

# FREQUENCY MIXERS

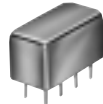
Plug-In

## LEVEL 13 25 kHz to 7 GHz

+13 dBm LO, up to +9 dBm RF



ROK



SBL / SIMA / SRA



TFM / TUF

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 m			Total Range Max.	L		M		U		L		M		U				
			$\bar{x}$	$\sigma$	Max.		Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.			
ROK-186MH	5-2500	10-1000	6.57	.11	8.5	9.5	33	25	35	25	25	20	33	20	31	25	27	20	QQ96	v	47.95
□ SBL-1MH	1-500	DC-500	5.73	.08	7.5	8.5	50	35	45	30	35	25	45	30	40	25	30	20	A06	d	11.45
□ SBL-12MH	2-1100	DC-500	6.63	.10	8.0	9.0	50	40	40	30	30	20	40	30	25	20	25	15	A06	s	13.45
SRA-1MH	.5-500	DC-500	5.65	.04	7.0	8.5	50	45	45	30	35	25	45	35	40	25	30	20	A01	e	15.95
SRA-3MH	.025-200	DC-200	4.77	.07	7.5	8.5	60	50	45	35	35	25	45	35	40	30	30	20	A01	e	18.95
SRA-2010MH	10-2000	DC-600	7.50	.20	8.5	9.8	50	45	45	30	40	25	45	45	35	30	35	20	A06	m	40.95
TFM-1MH	2-500	DC-500	5.80	.05	7.5	8.5	50	45	40	30	30	20	45	40	35	25	25	20	B02	z	26.95
TFM-3MH	1-250	DC-250	4.79	.23	7.0	8.5	50	45	40	30	28	23	45	40	35	25	26	20	B02	z	26.95
TFM-12MH	0.5-2000	0.2-600	6.99	.16	8.0	9.5	60	45	35	30	30	25	55	40	30	25	25	20	B13	z	48.95
TFM-42MH	10-4200	10-1000	7.46	.12	8.5	11	35	25	40	25	35	25	35	20	35	25	27	20	B13	aa	69.95
□ TUF-1MH	2-600	DC-600	6.3	.12	7.0	8.0	68	50	50	30	43	25	65	45	48	30	37	22	B02	z	8.25
□ TUF-2MH*	50-1000	DC-1000	6.0	.25	7.5	9.0	58	40	47	30	37	25	55	35	47	20	32	18	B02	z	9.20
□ TUF-3MH	0.15-400	DC-400	5.0	.33	7.0	8.0	60	50	46	30	35	25	60	40	42	25	35	20	B02	z	10.20
□ TUF-5MH	20-1500	DC-1000	7.0	.25	8.5	9.0	50	40	41	30	35	25	38	25	28	18	20	8	B02	z	13.45
□ TUF-11AMH	1400-1900	40-500	7.4	.20	8.6	8.6	33 (Typ.)		20 (Min.)				24 (Typ.)		15 (Min.)				B02	z	21.95
□ TUF-860MH	800-1050	DC-250	6.8	.32	8.3	8.3	35 (Typ.)		25 (Min.)				27 (Typ.)		18 (Min.)				B02	z	13.45
□ TUF-2500MH	400-2500	30-800	7.3	.15	8.5	10.0	32 (Typ.)		24 (Min.)				27 (Typ.)		17 (Min.)				B02	z	26.95

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  $f_U$ ]

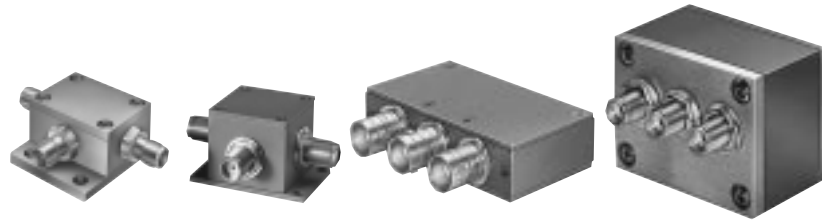
### NOTES:

- $\bar{x}$  Average of conversion loss at center of mid-band frequency ( $(f_L + f_U)/4$ )
- $\sigma$  Standard deviation
- Non-hermetic
- \* L=50-100 MHz; M=100-500 MHz
- A. General Quality Control Procedures, Environmental Specifications, Hi-Rel and MIL description are given in General Information (Section 0).
- 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 200mW; 1b. Peak IF current, 40mA

### NSN GUIDE

MCL NO.	NSN
ROK-186MH	5895-01-392-2276
SRA-1MH	5895-01-391-0113
TFM-3MH	5895-01-302-7047
TFM-42MH	5895-01-408-6093

Coaxial



+13 dBm LO, up to +9 dBm RF

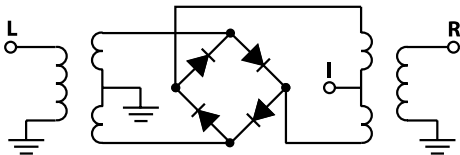
MODEL NO.	FREQUENCY MHz		CONVERSION LOSS dB				LO-RF ISOLATION, dB				LO-IF ISOLATION, dB				CASE STYLE	C O N N E C T I O N	PRICE \$		
	LO/RF	IF	Mid-Band		Total Range Max.	L	M	U	L	M	U	L	M	U					
	$f_L$ - $f_U$		$\bar{x}$	m														$\sigma$	Typ.
ZMX-7GMH	3700-7000	DC-2000	4.7	.20	—	8.0	37 (Typ.)	20 (Min.)				17 (Typ.)	8 (Min.)			BU413	ad	74.95	
ZEM-4300MH	300-4300	DC-1000	6.42	.15	—	8.5	40	20	—	—	40	20	14	7	—	—	V37	af	89.95
ZEM-M2TMH	10-2400	10-1000	6.9	.10	9.0	9.5	49	40	43	35	42	35	49	40	44	30	V37	hq	114.95
ZP-1MH	2-600	DC-600	6.3	.12	7.0	8.0	68	50	50	30	43	25	65	45	48	30	GG60	ag	43.95
ZP-2MH*	50-1000	DC-1000	6.0	.25	7.5	9.0	58	40	47	30	37	25	55	35	47	20	GG60	ag	43.95
ZP-3MH	0.15-400	DC-400	5.0	.33	7.0	8.0	60	50	46	30	35	25	60	40	42	25	GG60	ag	43.95
ZP-5MH	20-1500	DC-1000	7.0	.25	8.5	9.0	50	40	41	30	35	25	38	25	28	18	GG60	ag	47.95
ZP-11AMH	1400-1900	40-500	7.4	.20	8.6	8.6	33 (Typ.)	20 (Min.)					24 (Typ.)	15 (Min.)			GG60	ag	47.95
ZLW-186MH	2-2500	2-1000	6.9	.11	8.5	9.5	33	25	35	25	30	20	42	25	49	25	M21	ae	69.95

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

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

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

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



pin and coaxial connections see case style outline drawings

PORT	d	e	m	s	v	z	aa	ad	ae	af	ag	hq
LO	8	8	8	1	5	4	1	1	1	2	L	3
RF	1	1	1	8	11	1	4	2	3	1	R	2
IF	3,4^	3,4^	3	3	2	2	2	3	2	3	X	1
GND EXT.	2,5,6,7	2,5,6,7	2,5,6,7	2,5,6,7	1,3,4,6,7,8,9,10,12	3	3	—	—	—	—	—
CASE GND	—	2	2,5,6,7	2,5,6,7	1,3,4,6,7,8,9,10,12	3	3	—	—	—	—	—
NOT USED	—	—	4	4	—	—	—	—	—	—	—	—

^ pins must be connected together externally



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