

# Frequency Mixers

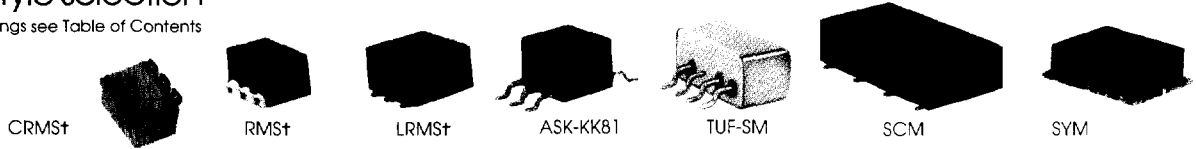
40 KHz to 4.3 GHz

## LEVEL 7 (+7 dBm LO, up to +1 dBm RF)

surface-mount, non-hermetic, available on tape & reel

case style selection

outline drawings see Table of Contents



MODEL NO.	FREQUENCY MHz		CONVERSION LOSS dB				LO-RF ISOLATION, dB				LO-IF ISOLATION, dB				CAPD DATA (see RF/IF Designer Handbook) Page	Case Style Note B	CONNECTOR	Price \$ Qty. (1-9)				
	LO/RF $f_1-f_0$	IF	Mid-Band			Total Range Max.	L Typ.	M Typ.	U Typ.	L Typ.	M Typ.	U Typ.	L Typ.	M Typ.					U Typ.			
			$\bar{x}$	$\sigma$	Max.																	
CRMS-2	5-1000	DC-1000	6.5	.15	8.0	9.5	60	40	43	25	31	20	53	30	37	20	22	12	1-224	CTT248	w	6.95
RMS-1	0.5-500	DC-500	5.94	.05	7.0	8.5	55	50	33	25	27	20	55	45	30	23	24	19	1-218	TT100	w	6.25
RMS-1W	2-750	DC-750	5.83	.21	7.5	8.5	70	45	45	28	38	22	60	45	40	25	30	20	1-282	TT100	w	6.75
RMS-1BM	5-600	DC-600	6.0	.05	7.0	7.5	65	45	50	32	35	23	55	40	40	25	35	22	—	TT100	w	6.25
RMS-2	5-1000	DC-1000	6.67	.26	8.0	9.5	60	40	40	20	25	18	55	30	30	20	20	12	1-224	TT100	w	6.95
RMS-2D	5-1000	DC-1000	6.81	.06	8.0	10.0	59	40	40	30	33	22	55	30	40	22	30	20	1-284	TT100	w	7.25
RMS-2U	10-1000	10-750	6.79	.16	8.0	9.5	55	40	40	30	30	25	55	30	35	25	30	22	1-230	TT100	w	11.45
RMS-5	5-1500	DC-1000	5.92	.34	7.5	9.5	60	40	40	20	30	18	55	30	30	18	15	8	1-232	TT100	w	13.95
RMS-11A	1500-1900	40-400	—	.19	—	9.0	25 (typ.) 17 (min.)			23 (typ.) 15 (min.)			1-212	TT100	w	16.95						
RMS-11F	350-2000	DC-400	5.5	.20	7.0	9.2	37	26	36	20	32	20	22	14	29	20	28	20	—	TT240	w	4.95***
RMS-11X	5-1900	5-1000	7.1	.10	8.2	9.8	58	45	35	20	27	18	56	45	37	20	27	20	—	TT240	gk	3.95***
RMS-30	200-3000	DC-1000	6.5	.20	9.0	9.8	27 (typ.) 17 (min.)			20 (typ.) 7 (min.)			—	TT241	w	6.95***						
RMS-860**	800-1050	DC-250	5.5	.23	7.5	7.5	36 (typ.) 25 (min.)			24 (typ.) 18 (min.)			1-286	TT100	w	11.45						
LRMS-1	0.5-500	DC-500	5.94	.05	7.0	8.5	55	50	33	25	27	20	55	45	30	23	24	19	1-218	QQQ130	w	6.25
LRMS-1W	2-750	DC-750	5.83	.21	7.5	8.5	70	45	45	28	38	22	60	45	40	25	30	20	1-282	QQQ130	w	6.75
LRMS-2	5-1000	DC-1000	6.67	.26	8.0	9.5	60	40	40	20	25	18	55	30	30	20	20	12	1-224	QQQ130	w	6.95
LRMS-2D	5-1000	DC-1000	6.81	.06	8.0	10.0	59	40	40	30	33	22	55	30	40	22	30	20	1-284	QQQ130	w	7.25
LRMS-2U	10-1000	10-750	6.79	.16	8.0	9.5	55	40	40	30	30	25	55	30	35	25	30	22	1-230	QQQ130	w	11.45
LRMS-1R	0.5-500	DC-500	5.80	.16	7.0	8.5	55	50	33	25	27	20	55	45	30	23	24	19	1-218	QQQ130	w	14.45
LRMS-2R	5-1000	DC-1000	6.60	.14	8.0	10.0	55	40	39	20	22	7	46	35	30	20	18	11	1-222	QQQ130	w	14.95
LRMS-5	5-1500	DC-1000	5.92	.34	7.5	9.5	60	40	40	20	30	8	55	30	30	18	15	8	1-232	QQQ130	w	13.95
LRMS-5R	10-1500	DC-1000	5.62	.12	8.0	9.9	50	40	34	20	22	8	50	27	30	15	14	7	1-232	QQQ130	w	16.95
LRMS-11A	1500-1900	40-400	—	.19	—	9.0	25 (typ.) 17 (min.)			23 (typ.) 15 (min.)			1-212	QQQ130	w	16.95						
LRMS-860**	800-1050	DC-250	5.5	.23	7.5	7.5	36 (typ.) 25 (min.)			24 (typ.) 18 (min.)			1-286	QQQ130	w	11.45						
ASK-1	1-600	DC-600	5.58	.06	7.0	8.5	50	30	35	25	30	20	45	35	30	20	25	15	1-76	KK81	w	6.95
ASK-2	1-1000	DC-1000	6.79	.10	8.0	9.8	60	40	35	18	26	6	50	30	25	17	15	10	1-248	KK81	w	8.25
TUF-1SM	2-600	DC-600	5.85	.04	7.0	8.0	60	50	42	30	37	25	60	45	47	30	36	22	1-192	NNN150	z	4.25
TUF-2SM	50-1000	DC-1000	5.85	.07	7.5	9.0	58	40	47	30	42	25	50	35	44	20	29	18	1-194	NNN150	z	5.2
TUF-3SM	0.15-400	DC-400	4.7	.02	7.0	8.0	60	50	46	30	35	25	60	40	47	25	35	20	1-200	NNN150	z	6.1
TUF-5SM	20-1500	DC-1000	5.7	.04	9.0	9.0	54	40	42	30	39	25	40	25	32	18	23	8	1-206	NNN150	z	9.45
TUF-5XSM	1-1500	1-1000	5.9	.10	7.0	9.0	60	40	40	20	28	17	60	45	45	25	38	20	—	NNN150	gm	11.95
TUF-11ASM	1400-1900	40-500	6.8	.30	8.6	8.6	33 (typ.) 20 (min.)			29 (typ.) 15 (min.)			1-290	NNN150	z	16.95						
TUF-860SM	800-1050	DC-250	5.6	.24	7.75	7.75	35 (typ.) 25 (min.)			27 (typ.) 20 (min.)			1-292	NNN150	z	9.45						
SCM-1	1-500	DC-500	5.72	.10	7.0	8.0	60	40	45	35	40	30	50	40	45	35	40	25	1-236	YY101	d	4.25
SCM-2	5-1000	DC-500	5.76	.03	7.5	9.8	50	40	40	25	35	20	55	30	40	25	30	18	1-238	YY101	k	5.45
SCM-5	1250-1800	DC-500	5.82	.19	—	8.0	28 (typ.) 17 (min.)			18 (typ.) 8 (min.)			1-196	YY101	r	11.95						
SCM-2500	500-2500	DC-500	5.88	.08	6.9	10.0	35	22	35	22	35	22	18	12	18	12	18	12	1-266	YY101	r	11.95
SYM-2	2-1000	DC-1000	5.4	.10	7.2	9.5	70	45	50	30	40	25	63	40	48	24	37	20	1-66	TTT166	x	11.95
SYM-860	800-1050	DC-250	5.6	.10	7.0	7.0	39 (typ.) 25 (min.)			37 (typ.) 20 (min.)			1-292	TTT166	x	8.95						
SYM-11	1-2500	10-600	7.0	.30	9.0	10.5	63	40	40	24	34	20	61	40	35	20	28	15	1-288	TTT167	x	9.95
SYM-12	5-1200	DC-1000	6.5	.30	8.0	9.0	68	45	50	30	37	25	56	40	46	25	29	18	—	TTT167	x	9.45
SYM-2500	1-2500	DC-500	6.5	.1	8.5	9.8	70	50	50	25	36	20	60	45	30	10	16	8	—	TTT167	x	11.95

L = low range ( $f_L$  to  $10f_L$ )

M = mid range ( $10f_L$  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
- ◇ Hermetic sealed diodes
- † Phase detection, positive polarity except RMS-860 and LRMS-860
- ⊙ Frequency ranges specified: m = 350-1000 MHz, L = 350-750 MHz, M = 750-1000 MHz, U = 1000-2000 MHz
- \* ASK plug-in mounting case X65
- \*\* Phase detection, negative polarity

\*\*\* Price for quantities 10-49

- A. General Quality Control Procedures, Environmental Specifications, Hi-Rel, MIL and TX 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