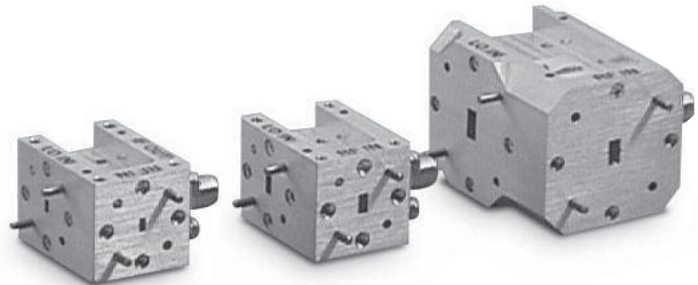


Characteristics

- ◆ Full Waveguide Band Coverage
- ◆ Low Conversion Loss
- ◆ High LO to RF Isolation
- ◆ Variety of IF Bands



Product Description

QuinStar Technology's **QMB** series **balanced mixers** enable millimeter-wave signals to be down converted to broad IF bandwidths with a local oscillator. They are available for RF over 18-110 GHz in seven waveguide bands and operate over very broad RF, LO and IF bandwidths. For fixed LO frequency applications, a very wide IF range may

be provided if desired. The local oscillator waveguide port may be in either the same waveguide band as RF waveguide port, or in lower or higher waveguide bands (the two adjacent bands). For IF above 18 GHz, a K-connector is provided on the IF port.

Specifications

RF Waveguide Band		Multi-Octave	K	—	Ka	Q	U	V	E	W
RF Frequency Range (GHz)		18-40	18-26.5	22-33	26.5-40	23-50	40-60	50-75	60-90	75-110
RF Port Designation		WRD-180	WR-42	WR-34	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10
LO Port Options		WR-22	WR-42	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10
		WR-28	SMA	WR-34	WR-22	WR-28	WR-22	WR-19	WR-15	WR-12
		K-Connector		K-Conn.	K-Conn.	WR-19	WR-15	WR-12	WR-10	WR-15
										WR-08
IF Range and Conversion Loss	IF Range (GHz)	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5
	Conversion Loss (dB)	6.0	5.5	5.5	5.5	6.0	6.5	7.5	7.5	7.5
	IF Range (GHz)	5-17	5-12	5-12	5-14	5-17	5-20	5-25	5-30	5-35
	Conversion Loss (dB)	8.0	6.5	6.5	6.5	7.0	7.5	8.0	8.5	9.0

NOTES:

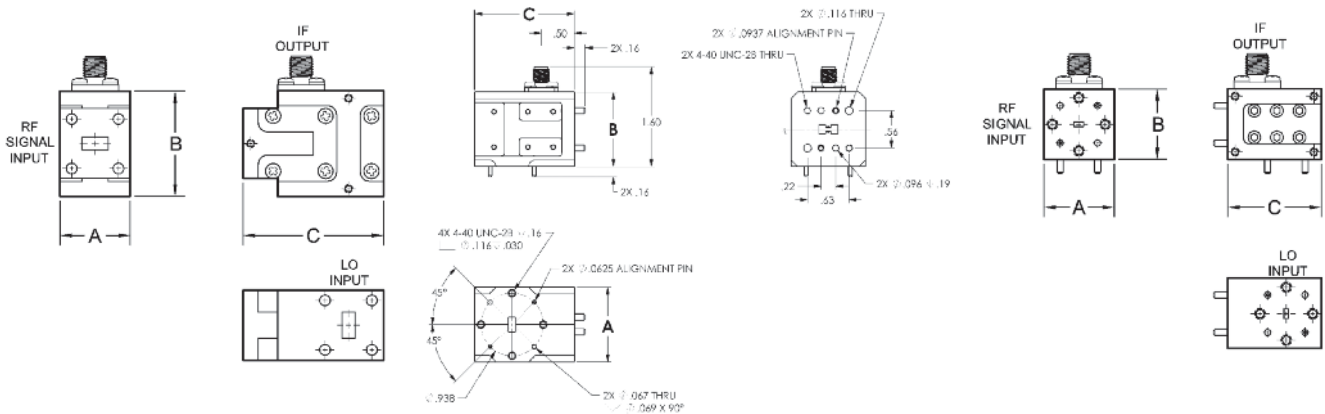
1 Local oscillators (LO) drive level required is 11.0 dBm minimum, 13 dBm typical (nominal) and 17 dBm max. for U-band and below; 15 dBm max. for V-band and above.

2 LO to RF isolation is typical 20 dB.

3 LO to IF isolation is 40 dB typical for LO above RF range and is 20 dB min. for LO below the RF range.

4 Conversion loss is tested at RF power level of -10 dBm

Outline Drawings/Mechanical Specifications



WR-42 and WR-28

WRD-180

WR-22 through WR-10

FREQUENCY BAND	WAVEGUIDE SIZE	FLANGE PATTERN	IF OUTPUT	OUTLINE DIMENSIONS, inches/mm		
				A	B	C
WRD-180	WRD-180	—	SMA JACK	1.12/28.5	1.12/28.5	1.50/29.2
K	WR-42	UG-595/U	SMA JACK	0.88/22.4	1.19/30.2	1.89/48.0
Ka	WR-28	UG-599/U	SMA JACK	0.75/19.1	1.13/28.7	1.50/38.1
Q	WR-22	UG-383/U	SMA JACK	1.13/28.7	1.13/28.7	1.50/38.1
U	WR-19	UG-383/U	SMA JACK	1.13/28.7	1.13/28.7	1.50/38.1
V	WR-15	UG-385/U	SMA JACK	0.75/19.1	0.75/19.1	1.00/25.4
E	WR-12	UG-387/U	SMA JACK	0.75/19.1	0.75/19.1	1.00/25.4
W	WR-10	UG-387/U	SMA JACK	0.75/19.1	0.75/19.1	1.00/25.4

Ordering Information

Model Number **QMB** -

AB CD E F



Please specify RF, IF and LO frequencies when ordering.

RF center frequency rounded to nearest GHz

(A0 = 100 GHz, A1 = 101 GHz, B1 = 111 GHz, etc., FB = fullband)

LO frequency rounded to nearest GHz

(A0 = 100 GHz, A1 = 101 GHz, B1 = 111 GHz, etc.)

local oscillator waveguide band

S = same waveguide band as RF
L = lower waveguide band (next below RF)
U = upper waveguide band (next above RF)
C = coaxial LO input
Z = custom

RF waveguide band designator

K = K-band V = V-band
A = Ka-band E = E-band
R = WRD-180 W = W-band
Q = Q-band
U = U-band