

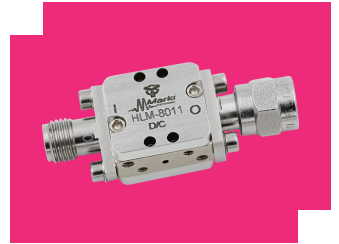
# HLM-8011U

## Low Flat Leakage DC-30GHz Limiter

### DEVICE OVERVIEW

#### General Description

The HLM-8011 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 +9dBm. Its low flat leakage makes it ideal for protecting sensitive components and for applications requiring high linearity. It is available as a wire bondable die and as a connectorized module.



[Download s-parameters here](#)

#### Features

- DC to 30 GHz limiter
- 4.5W Peak Power (pulsed), 30dBm CW
- +7dBm Flat Leakage @ 1W CW
- Typical P1dB of +9dBm

#### Applications

N/A

#### Functional Block Diagram



#### Part Ordering Options

Part Number	Description	Package	Connectors	Green Status	Product Lifecycle	Export Classification
HLM-8011U	Low Flat Leakage DC-30GHz Limiter	U	<u>Standard</u>	REACH RoHS	Released	EAR99

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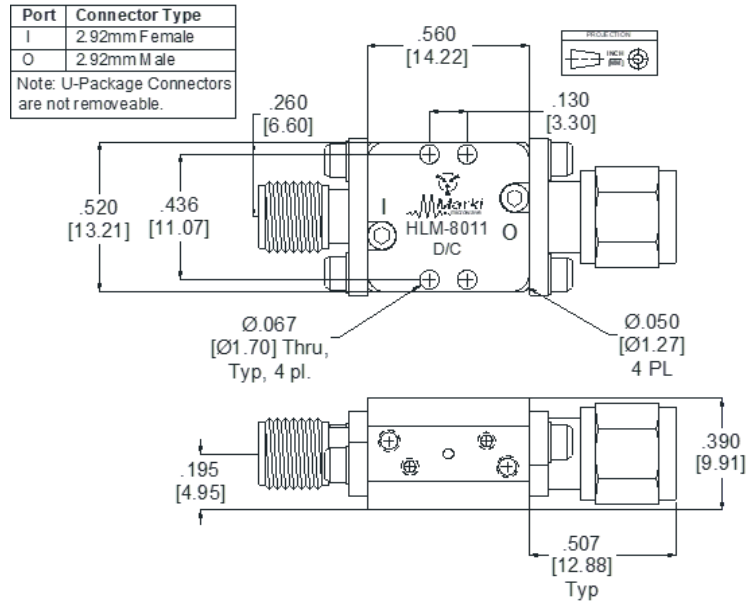
## Revision History

Revision Code	Revision Date	Comment
-	2023-03-01	Initial Release
A	2025-04-16	Updated Outline Drawing


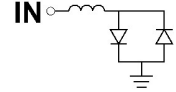

### Port Configuration and Functions

#### Port Diagram

The HLM-8011 has the input and output ports given in Port Functions.



#### Port Functions

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

**Specifications**

**Absolute Maximum Ratings**

The Absolute Maximum Ratings indicate limits beyond which damage may occur to the device. If these limits are exceeded, the device may be inoperable or have a reduced lifetime.

Parameter	Maximum Rating	Unit
Maximum Operating Temperature	100	°C
Maximum Storage Temperature	125	°C
Minimum Operating Temperature	-55	°C
Minimum Storage Temperature	-65	°C

**Package Information**

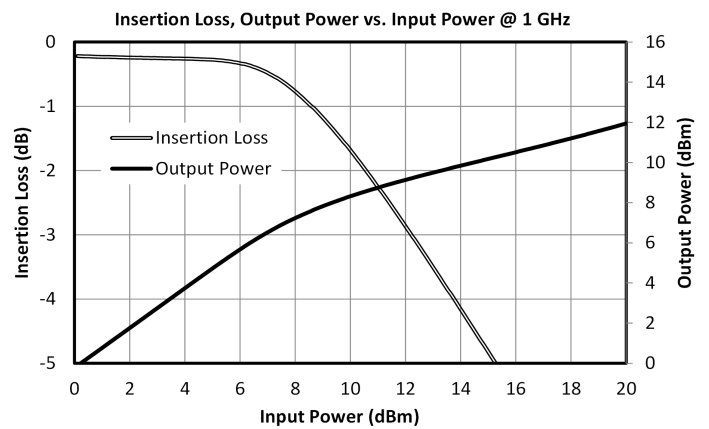
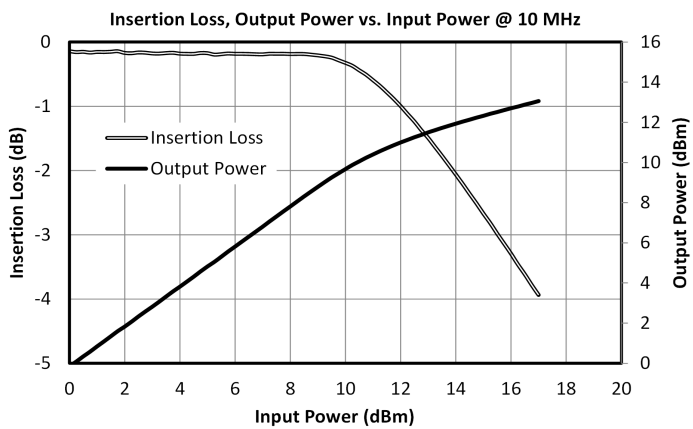
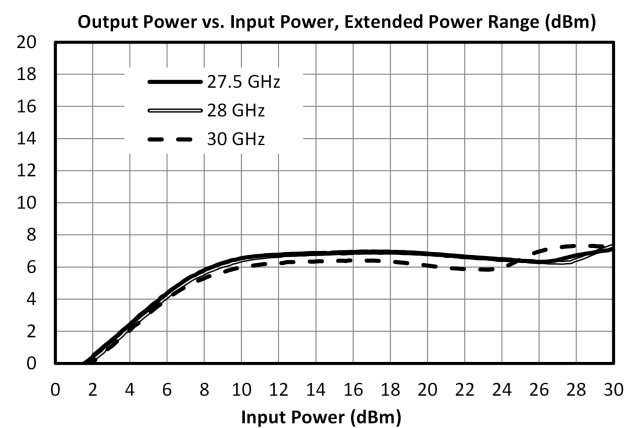
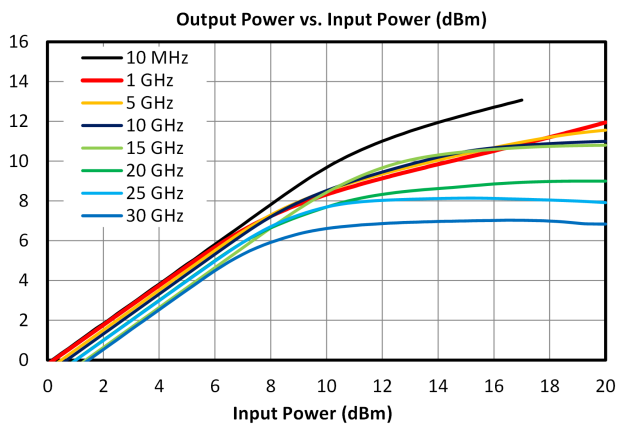
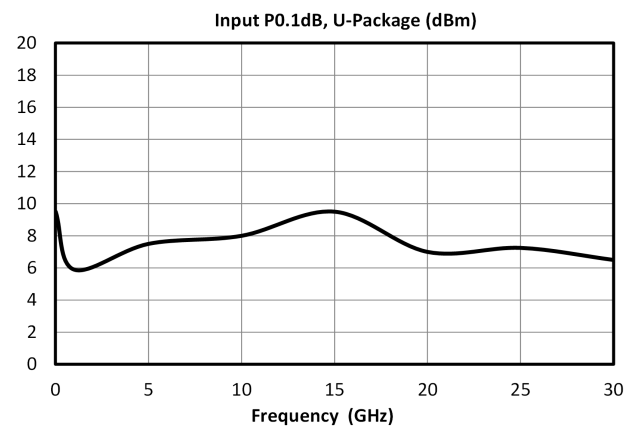
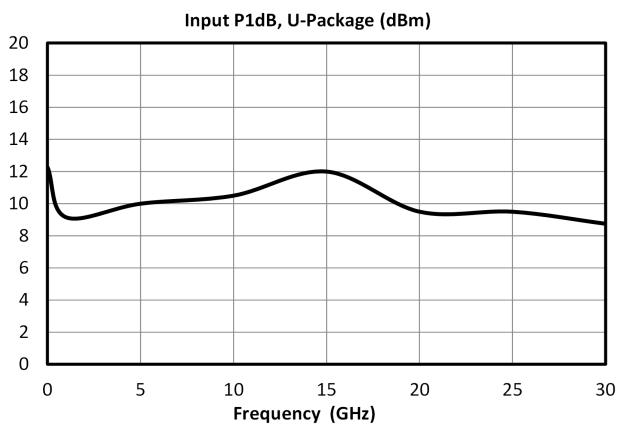
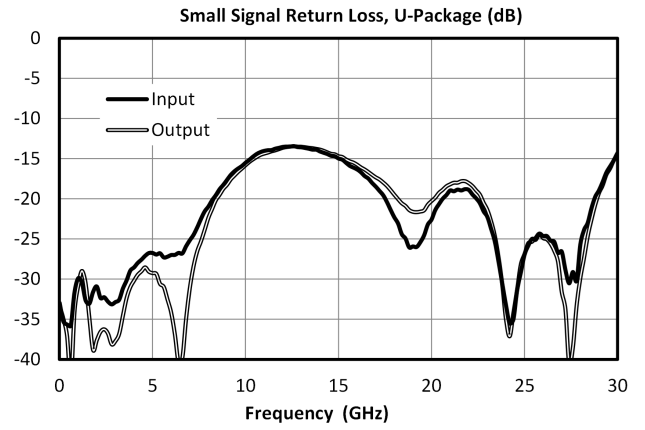
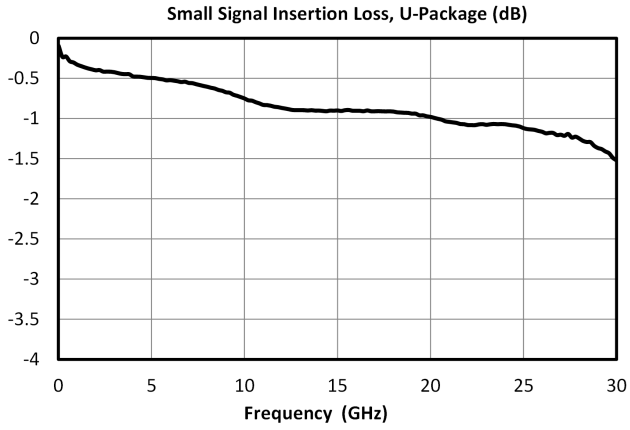
Parameter	Details	Rating
ESD	250 to < 500 Volts	HBM Class 1A
Weight	Package name: U	10g
Dimensions	-	14.22 x 13.21mm

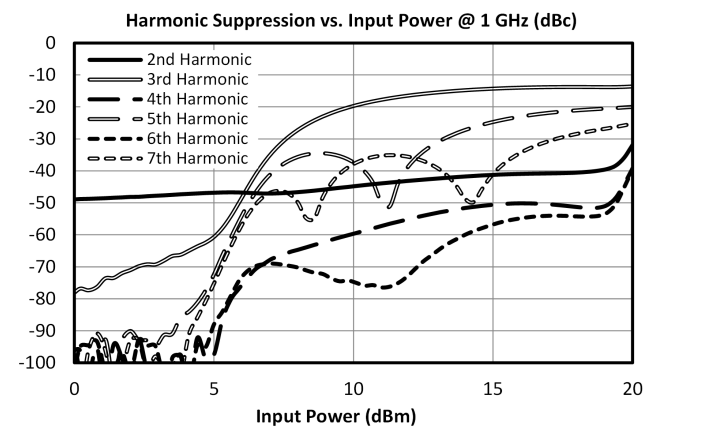
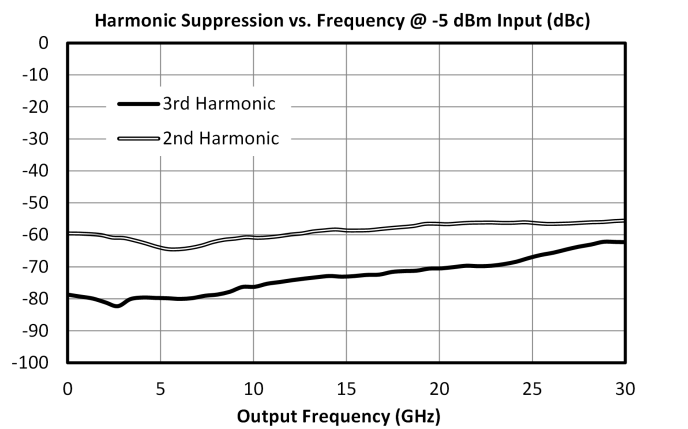
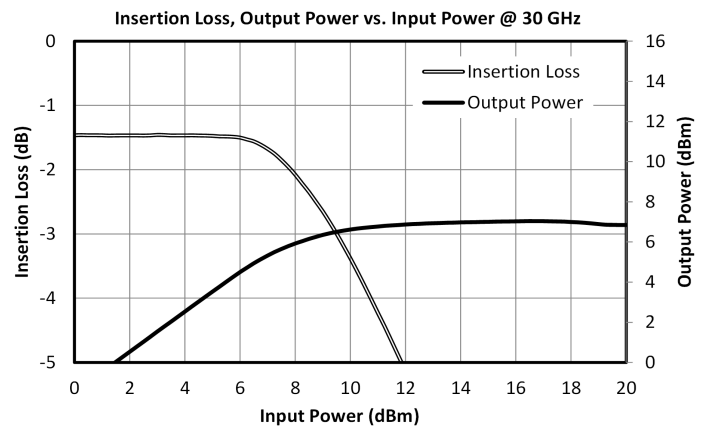
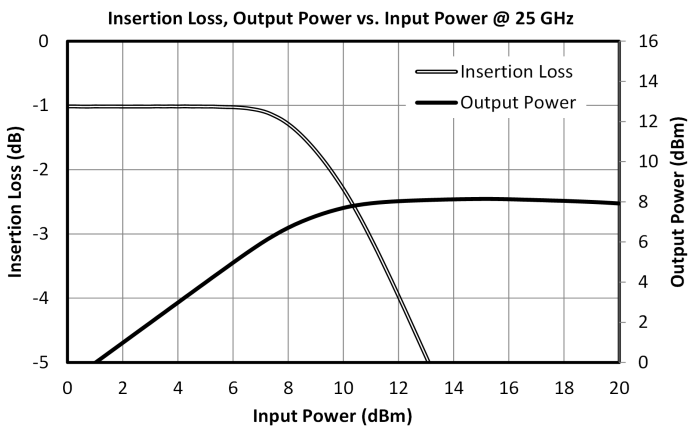
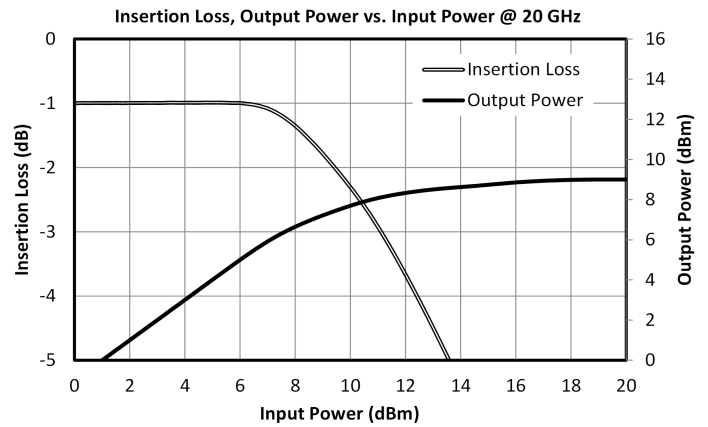
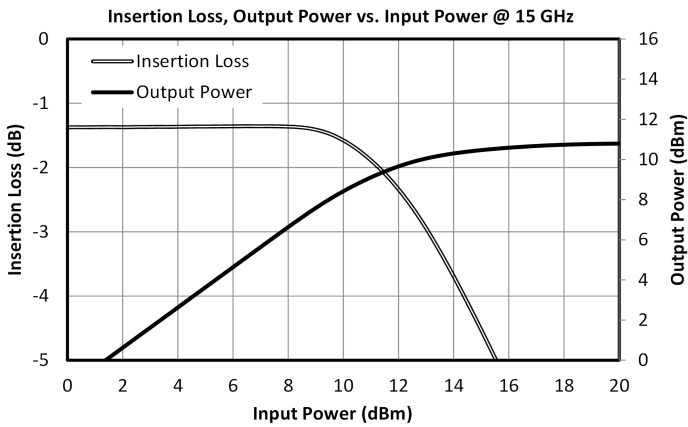
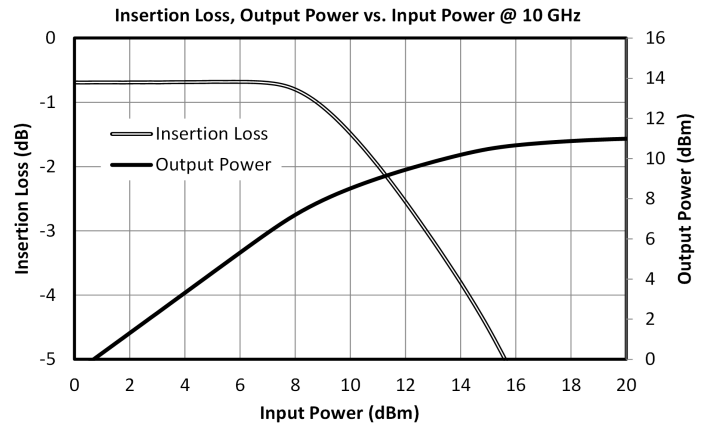
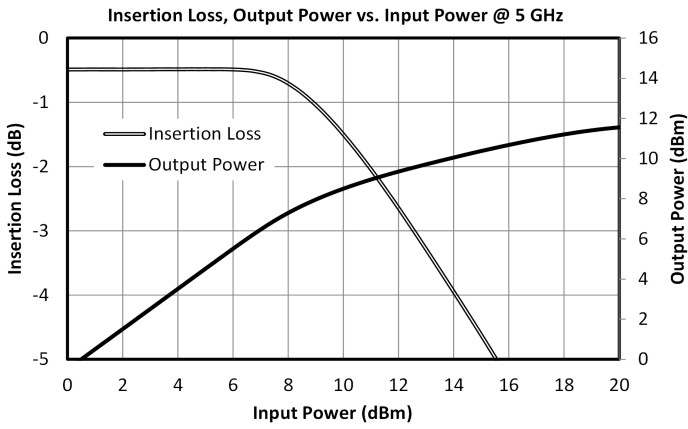
**Electrical Specifications**

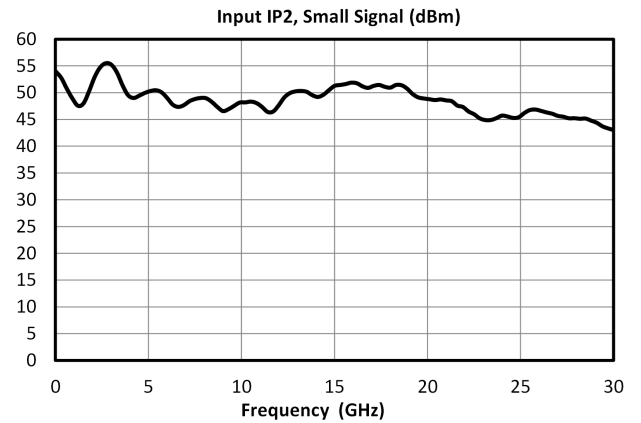
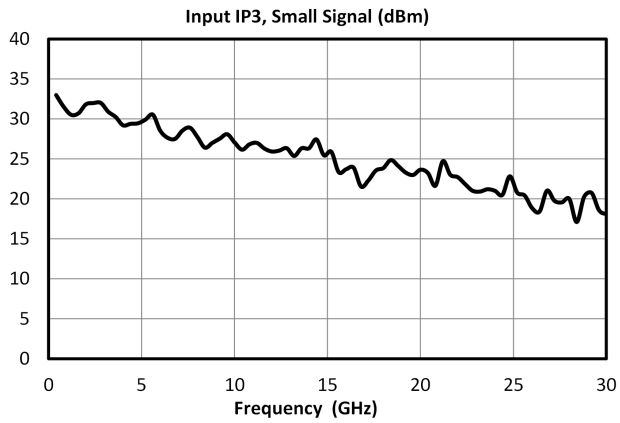
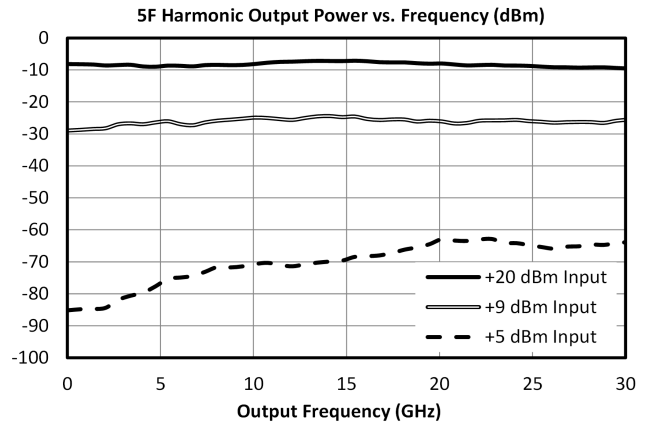
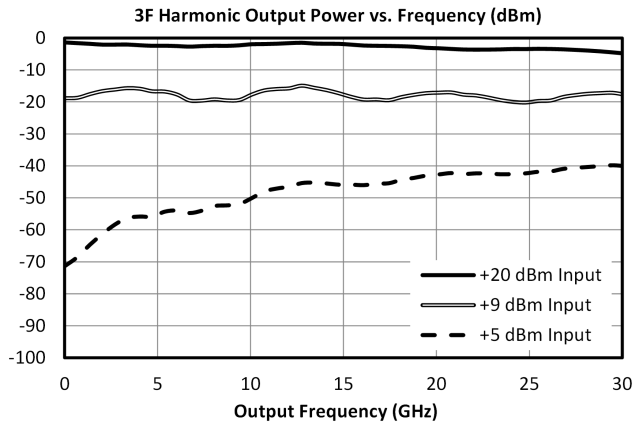
The electrical specifications apply at TA=+25°C in a 50Ω system. Typical data shown is for the connectorized U-package limiter unless otherwise specified. Linear Specifications valid for input power up to the 0.1dB compression point. See Typical Performance Plots for P0.1dB graph. Min and Max limits are guaranteed at TA=+25°C.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Insertion Loss	-	0	30	-	0.8	2.5	dB
Return Loss	-	0	30	-	24	-	dB
Flat Leakage	-	0	30	-	7	-	dBm
Flat Leakage	-	30	30	-	7	-	dBm
Input P1dB	-	0	30	-	10	-	dBm

### Typical Performance Plots







**Input Power at Observed Failure**

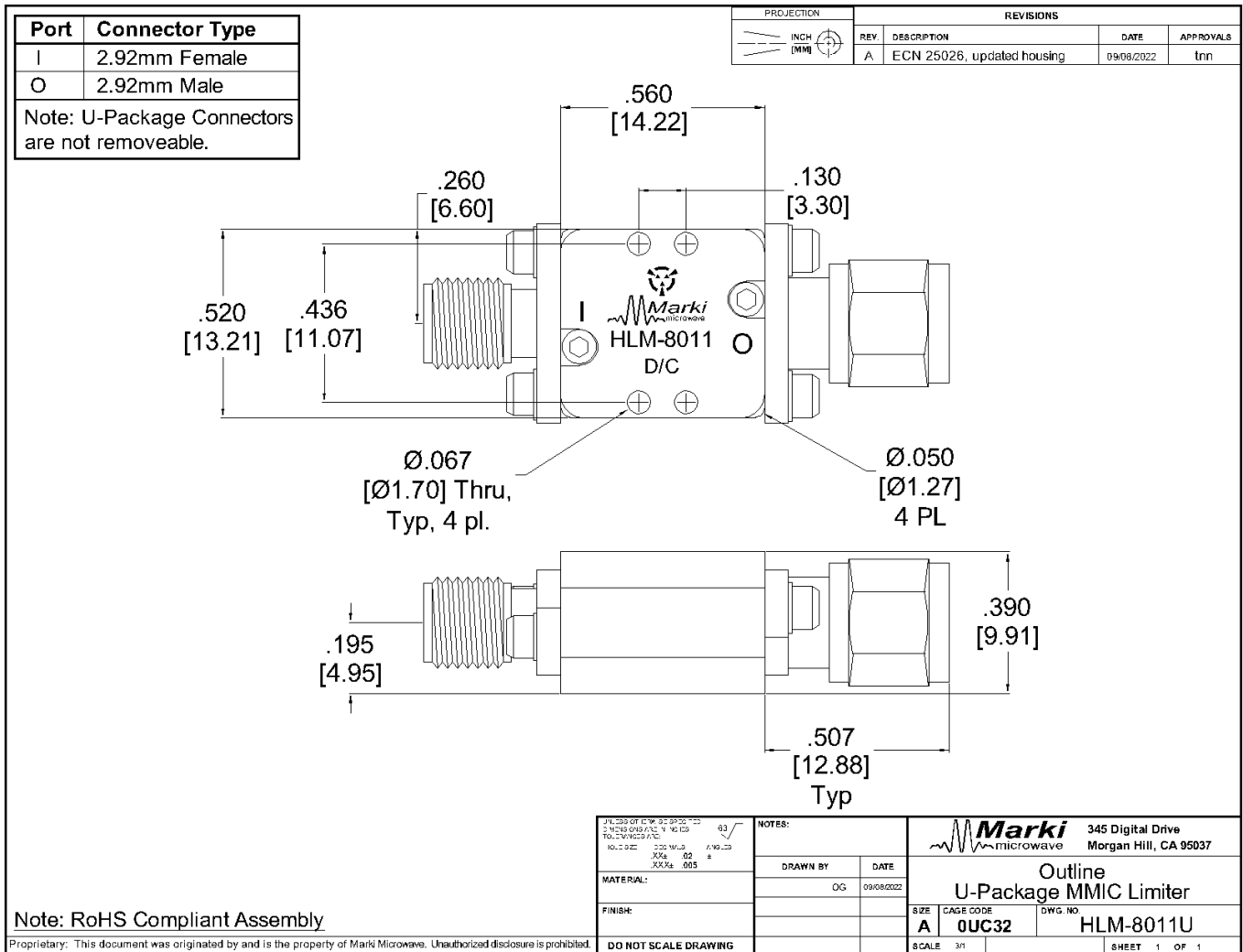
Power handling specification is based on tests performed at different combinations of room temperature and frequency. Input power was increased until catastrophic failure was observed. Results are shown in the following table. The power handling specification listed in the Absolute Maximum Ratings section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

Frequency	Maximum Average Power Handling	Unit	Frequency	Maximum Peak Power Handling	Unit
2 GHz	+36.5	dBm	2 GHz	13	W
30 GHz	+33.0	dBm	18 GHz	9	W

### Mechanical Data

### Outline Drawing

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



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