Sales: 408-778-9952 | General: 408-778-4200 | Fax: 408-778-4300
Sales & Customer Support: sales@markimicrowave.com
Tech Support: support@markimicrowave.com

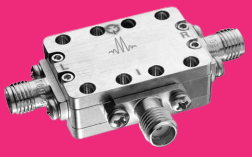
M4-0126HK

Double-Balanced 1 - 26.5 Mixer

DEVICE OVERVIEW

General Description

M4 diplexed IF mixers are hybrid assemblies that combine a low frequency IF (to DC) with a multi-decade bandwidth RF and LO. M4 mixers are commonly used for single tone analyzers (such as antenna test systems) with ultra-broad frequency ranges.



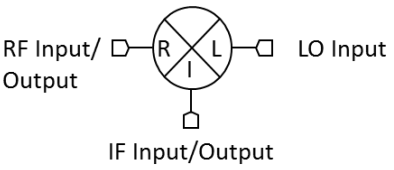
Features

- LO/RF 1 to 26.5 GHz
- IF DC to 700 MHz
- 8 dB Typical Conversion Loss
- 30 dB Typical LO to RF Isolation
- Ultra-Broadband RF and LO

Applications

N/A

Functional Block Diagram



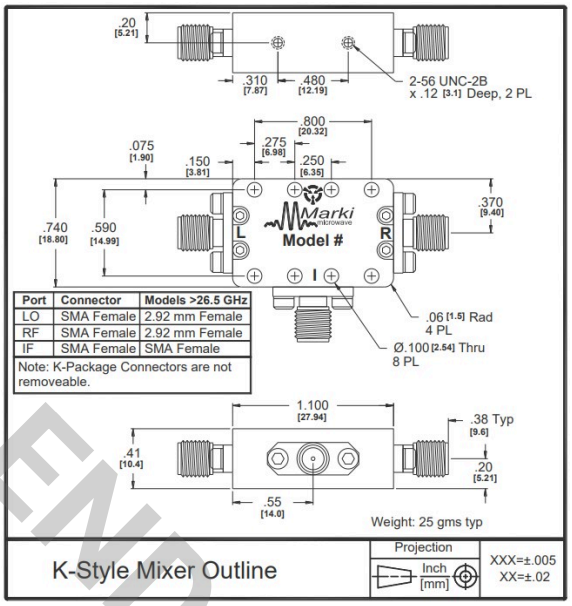
Part Ordering Options

Part Number	Description	Package	Connectors	Green Status	Product Lifecycle	Export Classification	Recommended Replacement
M4-0126LK	Double-Balanced 1 - 26.5 Mixer	K	Standard	Non-RoHS	Not Recommended for New Design	EAR99	-
M4-0126HK	Double-Balanced 1 - 26.5 Mixer	K	Standard	Consult Factory	End of Life	EAR99	-

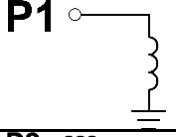
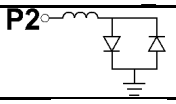
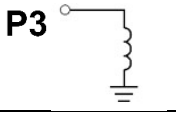
Table Of Contents

Port Configuration and Functions

Port Diagram



Port Functions

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

Specifications

Package Information

Parameter	Details	Rating
Weight	Package name: K	25g
Dimensions	-	27.94 X 18.80 mm

Recommended Operating Conditions

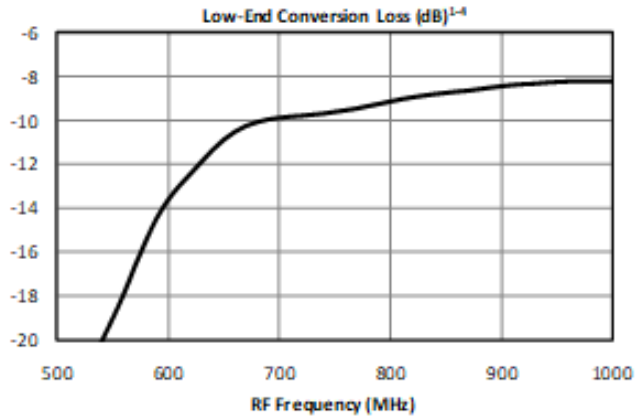
Parameter	Min	Nominal	Max	Unit
LO Input Power	16	-	19	-

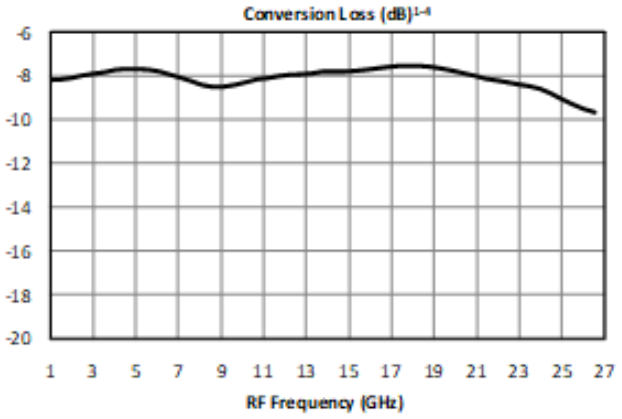
Electrical Specifications

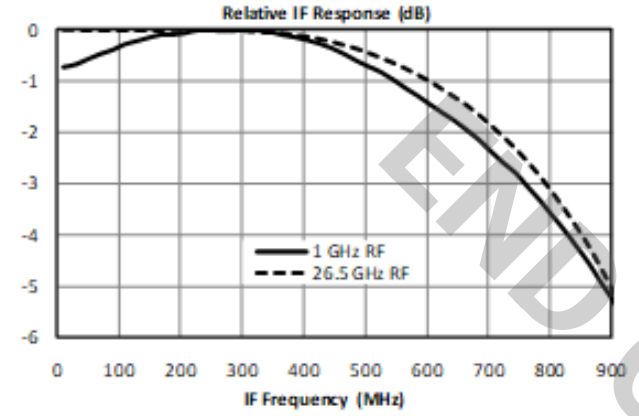
Specifications guaranteed from -55 to +100°C, measured in a 50-Ohm system.

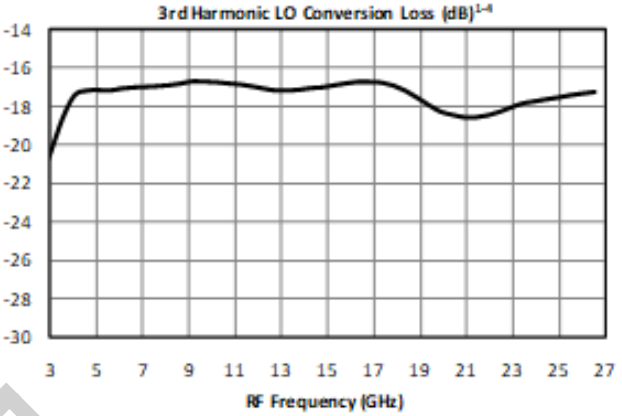
Parameter	Test Conditions	Min	Typ	Max	Unit
Conversion Loss	LO/RF=1-26.5 GHz IF=DC-300 GHz	-	8	10	dB
Conversion Loss	LO/RF=1-26.5 GHz IF=DC-500 GHz	-	8.5	11	dB
Conversion Loss	LO/RF=1-26.5 GHz IF=DC-700 GHz	-	10	13	dB
Input 1 dB Compression	LO/RF=1-26.5 GHz H Diode drive level=16-19 dBm	-	9	-	dBm
Input IP3	LO/RF=1-26.5 GHz H Diode drive level=16-19 dBm	-	19	-	dBm
IF Frequency Range	-	0	-	0.7	GHz
Isolation, LO to RF	-	-	30	-	dB
RF Frequency Range	-	1	-	26.5	GHz

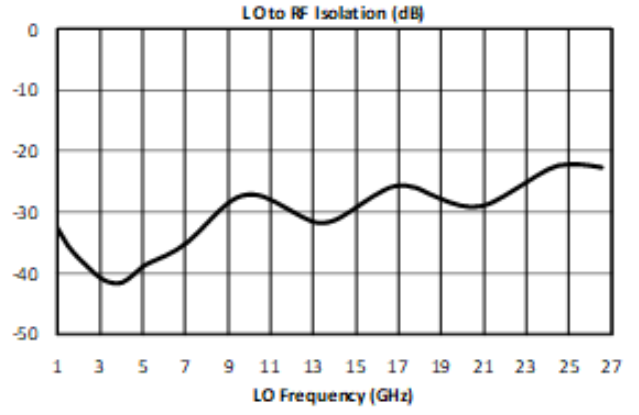
Typical Performance Plots

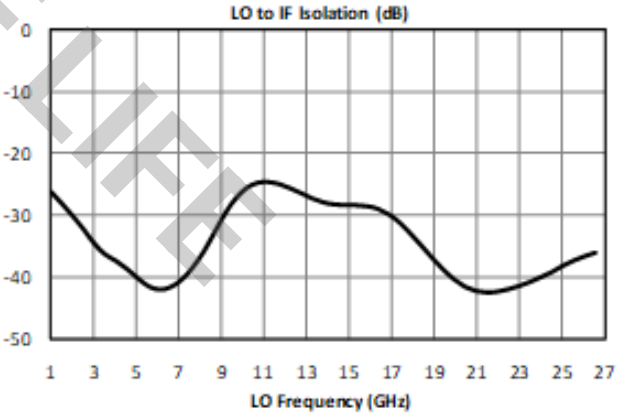


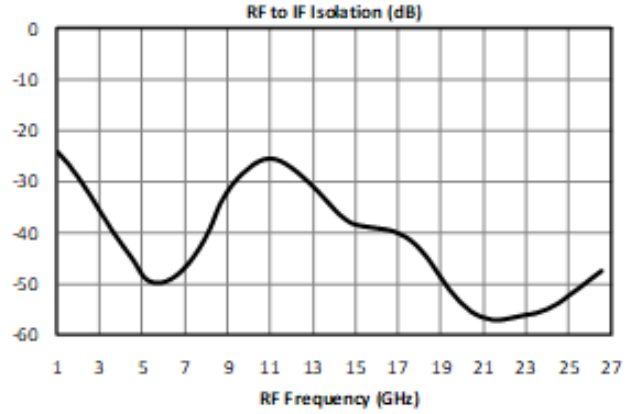


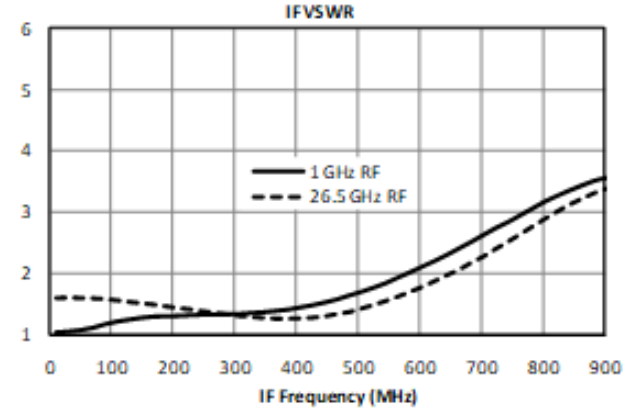


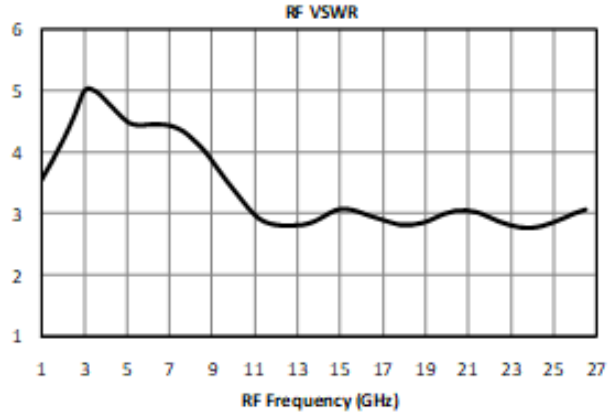


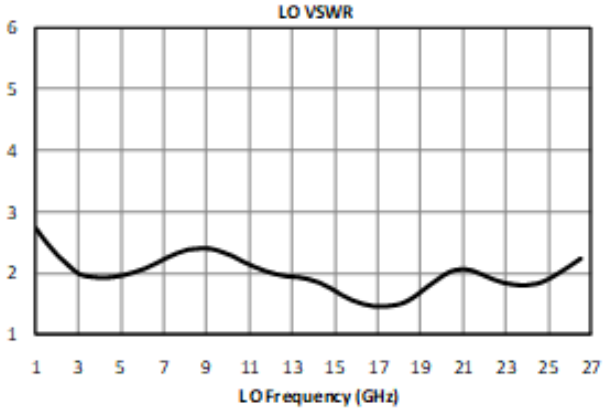








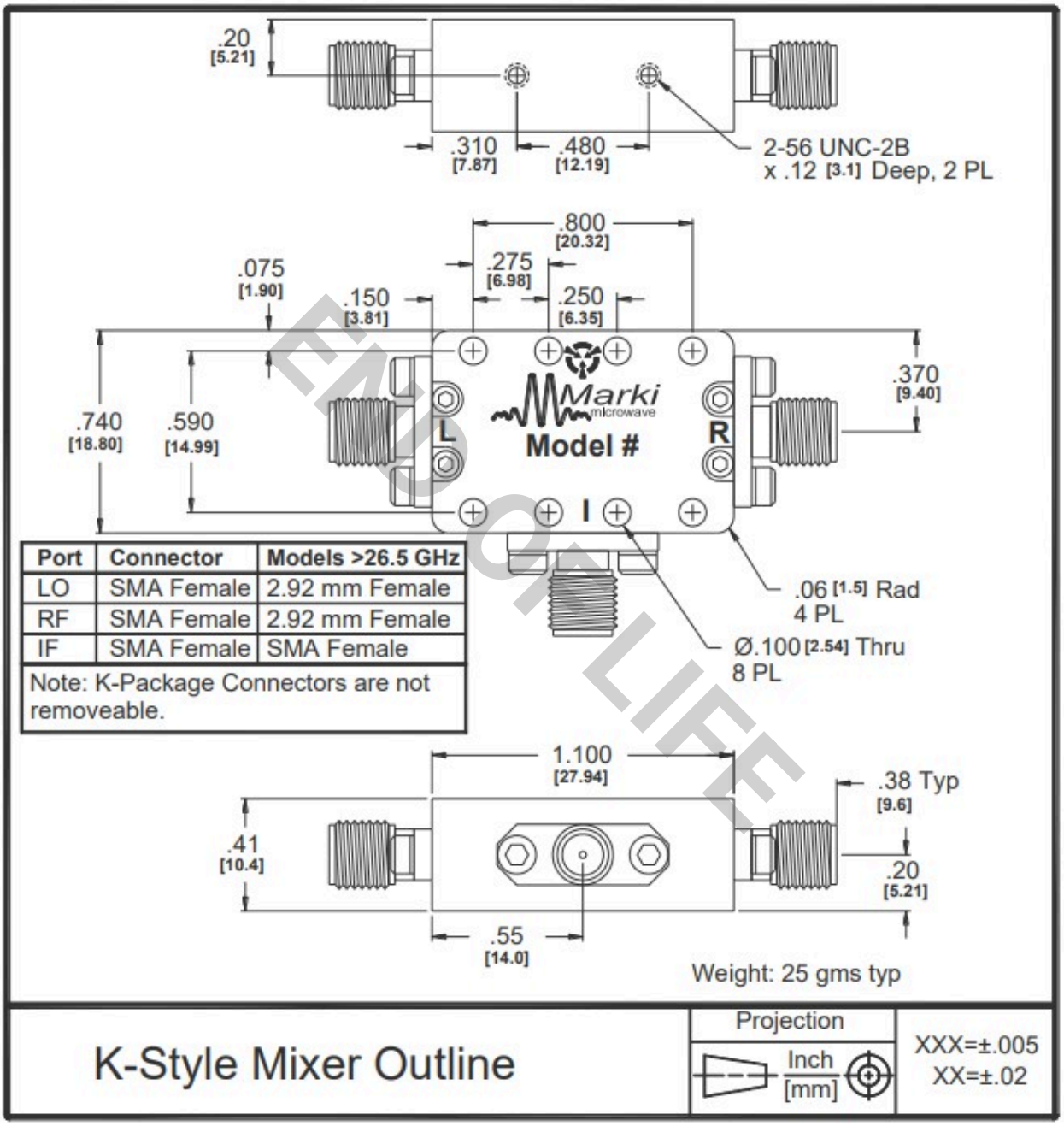




Mechanical Data

Outline Drawing

Download : Outline 3D Drawing | Outline 3D STP



Port	Connector	Models >26.5 GHz
LO	SMA Female	2.92 mm Female
RF	SMA Female	2.92 mm Female
IF	SMA Female	SMA Female

Note: K-Package Connectors are not removeable.

Notes

1. Mixer Conversion Loss Plot is done with an IF frequency of 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 +23 dBm at +25°C, derated linearly to +20 dBm at +100°C.
6. Specifications are subject to change without notice. Contact Marki Microwave for the most recent specifications and data sheets.
7. Catalog mixer circuits are continually improved. Configuration control requires custom mixer model numbers and specifications.