

FREQUENCY MIXERS

Surface Mount

LEVEL 7 150 kHz to 4.3 GHz



ALY



ASK-KK81



†JMS



†LRMS



†LRMS-J



†RMS

+7 dBm LO, up to +1 dBm RF

MODEL NO.	FREQUENCY MHz		CONVERSION LOSS dB				LO-RF ISOLATION, dB						LO-IF ISOLATION, dB						CAPD DATA	CASE STYLE	CONNECTION	Price \$						
	LO/RF f _L -f _U	IF	Mid-Band			Total Range													(see RF/IF Designer Handbook) Page	Note B	CONNECTION	Qty. (1-9)						
			σ	m	Max.		L			M			U			L							M			U		
							Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.					Typ.	Min.	Typ.	Min.	Typ.	Min.
ALY-3	2300-2600	DC-400	5.5	.15	—	7.0	31 (typ.)			25 (min.)			15 (typ.)			12 (min.)			—	CB539	jx	5.95						
ALY-4	3300-4300	DC-600	5.7	.15	—	8.0	28 (typ.)			23 (min.)			15 (typ.)			12 (min.)			—	CB539	jx	5.95						
ASK-1-KK81	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-KK81	1-1000	DC-1000	6.79	.10	8.0	9.8	60	40	35	18	26	16	50	30	25	17	15	10	1-209	KK81	w	8.25						
JMS-1	2-500	DC-500	5.75	.10	7.0	8.0	55	50	45	30	40	25	55	45	45	25	32	20	1-218	BH292	ht	4.95						
JMS-2	20-1000	DC-1000	7.0	.15	8.4	9.5	63	40	50	28	35	20	56	30	47	22	37	20	1-244	BH292	ht	7.45						
JMS-2W	5-1200	DC-500	6.8	.10	8.0	9.0	60	40	60	30	37	20	60	40	48	20	31	15	1-47	BH292	ht	7.95						
JMS-5	5-1500	DC-1000	6.0	.10	8.0	9.5	63	40	50	25	35	20	60	40	30	18	15	8	1-225	BH292	ht	9.95						
JMS-11X	5-1900	5-1000	6.7	.15	8.2	9.8	58	45	35	20	27	18	56	45	37	20	27	20	1-49	BH292	hu	4.25***						
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	1-175	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	1-173	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	1-227	QQQ130	w	11.45						
LRMS-5	5-1500	DC-1000	5.92	.34	7.5	9.5	60	40	40	20	30	18	55	30	30	18	15	8	1-225	QQQ130	w	13.95						
LRMS-11A	1500-1900	40-400	7.44	.36	—	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.)		1-171		QQQ130	w	11.45						
LRMS-30J	200-3000	DC-1000	6.8	.30	9.0	9.8	30 (typ.)			17 (min.)			27 (typ.)			7 (min.)			—	QQQ569	w	7.95***						
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	TT240	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	1-175	TT240	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	1-175	TT240	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	TT240	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	1-173	TT240	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	1-227	TT240	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	1-225	TT240	w	13.95						
RMS-11A	1500-1900	40-400	7.44	.36	—	9.0	25 (typ.)		17 (min.)					23 (typ.)		15 (min.)		1-212		TT240	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	1-51	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	1-49	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.)		1-53		TT240	w	6.95***						
RMS-860	800-1050	DC-250	5.5	.23	7.5	7.5	36 (typ.)		25 (min.)					24 (typ.)		18 (min.)		1-171		TT240	w	11.45						

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 connections see case style outline drawings

PORT	d	k	r	w	x	z	gk	gm	ht ¹	hu ²	hp	je	jx	ka	kv
LO	8	8	1	1	2	4	1	4	6	6	5	1	5	11	1
RF	1	1	8	4	1	1	5	2	3	2	1	5	10	5	2
IF	3,4 [^]	3	3	5	3	2	4	1	2	3	7	7	8	2	3
GND EXT.	2,5,6,7	2,5,6,7	2,4,5,6,7	2,3,6	4,5,6	3	2,3,6	3	1,4,5	1,4,5	2,3,4,6,8	all others	all others	all others	4,5,6
CASE GND	—	—	—	—	—	3	—	3	—	—	—	—	—	—	—
NOT USED	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—

[^] pins must be connected together externally

¹ pin connection physically same as w

² pin connection physically same as gk



INTERNET <http://www.minicircuits.com>

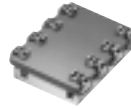
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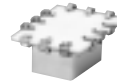
ISO 9001 CERTIFIED



SCM



SKY



SYM-J



SYM



TUF-SM

+7 dBm LO, up to +1 dBm RF

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	CONNECTION	Price \$
	LO/RF f_L - f_U	IF	Mid-Band m σ		Total Range Max.		L	M	U				L	M	U							Qty. (1-9)
			$\bar{x}$				Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.						
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	1-221	YY101	d	4.25
SCM-2	5-1000	DC-500	5.76	.03	8.3	9.8	50	40	40	25	35	20	55	30	40	25	30	18	1-219	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	1-191	YY101	r	11.95
SKY-5G	2000-5000	DC-1000	6.6	.10	—	9.5	28 (typ.)		20 (min.)				13 (typ.)		7 (min.)				1-59	BJ398	je	14.95
SKY-7G	2000-7000	DC-1000	7.0	.10	—	9.8	28 (typ.)		15 (min.)				20 (typ.)		7 (min.)				1-61	BJ398	je	16.95
NEW SKY-42	2000-4200	DC-1200	5.0	.30	—	8.5	31 (typ.)		20 (min.)				17 (typ.)		12 (min.)				—	BJ398	je	14.95
SKY-53R	2800-5300	DC-500	5.7	.20	—	9.5	28 (typ.)		15 (min.)				12 (typ.)		8 (min.)				1-63	BJ398	hp	14.95
SKY-60	2500-6000	DC-1500	6.2	.20	—	9.7	28 (typ.)		17 (min.)				14 (typ.)		8 (min.)				1-65	BJ398	je	14.95
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.)				1-165	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	1-169	TTT167	x	9.95
SYM-11J	1-2500	10-500	7.4	.10	8.0	9.8	64	40	43	24	35	20	60	40	35	20	30	15	—	CG581	ka	10.95
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	1-55	TTT167	x	9.45
NEW SYM-2500	1-2500	DC-500	6.5	.10	8.5	9.8	70	50	50	25	36	20	60	45	30	10	16	8	1-57	TTT167	x	11.95
NEW SYM-42	1000-4200	DC-200	6.7	.20	—	10.2	35 (typ.)		20 (min.)				30 (typ.)		8 (min.)				—	TTT167	kv	15.95
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	5.20
† 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	6.10
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	1-83	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.)				1-167	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.)				1-165	NNN150	z	9.45

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]

NOTES:

- $\bar{x}$ Average of conversion loss at center of mid-band frequency ($f_L + f_U/4$)
- σ Standard deviation
- ◆ For aqueous washable units add suffix J to L model number. See outline QQQ569. Footprint for L models and L models suffix J are the same.
- † 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
- *** Price for quantities 10-49
- A. Environmental specifications and re-flow soldering information available in General Information Section.
- B. Units are non-hermetic unless otherwise noted. For details on case dimensions & finishes 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

NSN GUIDE

MCL NO.	NSN
RMS-1	5895-01-415-6798
RMS-2	5895-01-447-3489
RMS-2TR	5895-01-382-2092
SCM-1NL	5895-01-374-9561

