

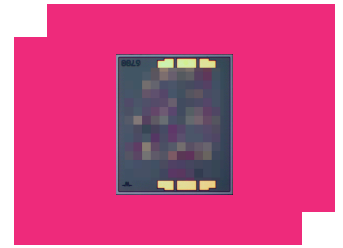
HLM-40CH

High Power 40GHz Limiter

DEVICE OVERVIEW

General Description

The HLM-40 is a high-power GaAs Schottky diode signal limiter featuring high IP3 and high-power handling. It offers low insertion loss and low return loss from DC through Ka band and has a typical 1dB compression point of 15dBm. Its high-power handling makes it ideal for protecting sensitive components and for applications requiring high linearity.



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Features

N/A

Applications

N/A

Functional Block Diagram



Part Ordering Options

Part Number	Description	Connectors	Green Status	Product Lifecycle	Export Classification
HLM-40U	High Power 40GHz Limiter	Standard	REACH RoHS	Released	EAR99
HLM-40CH	High Power 40GHz Limiter	-	REACH RoHS	Released	EAR99

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Revision History

Revision Code	Revision Date	Comment
A	2025-03-19	Updated Catalog Outline ECN 24096

Specifications

Absolute Maximum Ratings

Parameter	Maximum Rating	Unit
RF Power Handling , Average	4	W
RF Power Handling , Peak	20	W

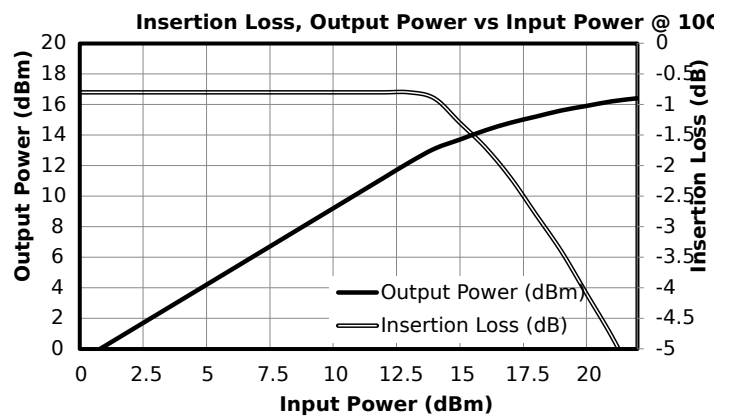
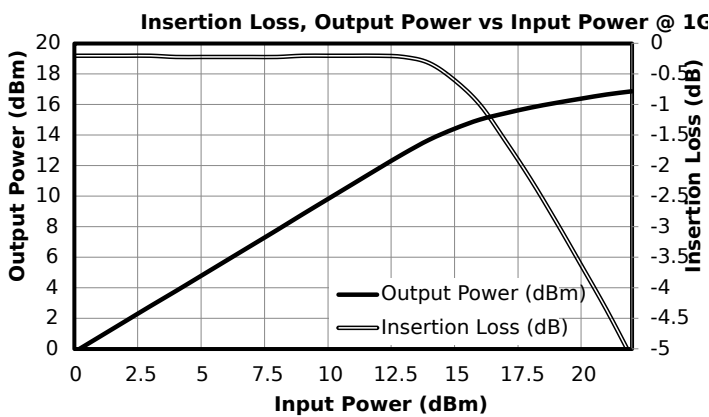
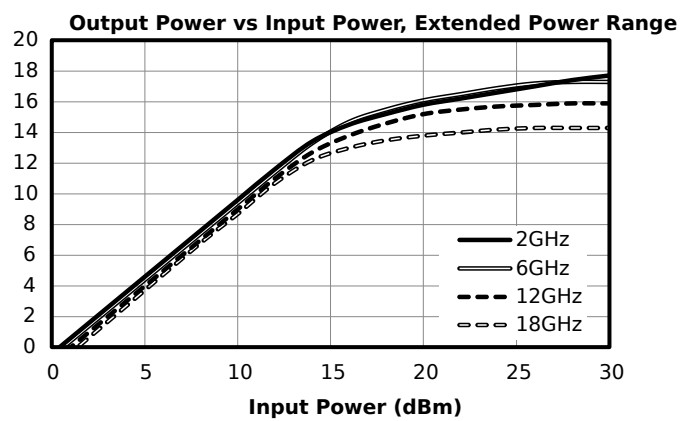
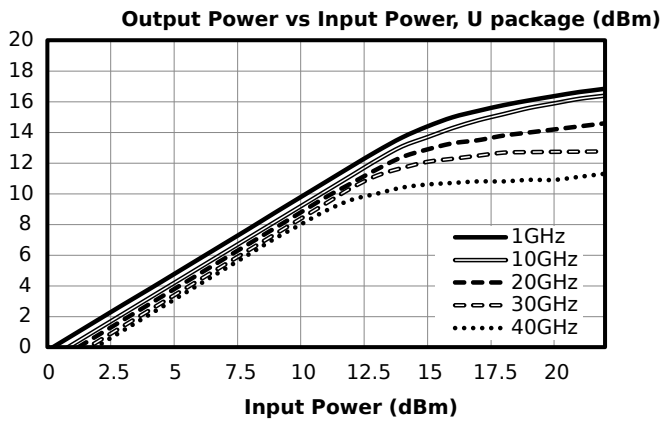
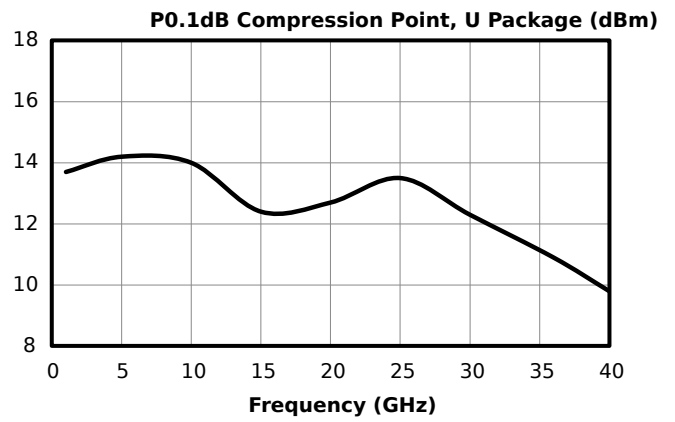
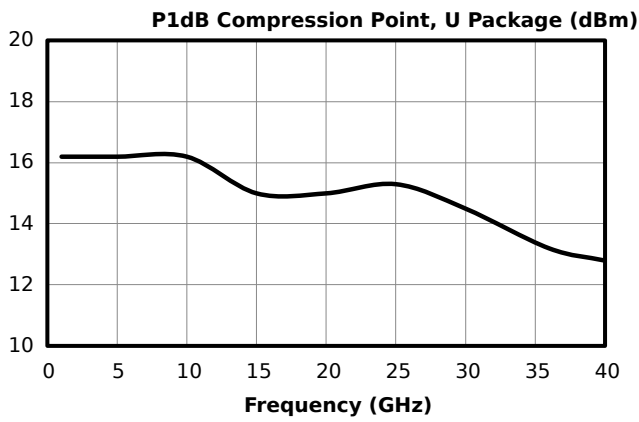
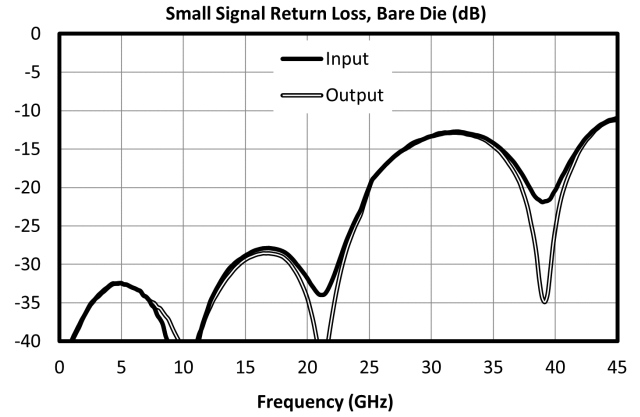
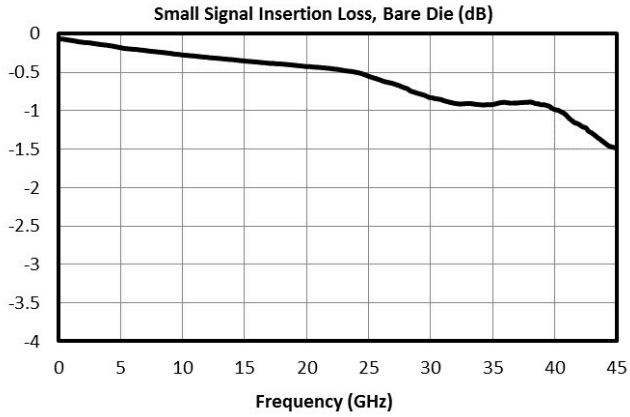
Package Information

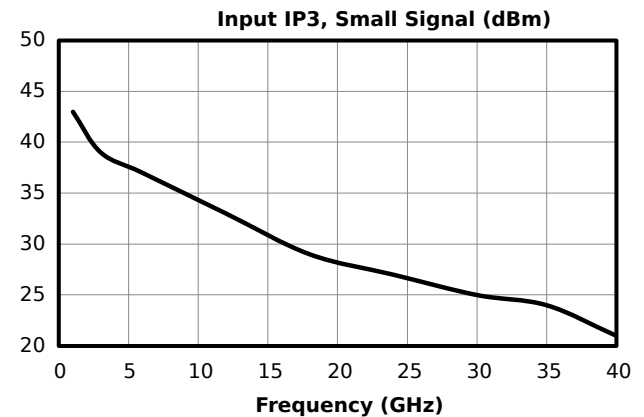
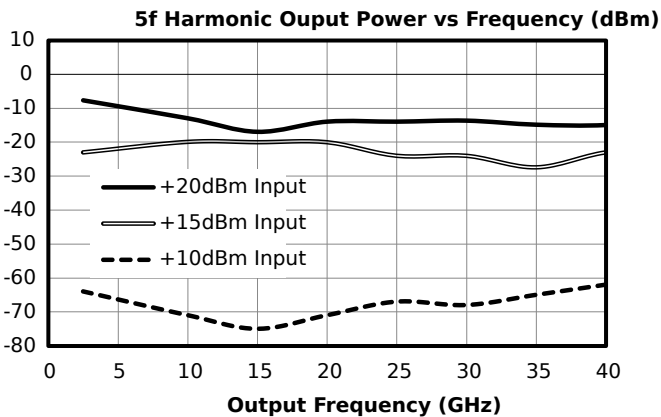
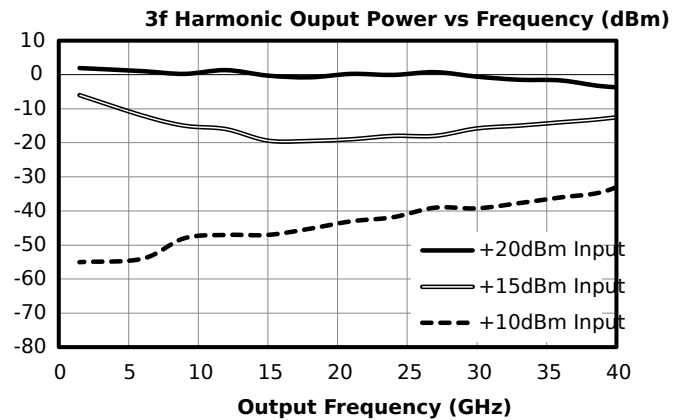
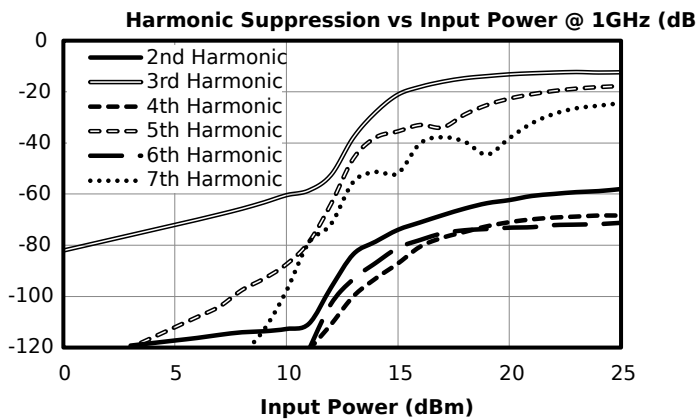
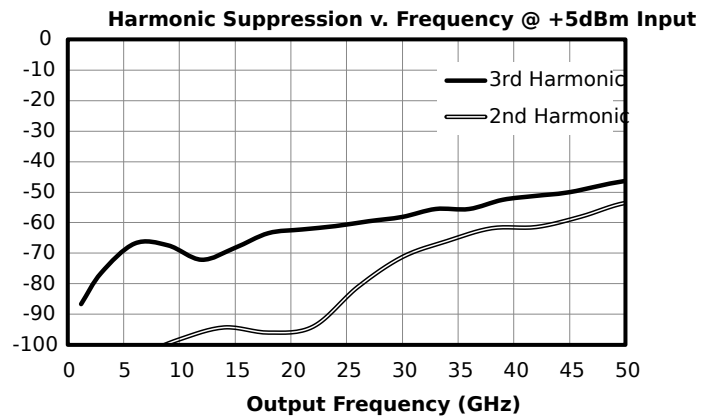
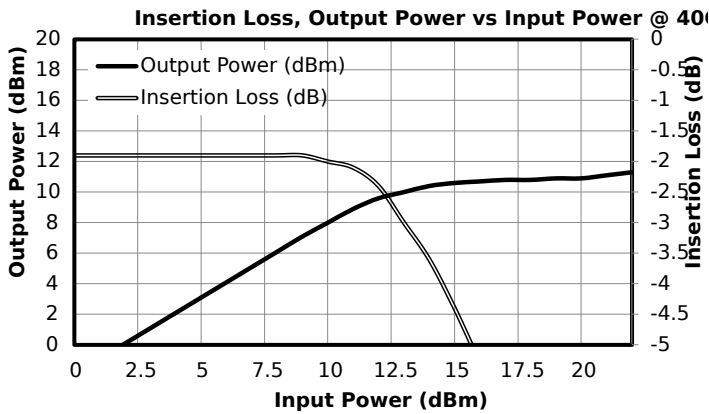
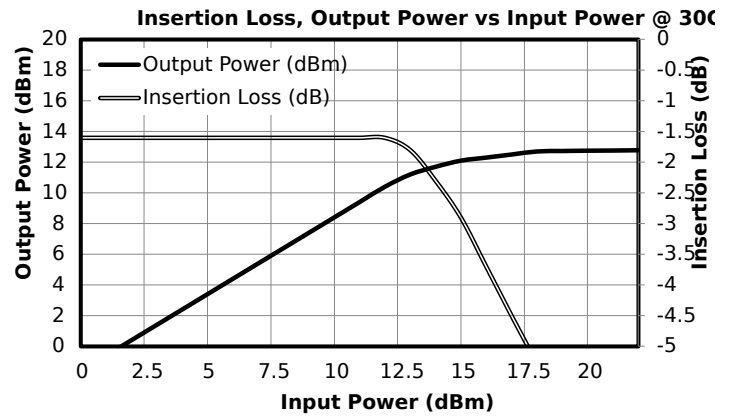
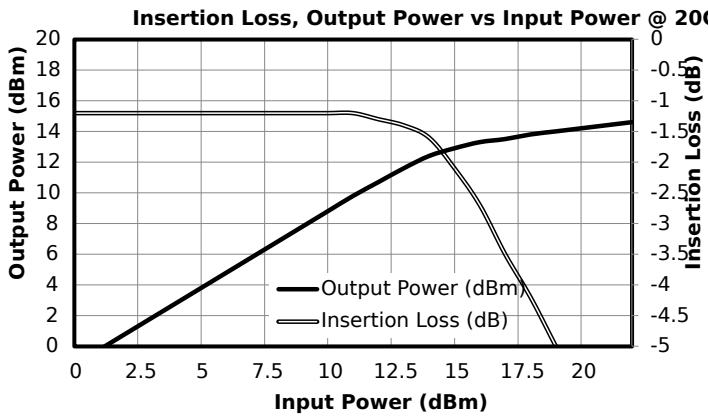
Parameter	Details	Rating
Dimensions	-	1.38 x 1.17 mm

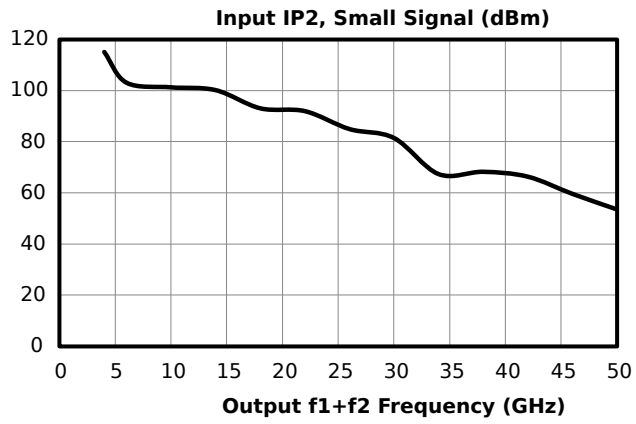
Electrical Specifications

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Insertion Loss	-	0	40	-	0.5	1.5	dB
Return Loss	-	0	40	-	26	-	dB
Flat Leakage at 1W	-	-	-	-	18	-	dBm
Flat Leakage	-	-	-	-	18	-	dBm
Input P1dB	-	-	-	-	15	-	dBm

Typical Performance Plots

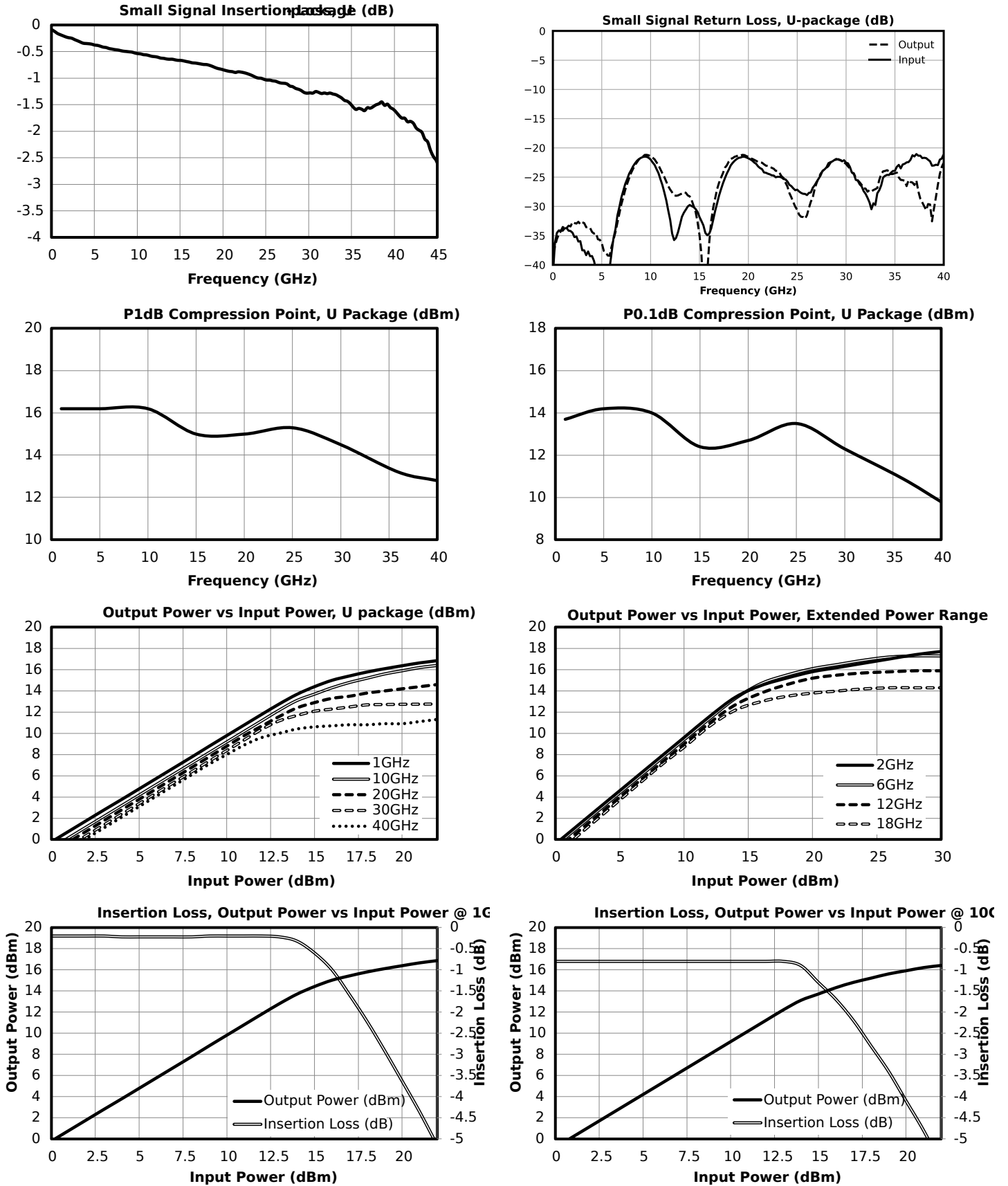


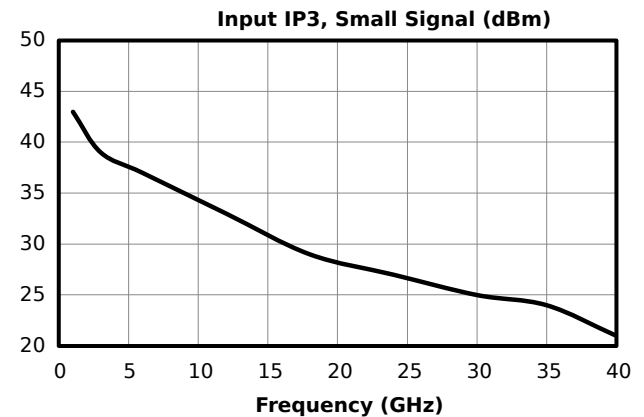
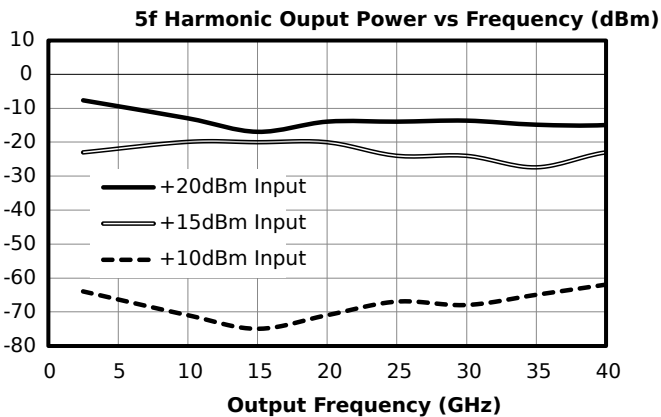
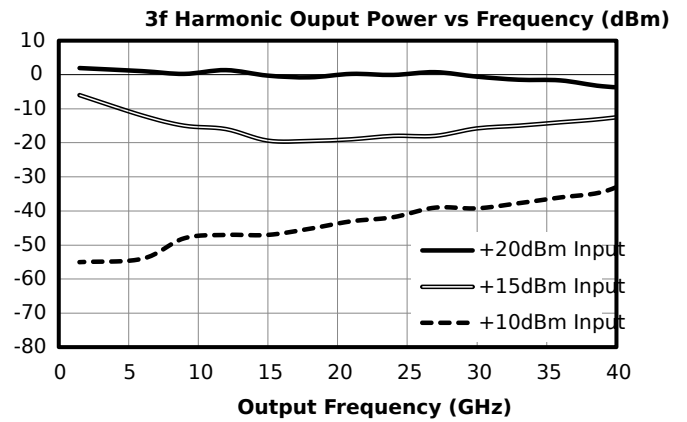
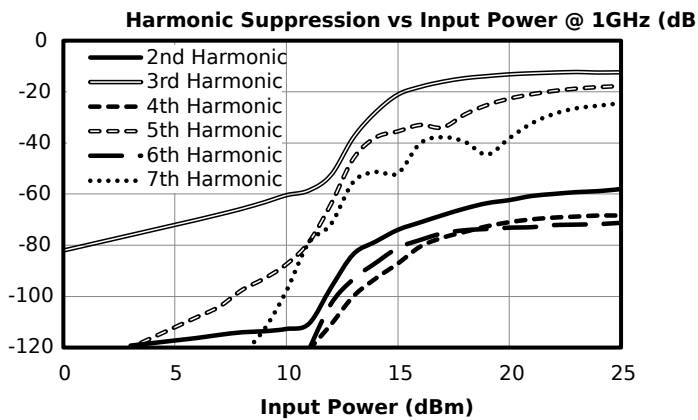
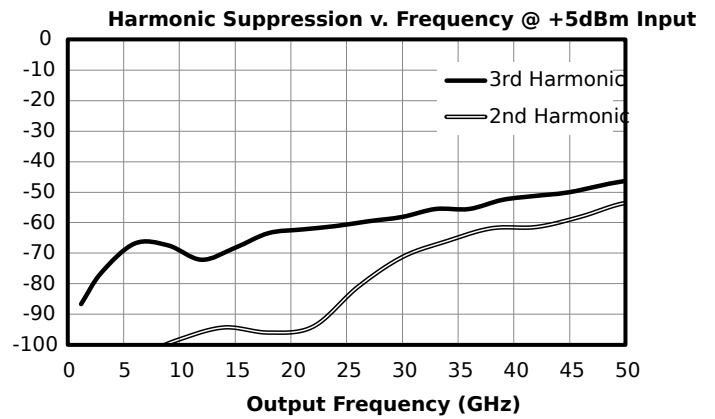
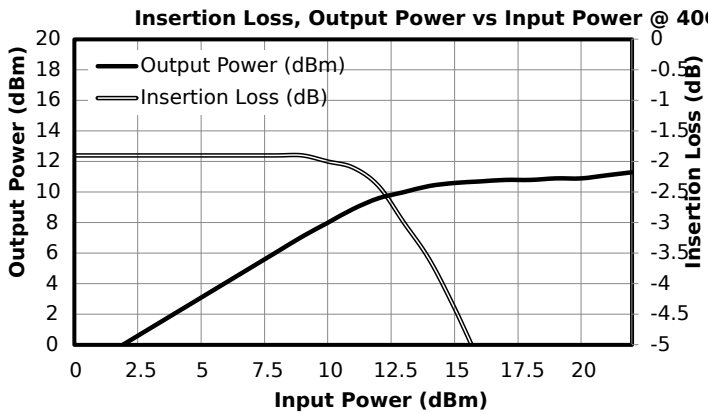
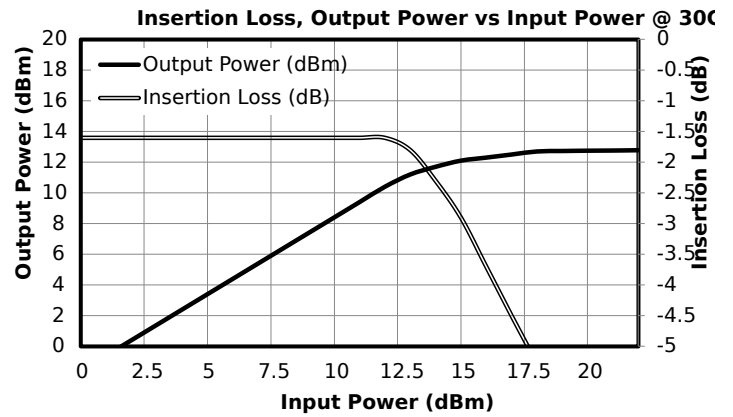
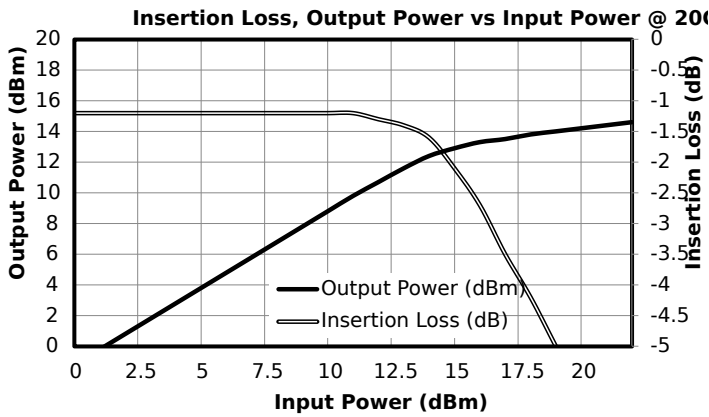


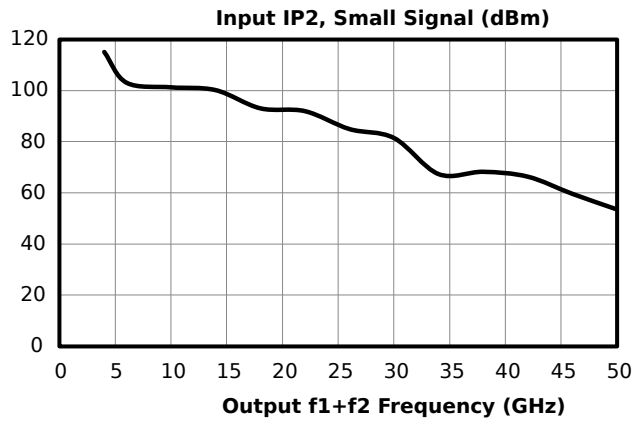


HLM-40U - Typical Performance Plots

Performance plots for the connectorized module are shown for measurements where directly probed measurements of the die are unavailable. Note that the following measurements include losses from connectors and microstrip traces.







Application Information

Power handling specification is based on tests performed at different combinations of temperature and frequency. Input power was increased until catastrophic failure was observed. Results are shown in the following table. The power handling specification listed in section 3.1 is based on the worst observed power handling derated by 3dB.

Frequency	Maximum Average Power Handling		Unit
	at 25°C	at 85°C	
0.8 GHz	39	38	dBm
2.5 GHz	42	41	
6 GHz	40	39	

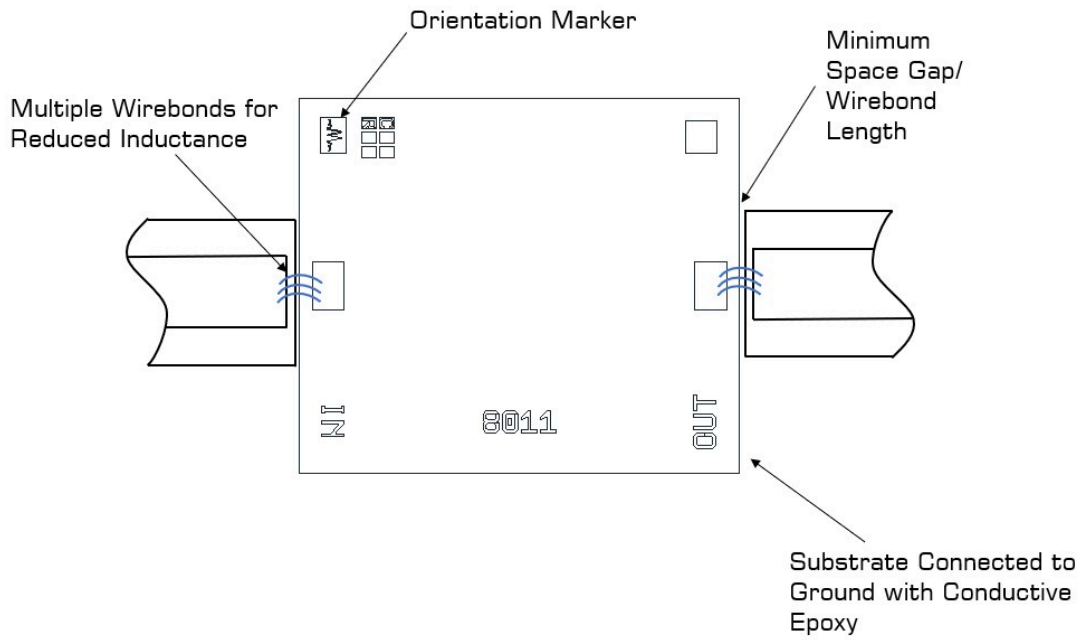
Frequency	Maximum Peak Power Handling ⁵	Unit
2 GHz	35	W

Tested using a 1µs pulse, 1% duty cycle at 25°C

Die Mounting Recommendations

Mounting and Bonding Recommendations

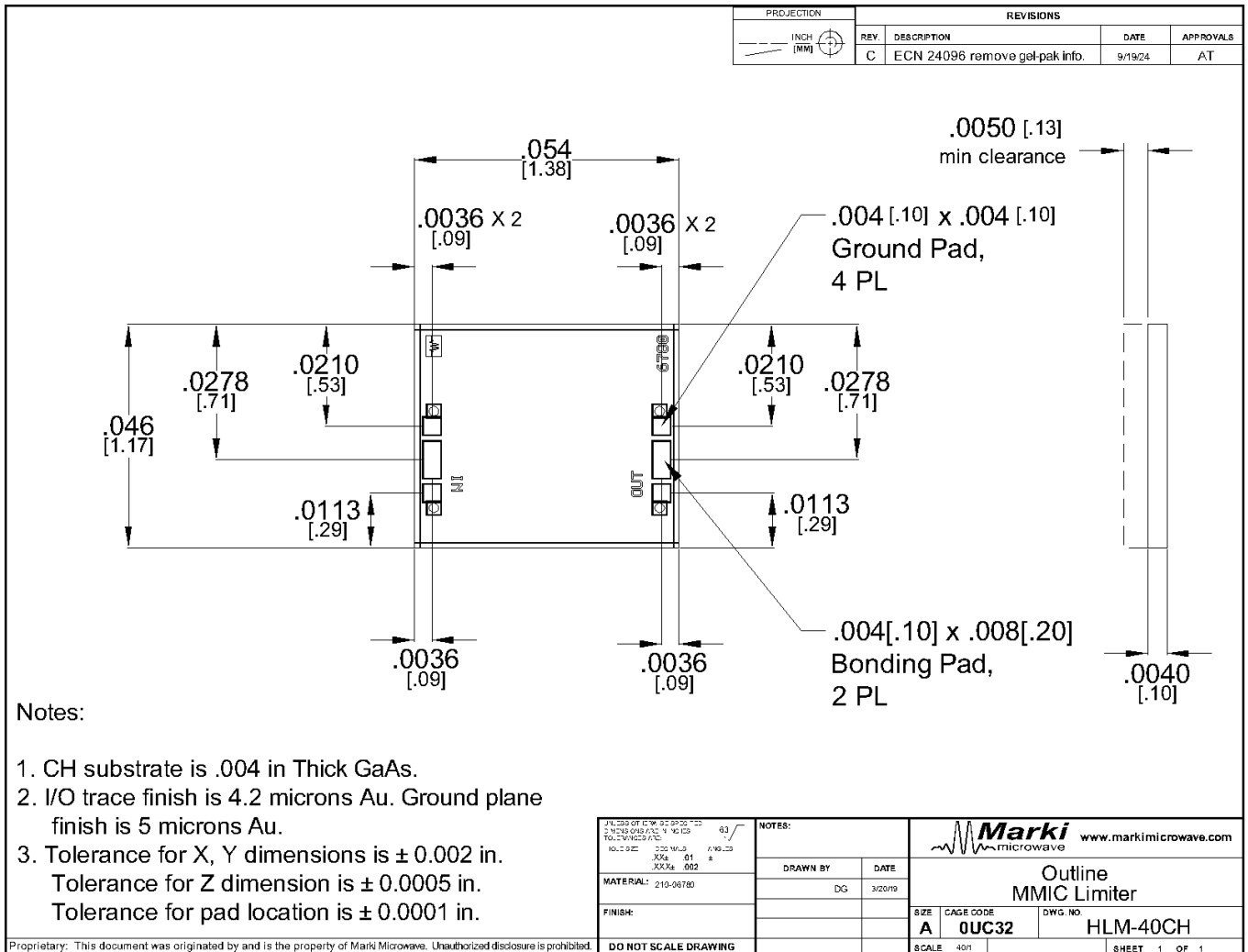
Bonding Diagram



Mechanical Data

Outline Drawing

Download : [Outline 2D Drawing](#)



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