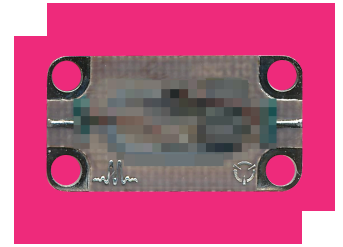


D-1505LE Frequency Doublers

DEVICE OVERVIEW

General Description

The D-1505 is a passive doubler fabricated with silicon Schottky diodes. This operates over a guaranteed 1.5 to 5 GHz input frequency range or a doubled output frequency range of 3 to 10 GHz. It features excellent conversion loss, isolations, and harmonic suppressions across a broad bandwidth. D series doublers have generally been replaced with MMD doublers with superior performance, repeatability and availability. The D-0308 is still used in legacy systems and is suitable for laboratory use.



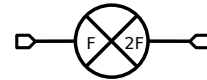
Features

- Input 1.5 to 5.0 GHz
- Output 3.0 to 10.0 GHz
- 10 dB Typical Conversion Loss
- 30 dBc Typical Third Harmonic Suppression
- Two Input Levels Available
- Multi-Octave Band Input

Applications

N/A

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification	Recommended Replacement
D-1505LE	Frequency Doublers	E	Non-RoHS	Not Recommended for New Design	EAR99	MMD-0415HPSM

Table Of Contents

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Revision History

Revision Code	Revision Date	Comment
-	2015-07-11	Datasheet Initial Release

NOT RECOMMENDED FOR NEW DESIGN

Port Configuration and Functions

Port Diagram



Port Functions

Port	Function	Description	Equivalent Circuit for Package
2F	2F Output	-	-
F	F input	-	-

Specifications

Package Information

Parameter	Details	Rating
Weight	Package name: E	1g
Dimensions	-	15.24 x 8.13 mm

NOT RECOMMENDED FOR NEW DESIGN

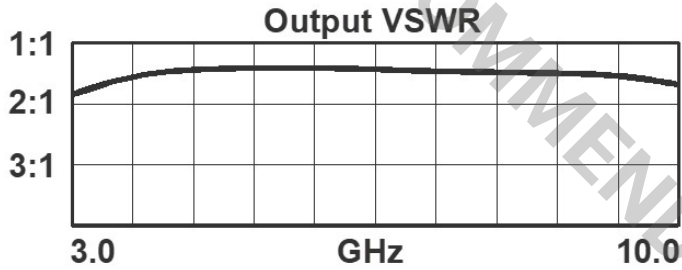
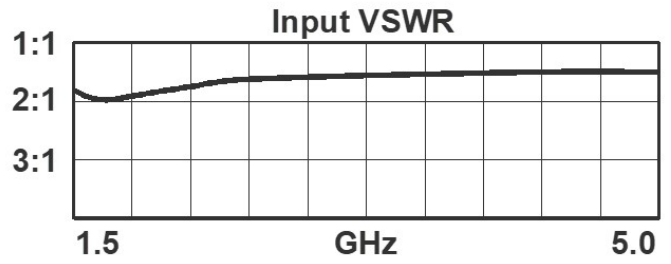
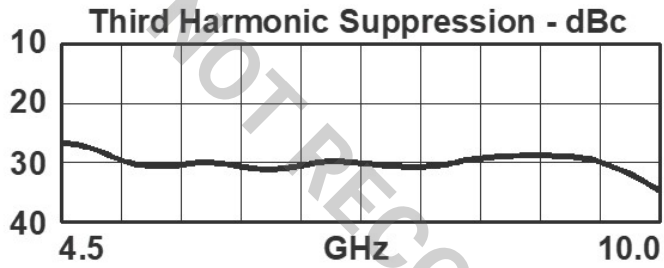
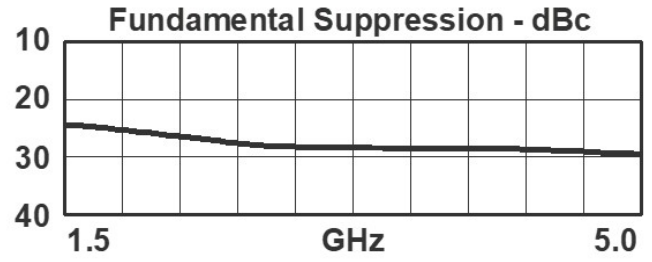
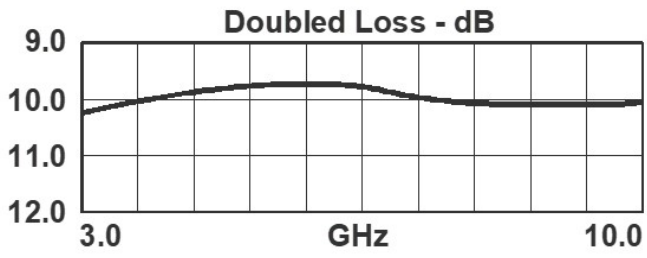
Electrical Specifications

Specifications guaranteed from -55 to +100°C, measured in a 50-Ohm system

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
LO Input Drive Level, L Diode Option	-	-	-	10	-	13	dBm
Spurious Suppression, All Harmonics	Input=1.5-5.0 GHz	1.5	5	15	25	-	dBc
Suppression, 3F	Output=4.5-10.0 GHz	4.5	10	20	30	-	dBc
Conversion Loss	Second Harmonic Output	3	10	-	10	12	dB

NOT RECOMMENDED FOR NEW DESIGN

Typical Performance Plots

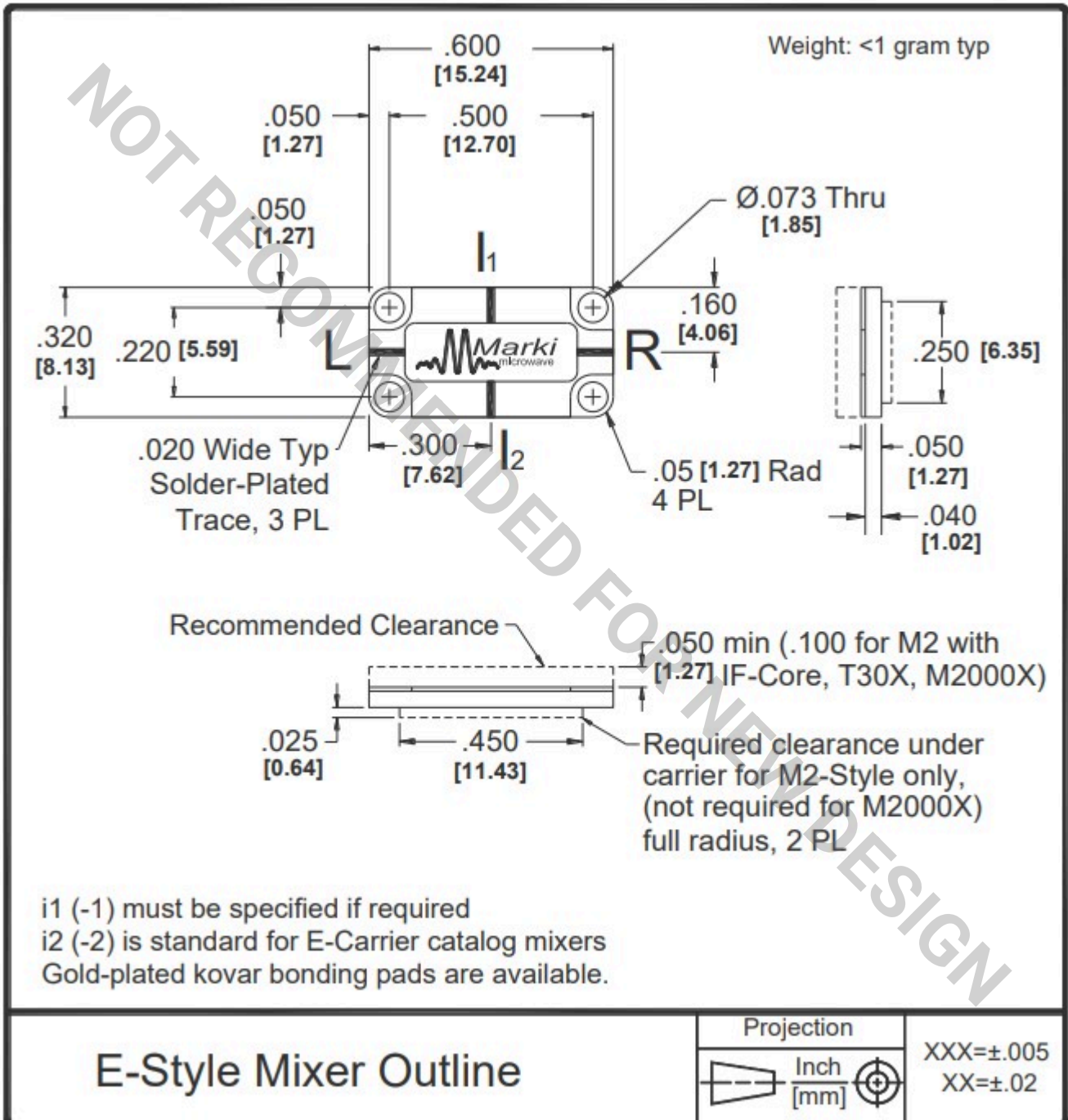


NOT RECOMMENDED FOR NEW DESIGN

Mechanical Data

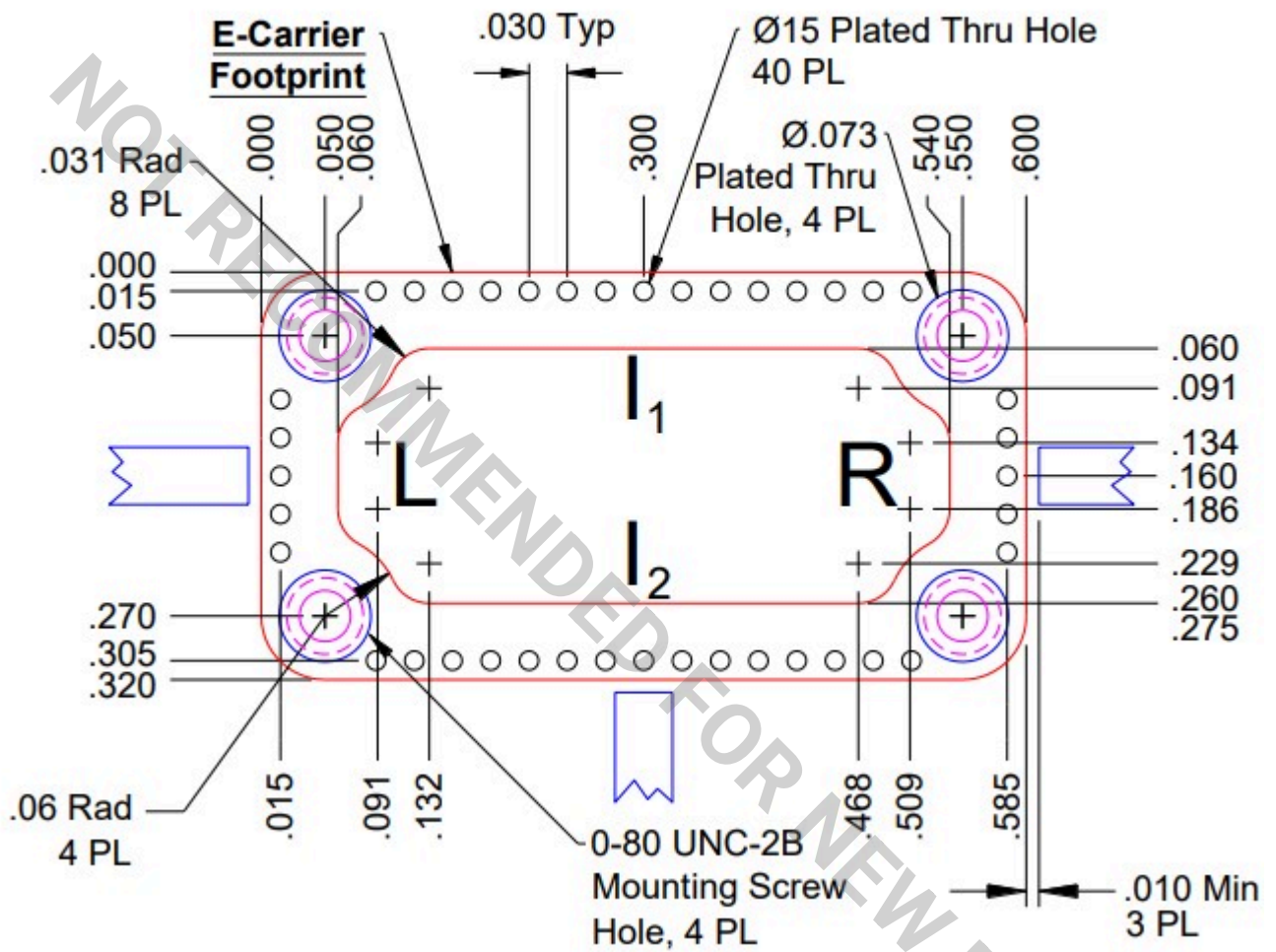
Outline Drawing

Download : [Outline 2D Drawing](#)



Footprint Image

E-Carrier Surface Mount System Circuit Footprint



Notes

1. Doubled Loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C.
2. Maximum input power is +23 dBm at +25°C, derated linearly to +20 dBm at +100°C.
3. Specifications are subject to change without notice. Contact Marki Microwave for the most recent specifications and data sheets.
4. Standard configuration for A, B, and C outlines are with connectors and bottom spacer.
5. Catalog doubler circuits are continually improved. Configuration control requires custom model numbers and specifications.

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