上海馥莱电子有限公司
电话：021-52918556
手机/微信：13764441515
邮箱：sales@fulai-elec.com
www.fulai-elec.com

Description

Mi-Wave's 920 Series Harmonic Mixers are used to downconvert millimeter wave signals using a Schottky barrier mixer diode. Measurements can be made by mixing the harmonic of the LO with the desired RF signal and observing the resulting IF.

- *Full Waveguide Band Coverage*
- *Extends the Useful Frequency Range of Spectrum Analyzers*

The 920 Series is designed for applications where a Diplexer is not required

922 Series include optional LO-IF frequency diplexer.

Operating Specifications	
RF Input Power	+15 dBm, Max.
LO Input Power	+15dBM, Max./ 6dBm typical
Storage Temperature	-10 C to +60 C
Operating Temperature	0 C to +50 C
Bias Requirements: (optional) Diode	-0.7 Vdc @ 5 mA

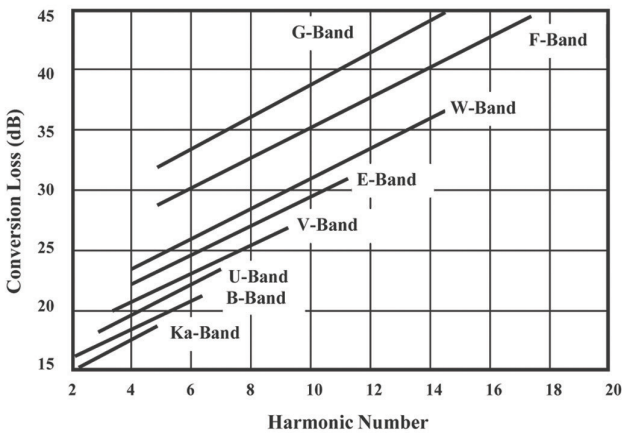
* IF range not to exceed +20dbm

Technical Specifications (typical)

Standard Mixer	Frequency Band (GHz)	Waveguide	Flange	LO Band	SSB Conversion Loss (dB)
				↑	
920A	26.5–40.0	WR-28	UG-599		18
920B	33.0–50.0	WR-22	UG-383		20
920U	40.0–60.0	WR-19	UG-383M		22
920V	50.0–75.0	WR-15	UG-385	8.0–12.0 GHZ	24
920E	60.0–90.0	WR-12	UG-387		27
920W	75.0–110.0	WR-10	UG-387M		30
920F	90.0–140.0	WR-8	UG-387M	↓	40

920 D, G available

Nominal Conversion vs. Harmonic Number and RF Band



Ordering Information

920 ___ / ___ / ___-FL (Without Diplexer)

922

IF Band Designator
02: 10-110 MHz
05: 100-600 MHz
09: 100-1000 MHz
10: 1000-2000 MHz

LO Band Designator
S: 2-4 GHz
C: 4-8 GHz
X: 8-12 GHz
Ku: 12-18 GHz

Specify RF Frequency Designator
(A, B, U, V, E, W, F)

With Optional Diplexer

Optional IF amplifiers are available. Please consult mwave.

中国区代理：上海馥莱电子有限公司
电话：021-5291 8556，手机：13764441515(微信） 邮箱：sales@fulai-elec.com

上海馥莱电子有限公司
电话：021-52918556
手机/微信：13764441515
邮箱：sales@fulai-elec.com
www.fulai-elec.com

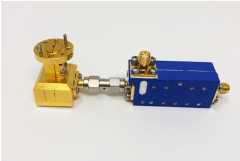
MI-WAVE®
Millimeter Wave Products Inc.

922A/387

TEST DATA SHEET

Description

Mi-Wave's 922 Series Harmonic Mixers with Diplexers



Notes

Diplexer mixer port and mixer should be connected using the sma male to male adapter supplied or a short cable that is low in loss up to 12 GHz.Conversion loss will vary depending upon LO frequency and LO power level.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
RF Frequency	26.5 GHz		40 GHz
LO Frequency option 1	4 GHz		20 GHz
LO Frequency option 2	6 GHz		20 GHz
IF Frequency Option 1	DC		3 GHz
IF Frequency Option 2	DC		5 GHz
LO Power		+10 dBm	+15 dBm
LO Plus RF Power Level			+17 dBm
Conversion Loss Depending upon LO Drive and LO Frequency		15-20 dB	

Physical Specifications

RF Port	WR-28 Waveguide, UG-599/U Flange
LO Port	SMA(F)
IF input	SMA(F)
Material	Brass
Finish	Gold Plated
Diplexer	INCLUDED

Tested by: LS

Date: 2020-04-24

上海馥莱电子有限公司
电话：021-52918556
手机/微信：13764441515
邮箱：sales@fulai-elec.com
www.fulai-elec.com

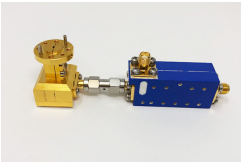
MI-WAVE®
Millimeter Wave Products Inc.

922B/383

TEST DATA SHEET

Description

Mi-Wave's 922 Series Harmonic Mixers with Diplexers



Notes

Diplexer mixer port and mixer should be connected using the sma male to male adapter supplied or a short cable that is low in loss up to 12 GHz.Conversion loss will vary depending upon LO frequency and LO power level.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
RF Frequency	33 GHz		50 GHz
LO Frequency Option 1	4 GHz		20 GHz
LO Frequency Option 2	6 GHz		20 GHz
IF Frequency Option 1	DC		3 GHz
IF Frequency Option 2	DC		5 GHz
LO Power		+10 dBm	+15 dBm
LO Plus RF Power Level			+17 dBm
Conversion Loss Depending upon LO Drive and LO Frequency		18-27 dB	

Physical Specifications

RF Port	WR-22 Waveguide, UG-383/U Flange
LO Port	SMA(F)
IF input	SMA(F)
Material	Brass
Finish	Gold Plated
Diplexer	INCLUDED

Tested by: LS

Date: 2020-04-24

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电话：021-52918556
手机/微信：13764441515
邮箱：sales@fulai-elec.com
www.fulai-elec.com

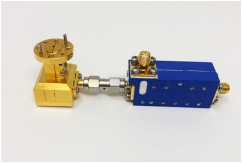
MI-WAVE®
Millimeter Wave Products Inc.

922U/383

TEST DATA SHEET

Description

Mi-Wave's 922 Series Harmonic Mixers with Diplexers



Notes

Diplexer mixer port and mixer should be connected using the sma male to male adapter supplied or a short cable that is low in loss up to 12 GHz.Conversion loss will vary depending upon LO frequency and LO power level.

S/N: .

Electrical Specifications

	Minimal	Typical	Maximum
RF Frequency	40 GHz		60 GHz
LO Frequency option 1	4 GHz		20 GHz
LO Frequency option 2	6 GHz		20 GHz
IF Frequency option 1	DC		3 GHz
IF Frequency option 2	DC		5 GHz
LO Power		+12	+15 dBm
LO Plus RF Power Level			+17 dBm
Conversion Loss Depending upon LO Drive and LO Frequency		20-30 dB	

Physical Specifications

RF Port	WR-19 Waveguide, UG-383/U-M Flange
LO Port	SMA(F)
IF input	SMA(F)
Material	Brass
Finish	Gold Plated
Diplexer	INCLUDED

Tested by: LS

Date: 2020-07-14

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电话：021-52918556
手机/微信：13764441515
邮箱：sales@fulai-elec.com
www.fulai-elec.com

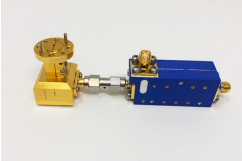
MI-WAVE®
Millimeter Wave Products Inc.

922V/385

TEST DATA SHEET

Description

Mi-Wave's 922 Series Harmonic Mixers with Diplexers



Notes

Diplexer mixer port and mixer should be connected using the sma male to male adapter supplied or a short cable that is low in loss up to 12 GHz.Conversion loss will vary depending upon LO frequency and LO power level.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
RF Frequency	50GHz		75 GHz
LO Frequency Option 1	4 GHz		20 GHz
LO Frequency Option 2	6 GHz		20 GHz
IF Frequency Option 1	DC		3 GHz
IF Frequency Option 2	DC		5 GHz
LO Power		+12 dBm	+15 dBm
LO Plus RF Power Level			+17 dBm
Conversion Loss Depending upon LO Drive and LO Frequency		20-30 dB	

Physical Specifications

RF Port	WR-15 Waveguide, UG-385/U Flange
LO Port	SMA(F)
IF input	SMA(F)
Material	Brass
Finish	Gold Plated
Diplexer	INCLUDED

Tested by: LS

Date: 2020-04-24

上海馥莱电子有限公司
电话：021-52918556
手机/微信：13764441515
邮箱：sales@fulai-elec.com
www.fulai-elec.com

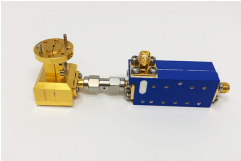
MI-WAVE®
Millimeter Wave Products Inc.

922E/387

TEST DATA SHEET

Description

Mi-Wave's 922 Series Harmonic Mixers with Diplexers



Notes

Diplexer mixer port and mixer should be connected using the sma male to male adapter supplied or a short cable that is low in loss up to 12 GHz.Conversion loss will vary depending upon LO frequency and LO power level.

S/N: 399

Electrical Specifications

	Minimal	Typical	Maximum
RF Frequency	60 GHz		90 GHz
LO Frequency option 1	4 GHz		20 GHz
LO Frequency option 2	6 GHz		20 GHz
IF Frequency option 1	DC		3 GHz
IF Frequency option 2	DC		5 GHz
LO Power		+12	+15 dBm
LO Plus RF Power Level			+17 dBm
Conversion Loss Depending upon LO Drive and LO Frequency		20-32 dB	

Physical Specifications

RF Port	WR-12 Waveguide, UG-387/U-M Flange
LO Port	SMA(F)
IF input	SMA(F)
Material	Brass
Finish	Gold Plated
Diplexer	INCLUDED

Tested by: MS

Date: 2020-07-14

上海馥莱电子有限公司
电话：021-52918556
手机/微信：13764441515
邮箱：sales@fulai-elec.com
www.fulai-elec.com

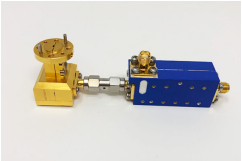
MI-WAVE®
Millimeter Wave Products Inc.

922W/387

TEST DATA SHEET

Description

Mi-Wave's 922 Series Harmonic Mixers with Diplexers



Notes

Diplexer mixer port and mixer should be connected using the sma male to male adapter supplied or a short cable that is low in loss up to 12 GHz.Conversion loss will vary depending upon LO frequency and LO power level.

S/N: 399

Electrical Specifications

	Minimal	Typical	Maximum
RF Frequency	75 GHz		110 GHz
LO Frequency option 1	4 GHz		20 GHz
LO Frequency option 2	6 GHz		20 GHz
IF Frequency option 1	DC		3 GHz
IF Frequency option 2	DC		5 GHz
LO Power		+12	+15 dBm
LO Plus RF Power Level			+17 dBm
Conversion Loss Depending upon LO Drive and LO Frequency		30-42 dB	

Physical Specifications

RF Port	WR-10 Waveguide, UG-387/U-M Flange
LO Port	SMA(F)
IF input	SMA(F)
Material	Brass
Finish	Gold Plated
Diplexer	INCLUDED

Tested by: MS

Date: 2020-08-26

上海馥莱电子有限公司
电话：021-52918556
手机/微信：13764441515
邮箱：sales@fulai-elec.com
www.fulai-elec.com

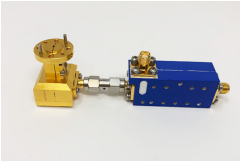
MI-WAVE®
Millimeter Wave Products Inc.

922F/387

TEST DATA SHEET

Description

Mi-Wave's 922 Series Harmonic Mixers with Diplexers



Notes

Diplexer mixer port and mixer should be connected using the sma male to male adapter supplied or a short cable that is low in loss up to 12 GHz.Conversion loss will vary depending upon LO frequency and LO power level.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
RF Frequency	90 GHz		140 GHz
LO Frequency Option 1	4 GHz		20 GHz
LO Frequency Option 2	6 GHz		20 GHz
IF Frequency Option 1	DC		3 GHz
IF Frequency Option 2	DC		5 GHz
LO Power		+12 dBm	+15 dBm
LO Plus RF Power Level			+17 dBm
Conversion Loss Depending upon LO Drive and LO Frequency		32-45 dB	

Physical Specifications

RF Port	WR-08 Waveguide, UG-387/U-M Flange
LO Port	SMA(F)
IF input	SMA(F)
Material	Brass
Finish	Gold Plated
Diplexer	INCLUDED

Tested by: LS

Date: 2020-04-24

上海馥莱电子有限公司
电话：021-52918556
手机/微信：13764441515
邮箱：sales@fulai-elec.com
www.fulai-elec.com

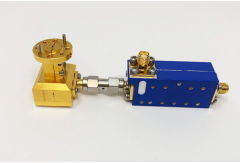
MI-WAVE®
Millimeter Wave Products Inc.

922D/387

TEST DATA SHEET

Description

Mi-Wave's 922 Series Harmonic Mixers with Diplexers



Notes

Diplexer mixer port and mixer should be connected using the sma male to male adapter supplied or a short cable that is low in loss up to 12 GHz.Conversion loss will vary depending upon LO frequency and LO power level.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
RF Frequency	110 GHz		170 GHz
LO Frequency Option 1	4 GHz		20 GHz
LO Frequency Option 2	6 GHz		20 GHz
IF Frequency Option 1	1 GHz		3 GHz
IF Frequency Option 2	1 GHz		5 GHz
LO Power			+15 dBm
LO Plus RF Power Level			+17 dBm
Conversion Loss Depending upon LO Drive and LO Frequency		TBD	

Physical Specifications

RF Port	WR-06 Waveguide, UG-387/U-M Flange
LO Port	SMA(F)
IF input	SMA(F)
Material	Brass
Finish	Gold Plated
Diplexer	INCLUDED

Tested by: LS

Date: 2020-04-24

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邮箱：sales@fulai-elec.com
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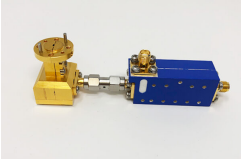
MI-WAVE®
Millimeter Wave Products Inc.

922G/387

TEST DATA SHEET

Description

Mi-Wave's 922 Series Harmonic Mixers with Diplexers



Notes

Diplexer mixer port and mixer should be connected using the sma male to male adapter supplied or a short cable that is low in loss up to 12 GHz.Conversion loss will vary depending upon LO frequency and LO power level.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
RF Frequency	140 GHz		220 GHz
LO Frequency Option 1	4 GHz		20 GHz
LO Frequency Option 2	6 GHz		20 GHz
IF Frequency Option 1	DC		3 GHz
IF Frequency Option 2	DC		5 GHz
LO Power		+12 dBm	+15 dBm
LO Plus RF Power Level			+17 dBm
Conversion Loss Depending upon LO Drive and LO Frequency		38-48 dB	

Physical Specifications

RF Port	WR-05 Waveguide, UG-387/U-M Flange
LO Port	SMA(F)
IF input	SMA(F)
Material	Brass
Finish	Gold Plated
Diplexer	INCLUDED

Tested by: LS

Date: 2020-04-24