

Applications:

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

Features:

- Various Harmonics Orders
- Various Bandwidth Coverage
- Waveguide Connectors in 10 Waveguide Bands



Descriptions:

3J Microwave, Inc. offers a complete line of harmonically pumped mixers in 10 waveguide RF bands from K to D. The available state-of-the-art solid-state devices, technology are utilized in the mixers. The mixers are designed for generating the harmonics of all of orders, which can be chosen for various applications. The optional diplexers are designed for separating the IF and LO port each other from common port of the mixer. Waveguide RF connectors are designed to cover eight waveguide bands from K to D-Band in the frequency range of 18 to 170 GHz. Coaxial RF connectors are available in the frequency range below 67 GHz. The

Harmonically pumped mixers are designed to generate harmonics of all of harmonics orders and can be used for various applications such as up and down conversion, transceivers, bench test, and instrumentation etc in the case of that there is not enough fundamental LO power available for the regular mixers. The series harmonically pumped mixers are sorted in two categories: 1) **HMXC** series coax harmonically pumped mixers. 1) **HMX** series waveguide harmonically pumped mixers.

Conversion is harmonics time dependant. Please consult the factory for the details.

HMXC Coax Harmonically Pumped Mixer Specifications:

Model Number**	RF Freq (GHz)	RF BW (GHz)	LO Harmonics Times	IF Freq* (GHz)	Conversion Loss*** (dB)	Input P1dB (dBm)	Rejection LO/IF-RF (dB)	RF Connector	Outline
HMXCxx-xxxxxxxx-00	18-27	2-9	2-4	0-9	-26	-3	20	SMA, 2.92 mm, 2.4 mm, 1.85 mm	****
	26-40	3-14	2-8	0-14					
	33-50	3-17	2-10	0-17	-28				
	40-60	3-20	2-12	0-20					
	50-67	5-25	2-14	0-25	-32				

* The IF range can be chosen in the posted range.
 ** Please see "how to order" for the model number details.
 *** Tested at 10th harmonics and LO power of +13 dBm. The conversion loss may

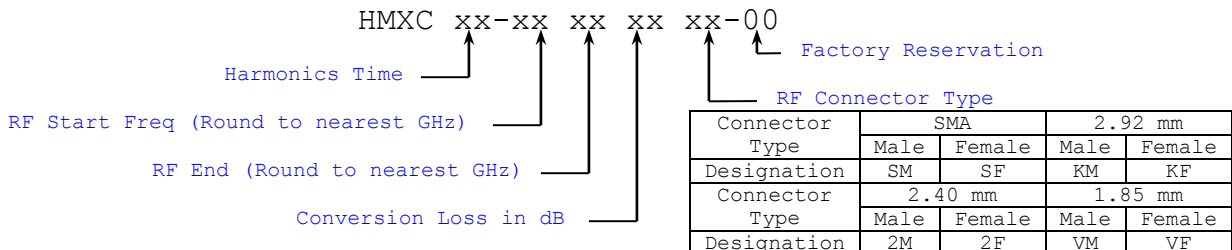


Section 2-5: Harmonically Pumped Mixer Series

www.3jmicrowave.com Frequency Coverage: 18 to 170 GHz

vary depending on the times of the harmonics.
******** Consult the Factory for the outline details.

How to Order:



HMXC Model Number Example:

Model Number of a Coax Harmonically Pumped Mixer:

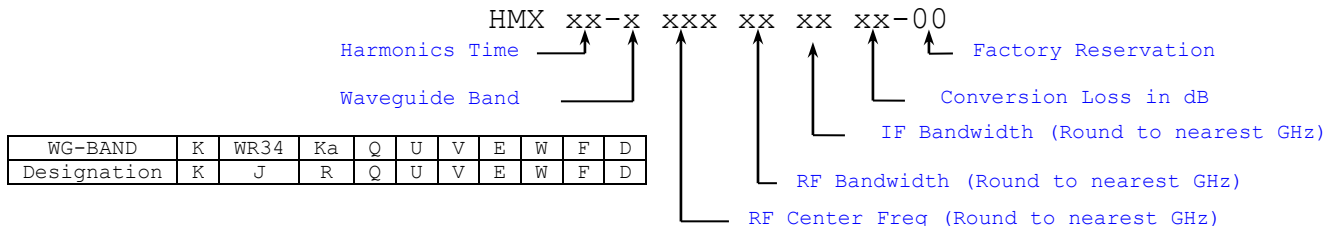
Specifications	Model number
RF Frequency: 42 to 46 GHz Harmonics Time: 10 IF Frequency: 0 to 1 GHz Conversion Lose: -28.0 dB RF Connector: 2.92 mm Female	HMXC10-424628KF-00

HMX Waveguide Harmonically Pumped Mixer Specifications:

Model Number**	RF Freq (GHz)	RF BW (GHz)	LO Harmonics Times	IF Freq* (GHz)	Conversion Loss*** (dB)	Input P1dB (dBm)	Rejection LO/IF-RF (dB)	RF/LO Connector	Outline
HMXxx-xxxxxxxxxx-00	18-27	2-9	2-4	0-9	-26	-3	20	UG595-U	F01
	22-33	2-11	2-6	0-11	-28	-6		UG595-UM	F02
	26-40	3-14	2-8	0-14				UG599-U	F03
	33-50	3-17	2-10	0-17				UG383-U	F04
	40-60	3-20	2-12	0-20	-32		15	UG383-UM	****
	50-75	5-25	2-14	0-25		UG385-U			
	60-90	5-30	2-16	0-30		UG387-U			
	75-110	5-35	2-18	0-35	UG387-UM				
	90-140	5-50	2-20	0-50	-34	-6	15	UG387-UM	
	110-170	5-60	2-24	0-60	-36			UG387-UM	

- * The IF range can be chosen in the posted range.
- ** Please see "how to order" for the model number details.
- *** Tested at 10th harmonics and LO power of +13 dBm. The conversion loss may vary depending on the times of the harmonics.
- **** Please consult the factory for outline details.

How to Order:





Section 2-5: Harmonically Pumped Mixer Series
www.3jmicrowave.com Frequency Coverage: 18 to 170 GHz

HMX Model Number Example:

Model Number of a W-Band Waveguide harmonically Pumped Mixer:

Specifications	Model number
RF Frequency: 75 to 110 GHz Harmonics Time: 10 IF Frequency: 0 to 3 GHz Conversion Lose: -32.0 dB	HMX10-W093350332-00