



## Section 2-1: Balanced Mixer Series

[www.3jmicrowave.com](http://www.3jmicrowave.com)

Frequency Coverage: 18 to 110 GHz

### Applications:

- Microwave and Millimeter
- Up and down conversion
- Instrumentations
- Test Bench

### Features:

- Low Conversion Loss
- Various Bandwidth Coverage
- Low harmonics and spurious
- Coax Connectors up 67 GHz
- Waveguide Connectors in 8 Waveguide Bands



### Descriptions:

**3J Microwave, Inc.** offers a complete line of balanced mixers in 8 waveguide bands from K to W. The available state-of-the-art solid-state technologies, devices, advanced balance-design techniques are utilized in the mixers. The unique balanced structure and built-in filtering diplexer ensure high rejections achieved. Coax RF connectors are designed at frequencies up to 67 GHz. Waveguide LO and RF connectors are designed to cover

eight waveguide bands from K to W-Band in the frequency range of 18 to 110 GHz. Coaxial connector is available in the frequency range below 67 GHz. IF ports are SMA and K coaxial connectors. The series mixers are designed for the various applications such as up and down converters, transceivers, bench test, & instrumentations etc. The mixers are sorted in two categories: 1) **MXCX** Series Coax Mixers; 2) **MX** series waveguide Mixers.

### MXCX Series Coax Mixer Specifications:

Model Number*	RF/LO Freq (GHz)	RF/LO BW (GHz)	IF Freq (GHz)	C. L. (dB)	Input PldB (dBm)	Rejection LO-RF LO-IF (dB)	RF/LO Connectors	Outline
MXCX-xxxxxxxx-00	18-27	2-9	0-9	8.0	5-10	20	SMA, K, 2.4mm, 1.85mm	**
	18-40	3-22	0-10	10.0				
	18-50	5-32	0-12	11.0				
	18-67	5-49	0-15	12.0				

\* Please see "how to order" for the model number details

\*\*Consult the Factory

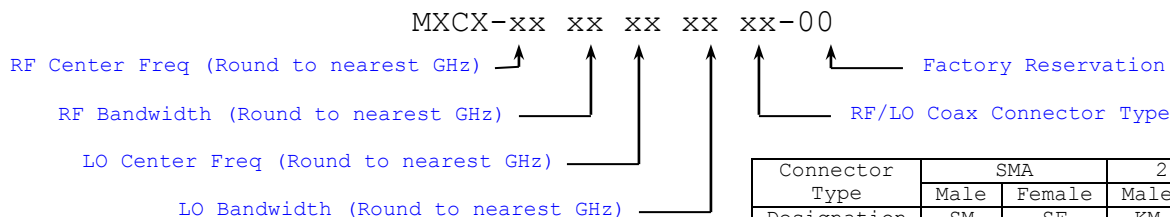


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Frequency Coverage: 18 to 110 GHz

## How to Order:



Connector Type	SMA		2.92 mm	
	Male	Female	Male	Female
Designation	SM	SF	KM	KF
Connector Type	2.40 mm		1.85 mm	
	Male	Female	Male	Female
Designation	2M	2F	VM	VF

## MXCX Model Number Example:

Model Number of a Coax Balanced Mixer with 2.92 mm Female Connectors:

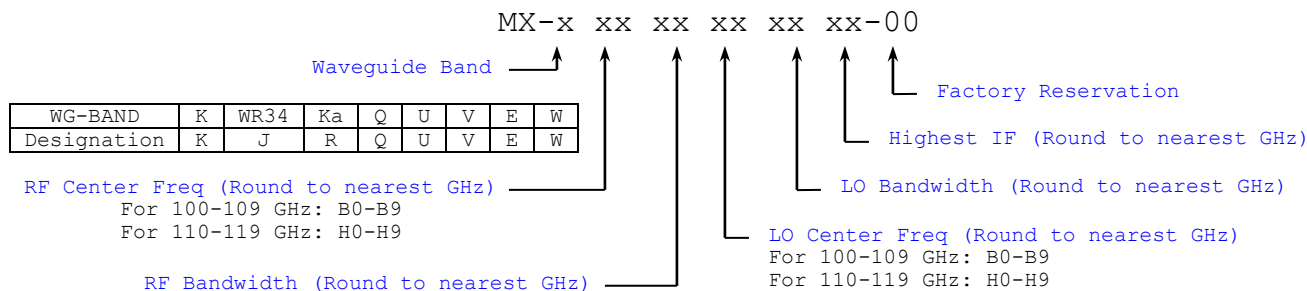
Specifications	Model number
<b>RF Center Frequency:</b> 35 GHz <b>RF Bandwidth:</b> 6 GHz <b>LO Center Frequency:</b> 27 GHz <b>RF Bandwidth:</b> 6 GHz	<b>MXCX-35062706KF-00</b>

## MX Series Waveguide Mixer Specifications:

Model Number**	RF/LO* Freq (GHz)	RF/LO BW (GHz)	IF Freq (GHz)	C. L. (dB)	Input P1dB (dBm)	Rejection (LO-RF LO-IF) (dB)	RF/LO Connector	Outline
MXWG-xxxxxxxxxxxx-00	18-27	2-9	0-9	5.0	+3.0	> 20 dB	UG595-U	D01
	22-33	2-11	0-11	5.5			UG595-UM	D02
	26-40	3-14	0-14	6.0			UG599-U	D03
	33-50	3-17	0-17	6.0			UG383-U	D04
	40-60	3-20	0-20	6.5			UG383-UM	
	50-75	5-25	0-25	7.0			UG385-U	
	60-90	5-30	0-30	7.0			UG387-U	
	75-110	5-35	0-35	7.5			UG387-UM	

- \* All of the data is tested at LO power of +13 dBm
- \*\* Please see "how to order" for the model number details

## How to Order:



WG-BAND	K	WR34	Ka	Q	U	V	E	W
Designation	K	J	R	Q	U	V	E	W

## MX Model Number Example:

Model Number of a W-Band Waveguide Balanced Mixer:

Specifications	Model number
<b>RF Frequency:</b> 75 to 110 GHz <b>LO Frequency:</b> 75 to 110 GHz <b>IF Frequency:</b> 0 to 18 GHz <b>Conversion Lose:</b> 7.5 dB	<b>MX-W9335933518-00</b>