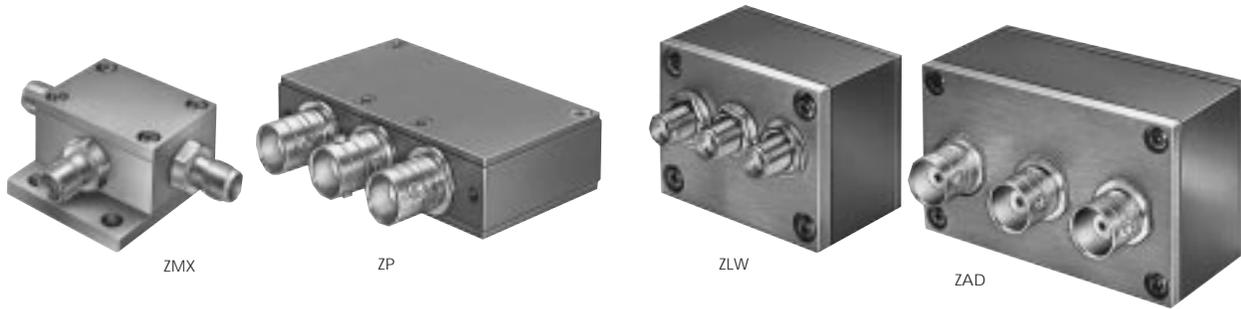


# FREQUENCY MIXERS

Coaxial

## LEVEL 7 500 Hz to 10 GHz



+7 dBm LO, up to +1 dBm RF

MODEL NO.	FREQUENCY MHz		CONVERSION LOSS dB				LO-RF ISOLATION, dB						LO-IF ISOLATION, dB			CASE STYLE	CONNECTION	PRICE \$			
	LO/RF $f_L$ - $f_U$	IF	Mid-Band $\bar{x}$	m	σ	Total Range Max.	L Typ.	M Typ.	U Typ.	L Min.	M Min.	U Min.	L Typ.	M Typ.	U Typ.				Note B	Qty. (1-9)	
ZMX-7GR	3700-7000	DC-1000	5.0	.30	—	8.2	30 (typ.) 20 (min.)						36 (typ.) 20 (min.)			BU413	af	71.95			
ZMX-10G	3700-10000	DC-2000	5.0	.10	—	8.5	37 (typ.) 20 (min.)*						17 (typ.) 8 (min.)			BU413	ad	81.95			
ZP-1	2-600	DC-600	5.85	.10	7.0	8.0	60	50	42	30	37	25	60	45	47	30	36	22	GG60	ag	39.95
ZP-2	50-1000	DC-1000	5.85	.10	7.5	9.0	58	40	47	30	42	25	50	35	44	20	29	18	GG60	ag	39.95
ZP-3	0.15-400	DC-400	4.7	.10	7.0	8.0	60	50	46	30	35	25	60	40	47	25	35	20	GG60	ag	39.95
ZP-5	20-1500	DC-1000	5.7	.10	9.0	9.0	54	40	42	30	39	25	40	25	32	18	23	8	GG60	ag	47.95
ZP-5X	1-1500	1-1000	5.9	.10	7.0	9.0	60	40	40	20	28	17	60	45	45	25	38	20	GG60	hg	47.95
ZP-11A	1400-1900	40-500	6.8	.30	8.6	8.6	33(typ.) 20 (min.)						29 (typ.) 15 (min.)			GG60	ag	47.95			
ZP-860	800-1050	DC-250	5.6	.24	7.75	7.75	35(typ.) 25 (min.)						27 (typ.) 20 (min.)			GG60	ag	47.95			
ZP10514	.2-500	DC-500	5.18	.10	7.0	8.5	55	45	50	35	35	30	50	40	36	30	30	20	GG60	ag	62.95
▲ ZLW-1	.5-500	DC-500	5.81	.08	7.0	8.5	50	45	45	30	35	25	45	35	40	25	30	20	M21	ae	51.95
▲ ZLW-1W	1-750	DC-750	5.74	.05	7.5	8.5	50	45	45	30	35	25	45	30	40	25	30	20	M21	ae	56.95
▲ ZLW-1-1	.1-500	DC-500	4.82	.07	7.5	8.5	50	45	45	30	35	25	45	30	40	25	30	20	M21	ae	53.95
▲ ZLW-2	1-1000	DC-1000	5.68	.08	7.5	9.5	55	45	40	25	35	20	50	40	40	25	30	20	M21	ae	56.95
▲ ZLW-3	.025-200	DC-200	4.61	.06	7.5	8.5	60	50	45	35	35	25	45	35	40	30	30	20	M21	ae	53.95
▲ ZLW-5	5-1500	10-600	5.81	.08	7.5	8.5	55	40	35	25	30	20	50	40	35	25	30	20	M21	ae	61.95
▲ ZLW-6	.003-100	DC-100	4.58	.05	7.5	8.5	60	50	45	30	35	25	60	45	40	25	30	25	M21	ae	64.95
▲ ZLW-11	5-2000	10-600	6.85	.10	8.5	9.0	50	45	35	25	30	20	45	40	30	20	25	15	M21	ae	71.95
▲ ZLW-12	800-1250	50-90	6.21	.13	—	7.5	35	25	35	25	35	25	30	20	30	20	30	20	M21	ae	71.95
ZAD-1	.5-500	DC-500	5.24	.10	7.0	8.5	50	45	45	30	35	25	45	35	40	25	30	20	M22	ae	43.95
ZAD-1-1	.1-500	DC-500	4.83	.04	7.5	8.5	50	45	45	30	35	25	45	30	40	25	30	20	M22	ae	44.95
ZAD-2	1-1000	.5-500	5.66	.07	7.5	8.5	45	30	35	20	30	20	45	30	35	20	30	20	M22	ad	49.95
ZAD-3	.025-200	DC-200	4.61	.06	7.5	8.5	60	50	45	35	35	25	45	35	40	30	30	20	M22	ae	45.95
ZAD-6	.003-100	DC-100	4.65	.08	7.5	8.5	60	50	45	30	35	25	60	45	40	25	30	20	M22	ae	51.95
ZAD-8	.0005-10	DC-10	5.79	.05	7.5	8.5	60	50	50	40	45	35	60	50	50	40	45	35	M22	ae	54.95
ZAD-11	5-2000	10-600	7.12	.12	8.5	9.0	50	45	35	25	30	20	45	40	30	20	25	15	M22	ae	61.95
ZAD-12	800-1250	50-90	6.21	.13	7.5	7.5	35	25	35	25	35	25	30	20	30	20	30	20	M22	ae	61.95

L = low range [ $f_L$  to 10  $f_L$ ]

M = mid range [10  $f_L$  to  $f_U/2$ ]  
m = mid band [ $2f_L$  to  $f_U/2$ ]

U = upper range [ $f_U/2$  to  $f_U$ ]

### NOTES:

$\bar{x}$  Average of conversion loss at center of mid-band frequency ( $f_L + f_U/4$ )

$\sigma$  Standard deviation

▲ Available only with SMA connectors

† Phase detection, positive polarity

\* 15 dB min. 8.5 to 10 GHz

A. General Quality Control Procedures, Environmental Specifications, Hi-Rel and MIL description are given in section 0, see "Mini-Circuits Guarantees Quality" article.

B. Connector types and case mounted options, case finishes are given in section 0, see "Case Styles & Outline Drawings".

C. Prices and Specifications subject to change without notice.

1. Absolute maximum power, voltage and current ratings:

1a. RF power, 50mW

1b. Peak IF current, 40mA



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ISO 9001 CERTIFIED

000815



ZEM



ZFM



ZAM

+7 dBm LO, up to +1 dBm RF

MODEL NO.	FREQUENCY MHz		CONVERSION LOSS dB				LO-RF ISOLATION, dB					LO-IF ISOLATION, dB					CASE STYLE	CONNECTION	PRICE \$		
	LO/RF $f_L-f_U$	IF	Mid-Band $\bar{x}$	m	σ	Total Range Max.	L Typ.	L Min.	M Typ.	M Min.	U Typ.	U Min.	L Typ.	L Min.	M Typ.	M Min.				U Typ.	U Min.
▲ ZEM-2B	10-1000	DC-1000	5.74	.07	7.0	8.5	55	50	30	25	25	20	55	45	30	20	25	20	V37	ad	59.95
▲ ZEM-4300	300-4300	DC-1000	6.65	.06	—	9.5	40	20	—	—	30	17	15	8	—	—	15	8	V37	af	79.95
ZFM-1W	10-750	DC-750	5.42	.14	7.0	8.0	50	45	45	30	35	25	45	40	40	25	27	20	K18	ad	51.95
ZFM-2	1-1000	DC-1000	5.72	.06	7.5	8.5	50	45	40	25	30	25	45	40	35	25	25	20	K18	ad	53.95
ZFM-3	0.04-400	DC-400	4.78	.03	7.0	8.0	60	50	50	35	35	25	55	40	45	30	35	25	K18	ad	61.95
† ZFM-4	5-1250	DC-1250	5.70	.34	7.5	8.5	50	45	40	30	30	25	45	40	35	25	25	20	K18	ad	61.95
ZFM-5X	1-1500	1-1000	5.9	.10	7.0	9.0	60	40	40	20	28	17	60	45	45	25	38	20	K18	ae	59.95
ZFM-11	1-2000	5-600	7.03	.17	8.5	9.0	50	45	35	25	25	20	45	40	27	20	25	20	K18	ad	89.95
ZFM-12	800-1250	50-90	5.67	.12	—	7.5	35	25	35	25	35	25	30	20	30	20	30	20	K18	ad	79.95
▲ ZFM-2000	100-2000	DC-600	7.49	.20	9.5	9.5	—	—	37	20	—	—	—	—	—	—	30	20	K18	ad	71.95
▲ ZFM-4212	2000-4200	DC-1300	5.44	.088	—	8.5	—	—	25	17	—	—	—	—	18	10	—	—	K18	ad	54.95
▲ ZAM-42	1500-4200	DC-500	5.67	.11	—	8.5	25	14	25	14	25	14	18	10	18	10	18	10	F14	af	54.95

L = low range [ $f_L$  to  $10 f_L$ ]

M = mid range [ $10 f_L$  to  $f_U/2$ ]  
 m = mid band [ $2f_L$  to  $f_U/2$ ]

U = upper range [ $f_U/2$  to  $f_U$ ]

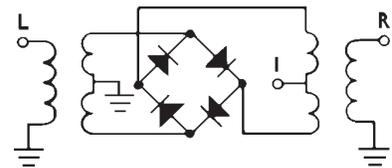
**NSN GUIDE**

**MCL NO.**

- ZAD-1B(BNC)
- ZAD-4B
- ZAD-6B
- ZEM-2
- ZFM-1W
- ZFM-2
- ZFM-3
- ZFM-3 (SMA)
- ZFM-3B
- ZFM-11(SMA)
- ZLW-1W
- ZLW-2
- ZLW-2B
- ZP-10514
- ZP-10514(BNC)

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- 5985-00-280-7750
- 5895-01-127-0376
- 5895-01-344-7843
- 5895-01-235-7834
- 5895-01-412-3037
- 4935-01-230-3782
- 5895-01-257-9523
- 5895-01-214-7362
- 5895-01-381-9289
- 6625-01-415-2182
- 5895-00-607-7010
- 6920-01-037-1974
- 5840-01-186-8398
- 6625-01-108-6156
- 5895-01-384-7453



**coaxial connections**

see case style outline drawings

PORT	ad	ae	af	ag	hg
LO	1	1	2	L	L
RF	2	3	1	R	X
IF	3	2	3	X	R
GND EXT.	—	—	—	—	—
CASE GND	—	—	—	—	—
NOT USED	—	—	—	—	—



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