

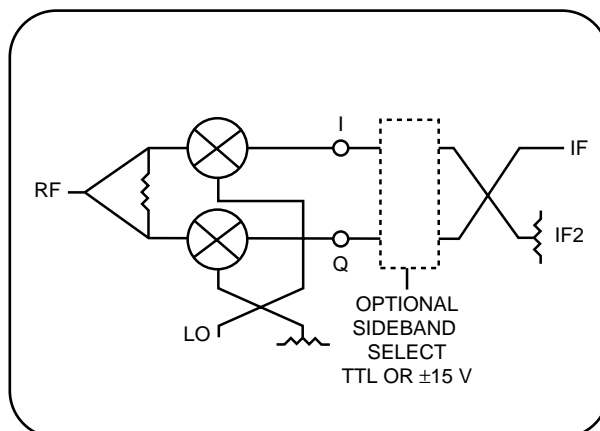
IMAGE REJECTION MIXERS - IR SERIES

[Features](#)[Mixer Reference Chart](#)[Typical Test Data](#)[Ordering Information](#)[Outline Drawings](#)[Custom Design Capabilities](#)[Fax-Back Page](#)[Additional Products Available](#)

IMAGE REJECTION MIXERS

FEATURES

- Low conversion loss
- RF/LO frequencies to 20 GHz in moderate to octave bands
- IF frequencies from 1 to 2000 MHz in octave to multioctave bands
- Optimized performance available
- Output configurations include:
 - Single sideband
 - Dual sideband
 - Voltage-selectable sideband
- Quadrature IF outputs available (IQ series)
- Integrated IF-preamplifiers available (RP series)



STANDARD IMAGE REJECTION MIXER REFERENCE CHART

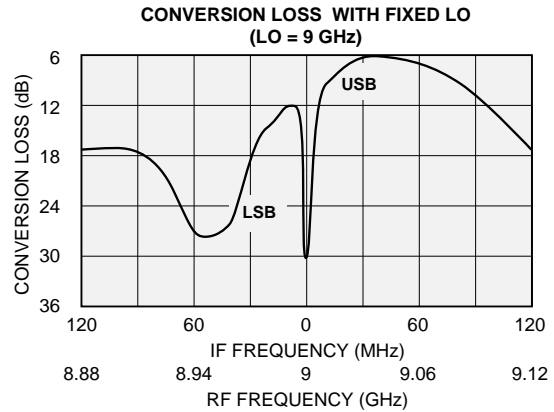
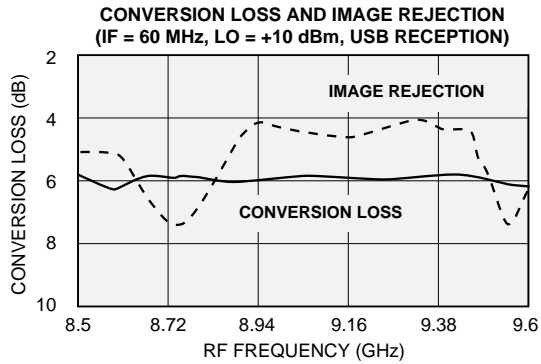
MODEL NUMBER ¹	RF FREQUENCY ² (GHz)	CONVERSION LOSS ³ (dB) (Typ./Max.)	LO POWER ⁴ (dBm)	IMAGE REJECTION ³ (dB, Min.)	LO-RF ISOLATION (dB, Typ.)	OUTLINE
IRM008010xyyy	0.8 – 1	6.5 / 7.5	+10 to +12	18	20	124747
IRM010020xyyy	1 – 2	6.5 / 7.5	+10 to +12	18	20	124747
IRM015020xyyy	1.5 – 2	6.5 / 7	+10 to +12	18	20	124747
IRM020040xyyy	2 – 4	7 / 7.5	+10 to +12	18	20	124747
IRM021023xyyy	2.1 – 2.3	7 / 7	+10 to +12	18	20	124747
IRM023025xyyy	2.3 – 2.5	7 / 7	+10 to +12	18	20	124747
IRM037042xyyy	3.7 – 4.2	7 / 7	+10 to +12	18	20	124747
IRM040060xyyy	4 – 6	7 / 7.5	+10 to +12	18	20	124747
IRM054059xyyy	5.4 – 5.9	7 / 7	+10 to +12	20	20	124747
IRM055080xyyy	5.5 – 8	7 / 8	+10 to +12	18	20	124747
IRM085096xyyy	8.5 – 9.6	7 / 8	+10 to +12	20	20	112373
IRM095105xyyy	9.5 – 10.5	8 / 8	+10 to +12	20	20	112373
IRM100120xyyy	10 – 12	8 / 8.5	+10 to +12	18	20	112373
IRM120150xyyy	12 – 15	8 / 8.5	+10 to +12	18	20	112373
IRM150180xyyy	15 – 18	8 / 8.5	+10 to +12	18	20	112373
IRM160190xyyy	16 – 19	8 / 9	+10 to +12	18	20	112373

Notes:

1. For x suffix, see sideband code table.
2. Narrow bands below 0.8 GHz are available. Please contact factory.
3. Standard models are supplied with octave bandwidth IF frequency ranges centered at yyy MHz. See IF frequency code table. Parameters stated are measured at IF band center. Octave and multioctave options available.
4. Standard LO drive level is +10 to +12 dBm. Optional drive levels are available. See LO drive code table.

For additional information and technical support, please contact Bill Roehrich at
 Tel.: (631) 439-9273 • Fax: (631) 436-7430 • E-Mail: broehrich@miteq.com
 Low-Noise Front Ends and Subsystems Web Page: www.miteq.com/d32

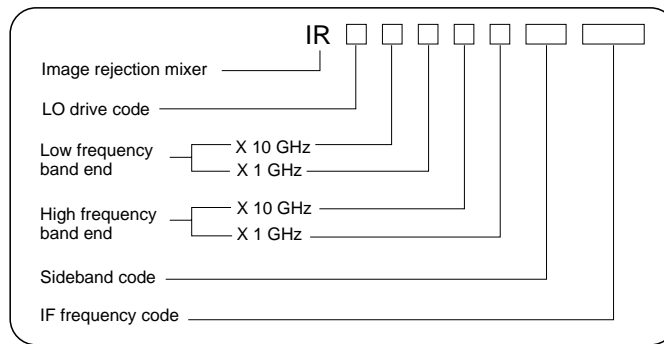
IRM0850966060 TYPICAL TEST DATA



ORDERING INFORMATION

To specify an image rejection mixer, please choose from the standard image rejection mixer reference chart and specify IF, LO and desired sideband codes from the following tables.

NUMBER FORMAT



LO DRIVE CODES

CODE	LO RANGE (dBm)	OUTPUT 1 dB C.P. (dBm, Typ.)	THIRD-ORDER INTERCEPT (dBm, Typ.)	
			OUTPUT	INPUT
Standard M	+10 – +12	1	6	12
Optional J	+7 – +9	-6	1	7
H	+14 – +16	2	9	15
V	+19 – +21	7	14	20
U	+24 – +26	11	18	24

IF FREQUENCY CODES (yyy)

TYPE	IF FREQ. CODE	IF FREQ. (MHz)
Standard	Octave bandwidth	001 – 999 1K0 – 2K0
	Examples:	060 = 60 MHz, 100 = 100 MHz and 1K2 = 1200 MHz.
Optional	Multioctave bandwidth	W01
		W02
		W03
		W04

SIDE BAND CODE (x)

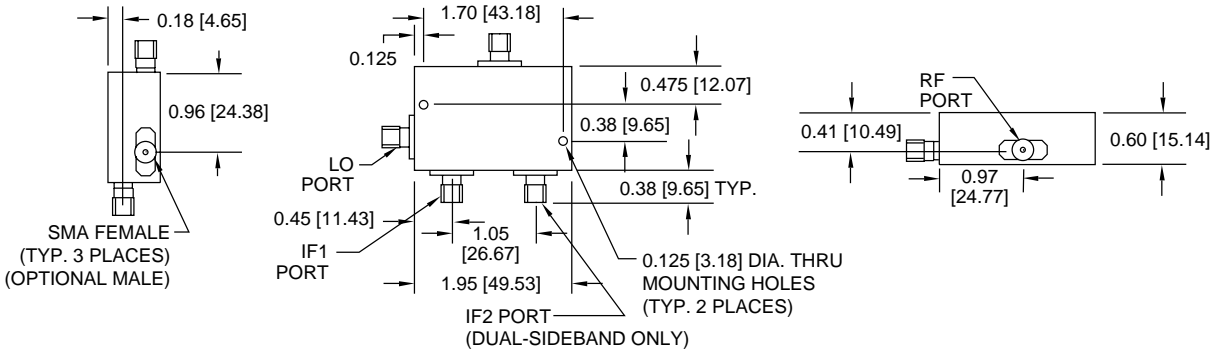
CODE	DESCRIPTION
Standard	U Upper sideband reception; RF > LO
	L Lower sideband reception; RF < LO
Optional	D Dual-sideband outputs; IF1 = USB, IF2 = LSB
	S1 Selectable sideband; control: +15 V = USB, -15 V = LSB
	S2 Selectable sideband; control: +15 V = LSB, -15 V = USB
	T1 TTL selectable sideband; control: 1 = USB, 0 = LSB
	T2 TTL selectable sideband; control: 1 = LSB, 0 = USB
I/Q Series	- Quadrature IF outputs (contact the factory)

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OUTLINE DRAWINGS

OUTLINE 124747

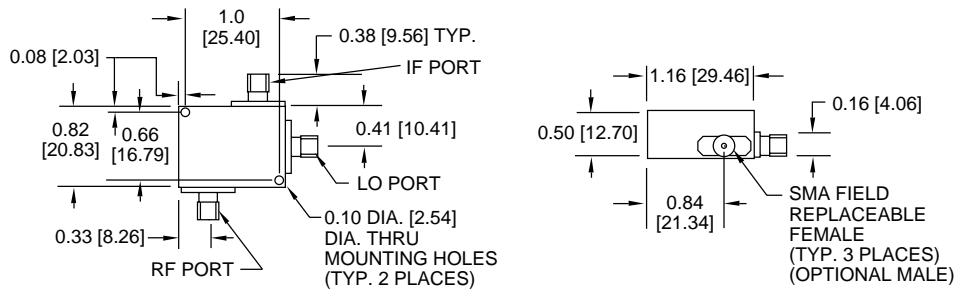
Weight 58 grams typical



Note: Dimensions are in inches [millimeters].

OUTLINE 112373

Weight 23 grams typical

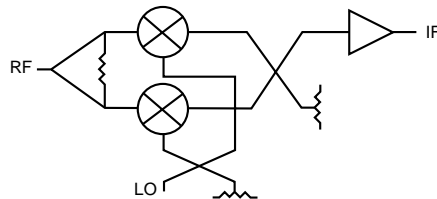


Note: Dimensions are in inches [millimeters].

CUSTOM DESIGN CAPABILITIES

MITEQ specializes in custom design mixers optimized to meet the customer's needs. For price, delivery and technical information, please complete and return the enclosed fax-back form, or contact one of our engineers.

- Optimized frequency ranges offer improved:
 - Conversion loss
 - Image rejection
 - VSWR
 - Dynamic range
- Integrated functions available (See back page)
- Please refer to our RP series for standard line image rejection mixers with IF-preamplifiers:



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IMAGE REJECTION MIXER FAX-BACK PAGE



MITEQ

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 www.miteq.com/d32

**LOW-NOISE FRONT ENDS
 AND SUBSYSTEMS**

DATE _____

COMPANY _____

ADDRESS _____

CONTACT _____

TEL. _____

FAX _____

Please provide price, delivery and technical information for the following image rejection mixers:

STANDARD MODELS		
SPECIFICATION PARAMETERS	REQUIREMENT 1	REQUIREMENT 2
Model Number (refer to ordering information)	IR _____	IR _____
Quantity		
Date Needed		
CUSTOM MODELS		
SPECIFICATION PARAMETERS	REQUIREMENT 1	REQUIREMENT 2
RF Frequency Range (GHz)	to	to
LO Frequency Range (GHz)	to	to
IF Frequency Range (MHz)	to	to
Sideband Code (U, L, D, Sn, Tn)		
Conversion Loss (dB, max.)		
LO Power Range (dBm)	to	to
Quantity		
Date Needed		

Special requirements:

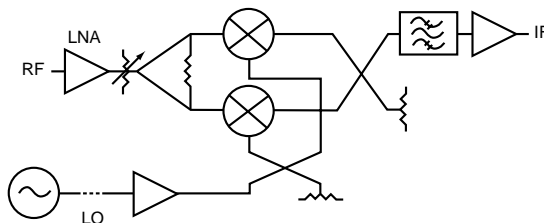
PLEASE SEND ADDITIONAL INFORMATION ON THE FOLLOWING PRODUCTS:

- | | |
|--|--|
| <input type="checkbox"/> Double-Balanced Mixers | <input type="checkbox"/> Image Rejection Mixer-Preamplifiers |
| <input type="checkbox"/> Double-Balanced Mixer-Preamplifiers | <input type="checkbox"/> Supercomponents |
| <input type="checkbox"/> Mixers with RF Amplifiers | <input type="checkbox"/> Integrated Assemblies |



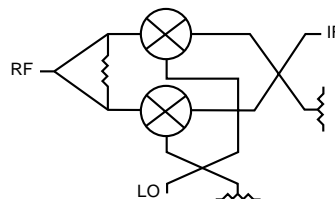
ARZ SERIES FRONT ENDS AND INTEGRATED SUBSYSTEMS

- Operating Frequencies up to 40 GHz
- Many RF and IF Signal Processing Function Options (see below)
- Ultra-Low Noise Figure
- Integrated Low Phase Noise Sources
- Upconverter, Downconverter and Transceiver Configurations
- Waveguide Interface Options
- Digital I/O Options
 - IEEE 488
 - RS422
- Power Supply Options
 - DC Bias
 - 120/240 VAC
- Package Options Include
 - Channelized Housings
 - Highly Integrated Housings
 - Cascaded Components on an Aluminum Plate
 - 19" Rack Enclosures
 - VME and Eurocard Formats
 - Weather-Resistant Enclosures
 - Hermetic Packaging



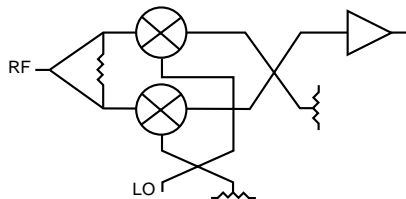
IR SERIES IMAGE REJECTION MIXERS

- Moderate and Octave RF/LO Frequencies from 0.8 to 19 GHz
- Moderate to Multioctave IF Frequencies Available
- Optimized Assemblies Available
- Single-Sideband Modulators Available (SSZ Series)



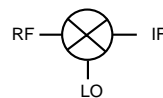
RP SERIES IMAGE REJECTION MIXER-PREAMPLIFIERS

- Moderate and Octave RF/LO Frequencies from 0.8 to 19 GHz
- Moderate to Multioctave IF Frequencies Available
- Optimized Assemblies Available
- Choose from Extensive Selection of IF Amplifiers
- IF Signal Processing Functions Available (see below)
- Upconverter and Downconverter Applications



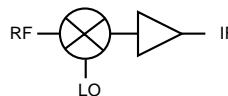
M SERIES DOUBLE-BALANCED MIXERS

- Octave and Multioctave RF/LO Frequencies up to 40 GHz
- Low Conversion Loss
- Optimized Assemblies Available (MDZ Series)



MP SERIES DOUBLE-BALANCED MIXER-PREAMPLIFIERS

- Octave and Multioctave RF/LO Frequencies up to 26 GHz
- Moderate and Octave RF/LO Frequencies from 0.8 to 19 GHz
- Moderate to Multioctave IF Frequencies Available
- Optimized Assemblies Available
- Choose from Extensive Selection of IF Amplifiers
- IF Signal Processing Functions Available (see below)



OPTIONAL RF AND IF SIGNAL PROCESSING OPTIONS FOR ARZ, RPZ AND MPZ SERIES

- Wide Selection of RF and IF Amplifiers
- Filters
- Attenuators
- Switches
- Phase Shifters
- Couplers/Coupler Detectors
- Analog and Digital I/O

