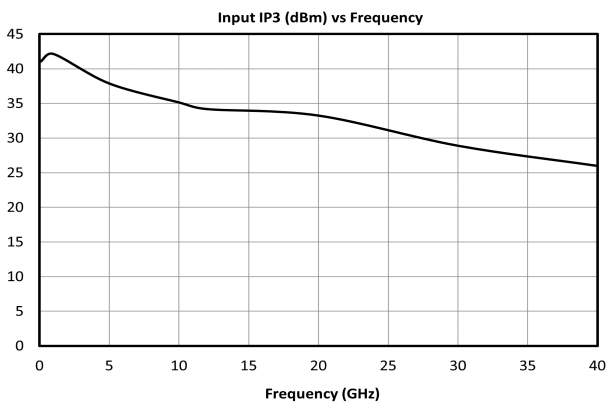
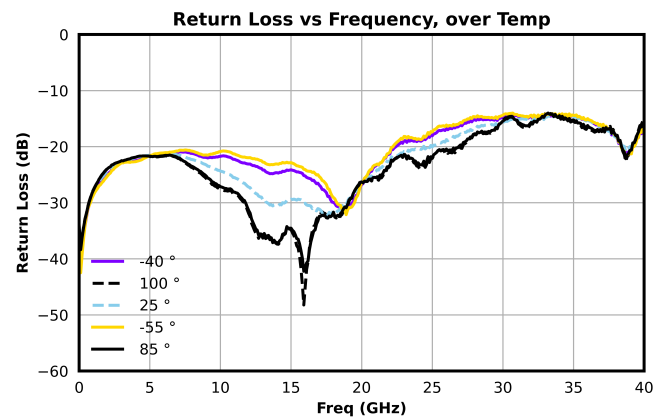
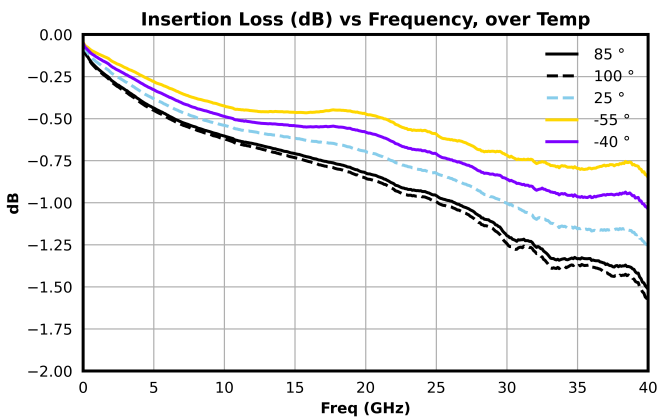
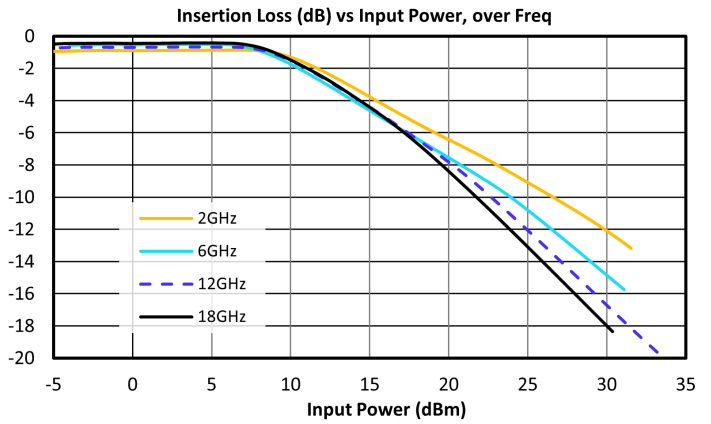
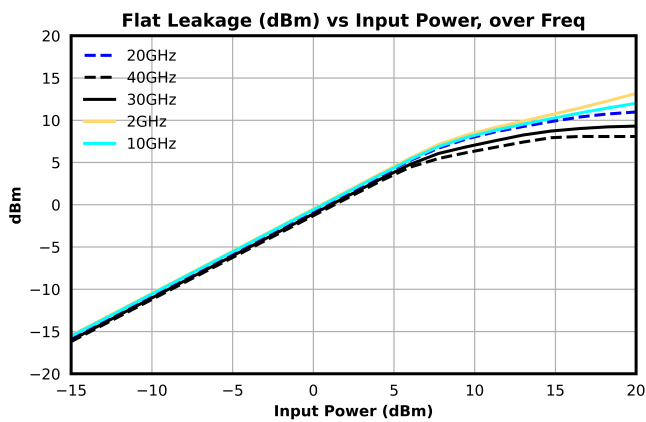
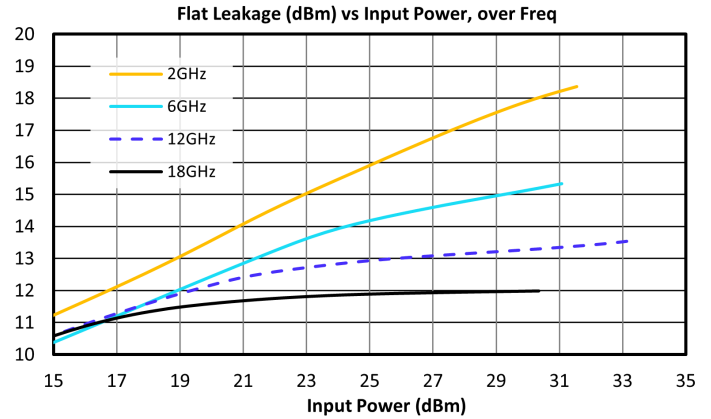
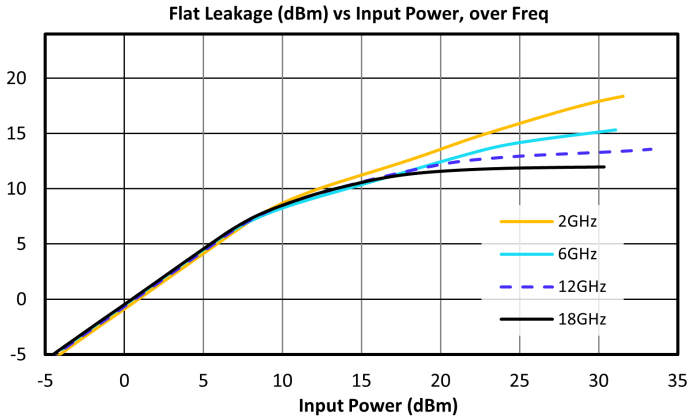
Parameter	Details	Rating
Weight	Package name: BH	9.2g
Dimensions	-	30.1 x 9.5 mm

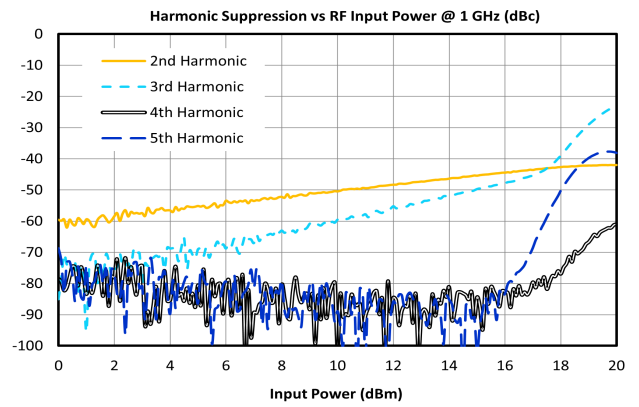
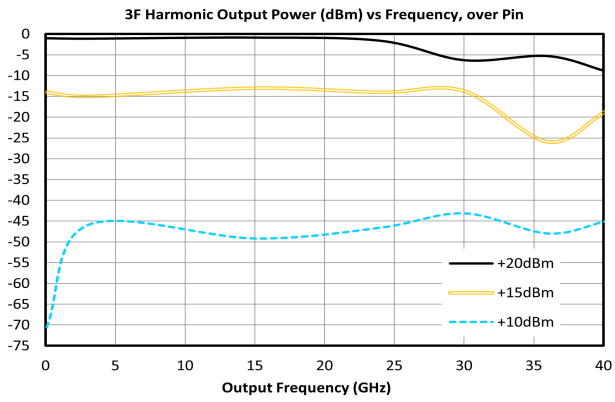
Electrical Specifications

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	40	-	0.7	-	dB
Return Loss	-	0	40	-	22	-	dB
Flat Leakage	2 GHz CW	-	-	-	18	-	dBm
Flat Leakage	6 GHz CW	-	-	-	15	-	dBm
Flat Leakage	12 GHz CW	-	-	-	13	-	dBm
Flat Leakage	18 GHz CW	-	-	-	12	-	dBm
Flat Leakage	20 GHz CW	-	-	-	11	-	dBm
Flat Leakage	30 GHz CW	-	-	-	9	-	dBm
Flat Leakage	40 GHz CW	-	-	-	8	-	dBm
Input IP3	-5dBm Tone Powers at 1MHz Spacing	0	20	-	35	-	dBm
Input IP3	-5dBm Tone Powers at 1MHz Spacing	20	40	-	29	-	dBm

Typical Performance Plots





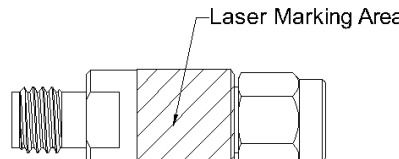
Mechanical Data

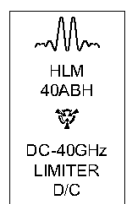
Outline Drawing


Download : [Outline 2D Drawing](#) | [Outline 3D STP](#)

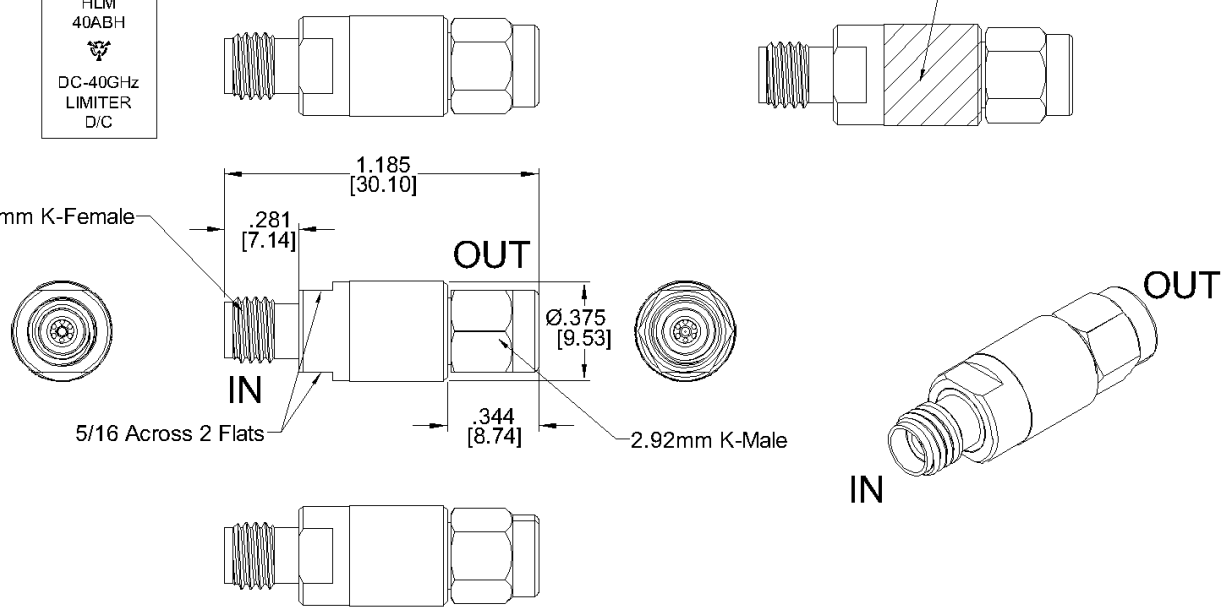
***All Dimensions are typical!**

Laser Marking on Part:







 HLM
 40ABH

 DC-40GHz
 LIMITER
 D/C



2.92mm K-Female
 1.185 [30.10]
 .281 [7.14]
 OUT
 5/16 Across 2 Flats
 IN
 .344 [8.74]
 2.92mm K-Male
 Ø.375 [9.53]
 OUT
 IN

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	0.72V \pm .030	2.92mm Female
Out	Out to Gnd	0.72V \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 2024 (REV. 02) 09/20/2024 5/11/2024 09/20/2024 11/10/2024 10/15/2024 09/20/2024 11/10/2024 +002/ .004 .00 2 +001 .002/2 .005 </small>		NOTES: DRAWN BY: OG DATE: 5/22/2024	 www.markimicrowave.com Outline HLM-40ABH
MATERIAL: FINISH:	DO NOT SCALE DRAWING	SCALE: 2:1	SIZE: A CAGE CODE: 0UC32 DWG. NO: HLM-40ABH SHEET 1 OF 1

RoHS Compliant (SN96.5/AG3.5) Components/Assembly

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