

# M2-0226MP

## Triple-Balanced Mixers

### DEVICE OVERVIEW

#### General Description

M2 triple balanced mixers are hybrid assemblies that have been hand-tuned to feature low conversion loss and high isolations. M2 mixers offer ultrabroadband overlapping frequency coverage on all 3 ports. Many M2 mixers have replaced with MM2 mixers with superior performance, repeatability, and availability. M2 mixers suitable for systems where an MM2 mixer is not available.



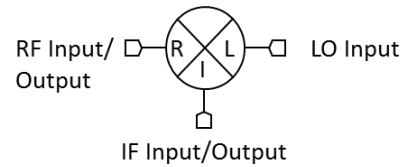
#### Features

- LO/RF 2.0 to 26.5 GHz
- IF .001 to 6.0 GHz
- 7.5 dB Typical Conversion Loss
- 25 dB Typical LO to RF Isolation
- Ultra-Broadband RF, LO, and IF

#### Applications

N/A

#### Functional Block Diagram



#### Part Ordering Options

Part Number	Description	Package	Connectors	Green Status	Product Lifecycle	Export Classification	Recommended Replacement
<a href="#">M2-0226LP</a>	Triple-Balanced Mixers	P	<a href="#">Standard</a>	Non-RoHS	Not Recommended for New Design	EAR99	<a href="#">T3-20GLSMM1-0222LS</a>
M2-0226MP	Triple-Balanced Mixers	P	<a href="#">Standard</a>	<a href="#">Consult Factory</a>	Not Recommended for New Design	EAR99	<a href="#">T3-20GLSMM1-0222LS</a>

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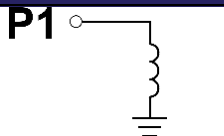
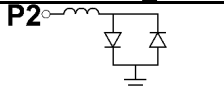
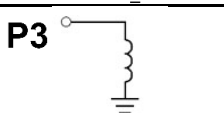
- Outline Drawing

- **Notes**

NOT RECOMMENDED FOR NEW DESIGN

## Port Configuration and Functions

### Port Functions

Port	Function	Connector Type	Description	Equivalent Circuit for Package
Port 1	LO	SMAF	Port 1 is DC short for the P package.	
Port 2	IF	SMAF	Port 2 is diode connected for the P Package.	
Port 3	RF	SMAF	Port 3 is DC short for the P Package.	

NOT RECOMMENDED FOR NEW DESIGN

## Specifications

### Package Information

Parameter	Details	Rating
Weight	Package name: P	18g
Dimensions	-	20.32 x 14.99 mm

### Recommended Operating Conditions

Parameter	Min	Nominal	Max	Unit
LO Input Power	13	-	16	-

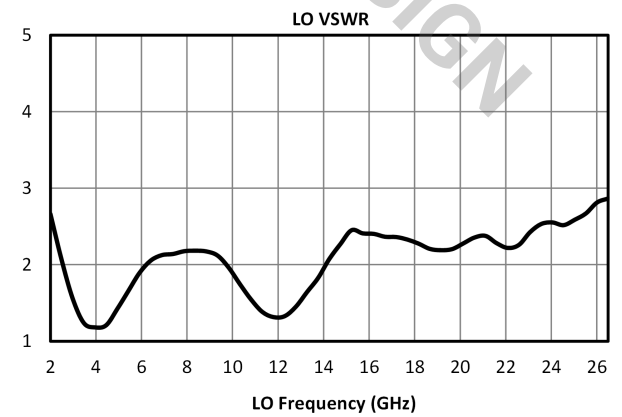
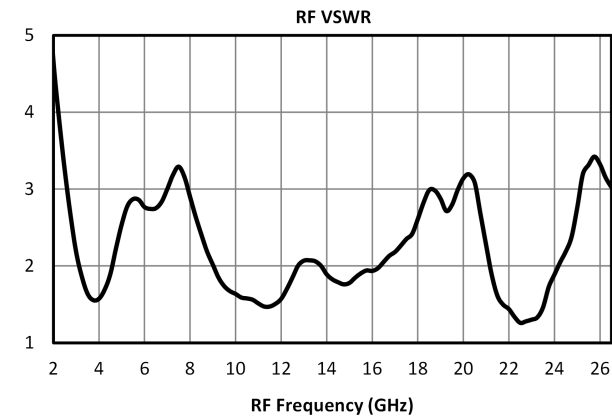
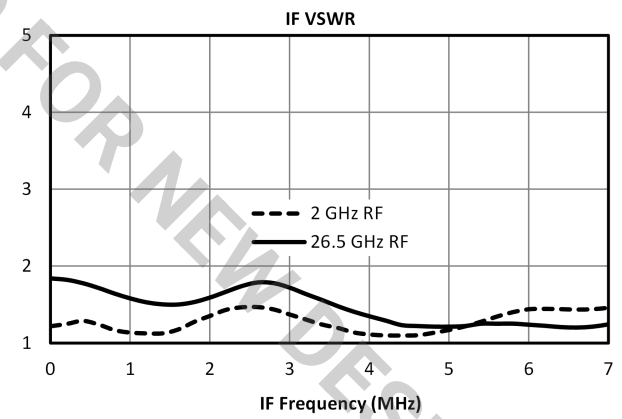
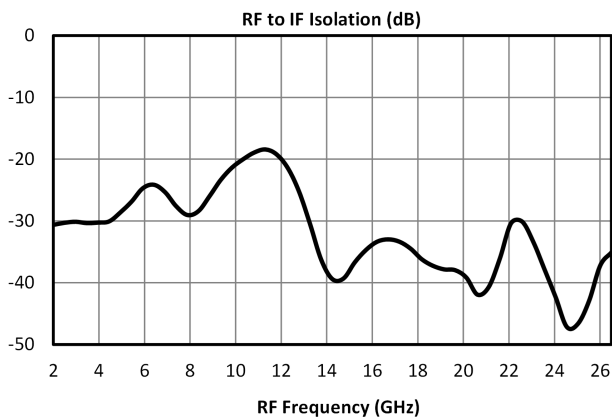
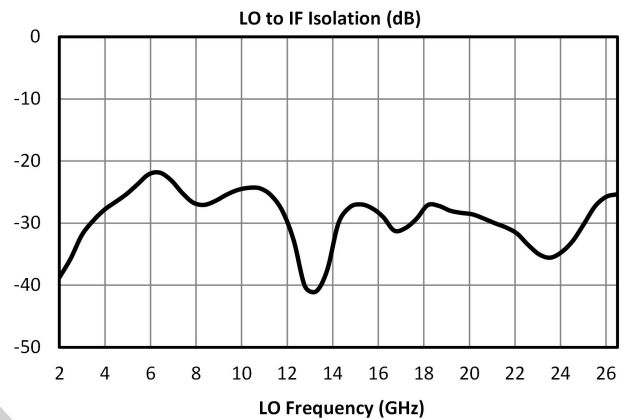
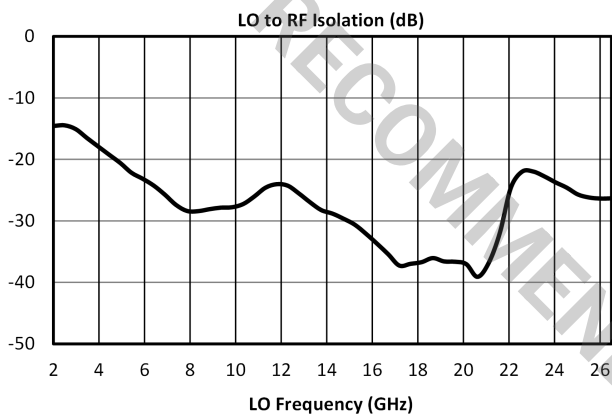
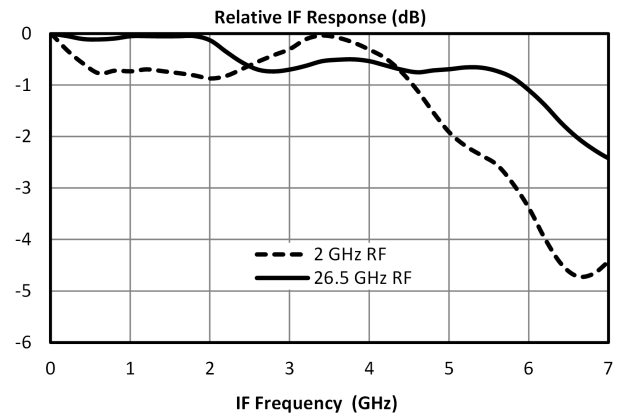
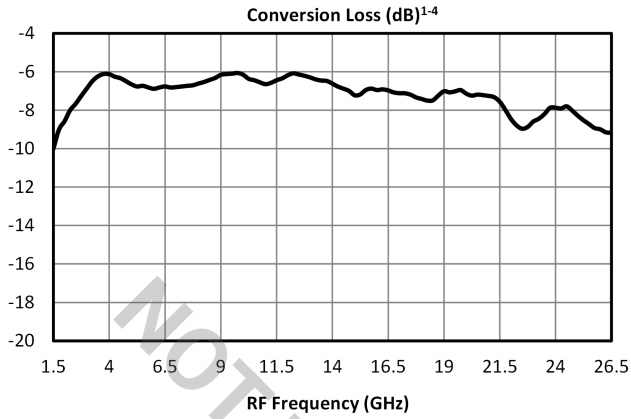
NOT RECOMMENDED FOR NEW DESIGN

**Electrical Specifications**

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

Parameter	Test Conditions	Min	Typ	Max	Unit
Conversion Loss	LO/RF=20-26.5 GHz IF=.001-2 GHz	-	9.5	12	dB
Conversion Loss	LO/RF=20-26.5 GHz IF=2-4 GHz	-	10.5	13	dB
Conversion Loss	LO/RF=20-26.5 GHz IF=4-6 GHz	-	11.5	14	dB
Conversion Loss	LO/RF=2-20 GHz IF=.001-2 GHz	-	7.5	10	dB
Conversion Loss	LO/RF=2-20 GHz IF=2-4 GHz	-	8.5	11	dB
Conversion Loss	LO/RF=2-20 GHz IF=4-6 GHz	-	9.5	12	dB
Input 1 dB Compression	LO/RF=2-26.5 GHz LO drive level, M Diode Option=13-16 dBm	-	8	-	dBm
Input IP3	LO/RF=2-26.5 GHz LO drive level, M Diode Option=13-16 dBm	-	18	-	dBm
Isolation, LO to IF	LO/RF=2-26.5 GHz	-	28	-	dB
Isolation, LO to RF	LO/RF=2-26.5 GHz	12	25	-	dB
Isolation, LO to RF	LO/RF=4-19 GHz	18	28	-	dB
Isolation, RF to IF	LO/RF=2-26.5 GHz	-	30	-	dB
IF Frequency Range	-	0.001	-	6	GHz
RF Frequency Range	-	2	-	26.5	GHz

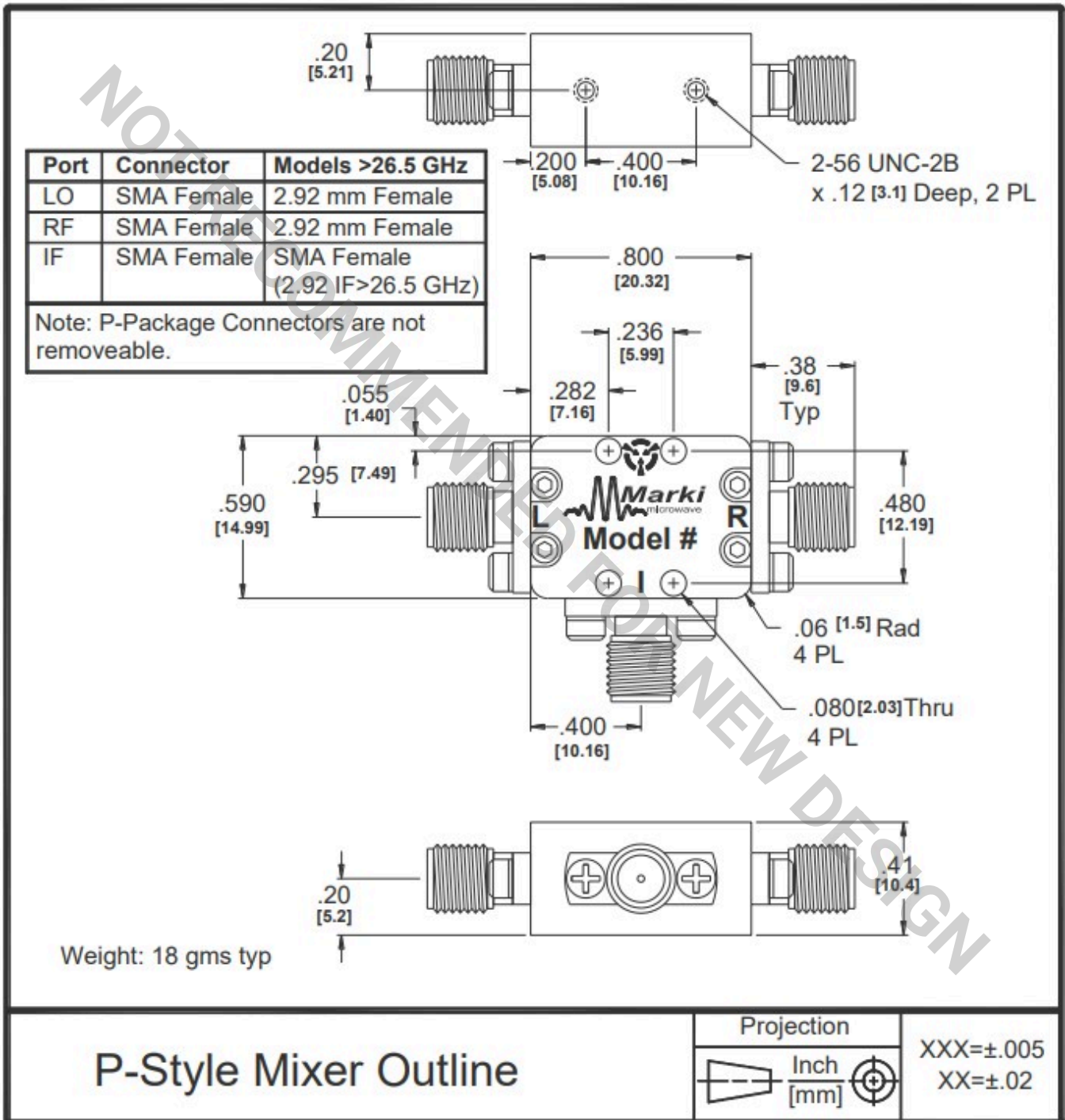
**Typical Performance Plots**



**Mechanical Data**

**Outline Drawing**

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



## Notes

### DATA SHEET NOTES:

1. Mixer Conversion Loss Plot IF frequency is 100 MHz.
2. Mixer Noise Figure typically measures within +0.5 dB of conversion loss for IF frequencies greater than 5 MHz.
3. Conversion Loss typically degrades less than 0.5 dB for LO drives 2 dB below the lowest and 3 dB above highest nominal LO drive levels.
4. Conversion Loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C.
5. Maximum input power is +26 dBm at +25°C, derated linearly to +23 dBm at +100°C.
6. Specifications are subject to change without notice. Contact Marki Microwave for the most recent specifications and data sheets.
7. Standard configuration for A and B Outlines are with connectors and bottom spacer.
8. Catalog mixer circuits are continually improved. Configuration control requires custom mixer model numbers and specifications.

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