

# FREQUENCY MIXERS

Surface Mount

## LEVEL 17 150 MHz to 6 GHz



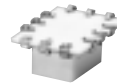
ADE



ADM



JYM



SYM-J



SYM



TUF-SM

+17 dBm LO, up to +10 dBm RF

MODEL NO.	FREQUENCY MHz		CONVERSION LOSS dB				LO-RF ISOLATION, dB			LO-IF ISOLATION, dB			IP3@ center band Typ. (dBm)	CAPD DATA (see RF/IF Designer Handbook) Page	CASE STYLE Note B	CONNECTION	Price \$ Qty. (1-9)
	LO/RF $f_L$ - $f_U$	IF	Mid-Band $\bar{x}$ $\sigma$ Max.	Total Range Max.	L Typ. Min.	M Typ. Min.	U Typ. Min.	L Typ. Min.	M Typ. Min.	U Typ. Min.							
ADE-10H	400-1000	DC-500	7.0	.10	—	8.5	39 (Typ.)	29 (Min.)	—	25 (Typ.)	17 (Min.)	30	—	CD542	jw	7.95***	
ADE-20H	1500-2000	DC-300	5.2	.20	—	7.8	29 (Typ.)	22 (Min.)	—	31 (Typ.)	20 (Min.)	24	—	CD542	jv	8.95***	
ADM-10DH	800-1000	10-200	6.0	.10	—	7.5	35 (Typ.)	25 (Min.)	—	37 (Typ.)	25 (Min.)	30	—	CJ608	je	15.95	
JYM-20H	2-2000	4-700	5.7	.20	8.5	9.0	40	30	44	28	40	25	—	1-101	BJ293	hp	17.95
JYM-28H	400-2800	4-700	6.3	.20	8.0	9.0	40	(Typ.)	25	(Min.)	—	—	—	1-103	BJ293	hp	21.95
JYM-30H	2-3000	4-1400	6.0	.20	8.9	10.6	40	30	40	25	30	25	—	1-101	BJ293	hp	23.95
SYM-10HJ	400-1000	DC-400	6.6	.10	—	8.0	46 (Typ.)	33 (Min.)	—	32 (Typ.)	18 (Min.)	25	—	CG581	ka	9.95***	
SYM-11H	50-2000	50-1950	6.3	.10	7.5	9.0	45	35	40	25	37	25	—	1-153	TTT167	x	17.95
SYM-10DH	800-1000	20-200	7.6	—	—	9.3	45 (Typ.)	34 (Min.)	—	29 (Typ.)	20 (Min.)	31	—	TTT167	x	18.95	
SYM-10DHW	50-1000	20-800	7.0	—	8.5	9.8	48 (Typ.)	30 (Min.)	—	29 (Typ.)	20 (Min.)	25	—	TTT167	x	16.95	
SYM-22H	1500-2200	DC-200	5.6	.30	—	8.8	33 (Typ.)	22 (Min.)	—	38 (Typ.)	22 (Min.)	30	—	TTT167	x	19.95	
TUF-18DHSM	100-1800	50-750	7.3	.15	8.5	9.0	41 (Typ.)	23 (Min.)	—	33 (Typ.)	20 (Min.)	27	—	NNN150	z	21.95	

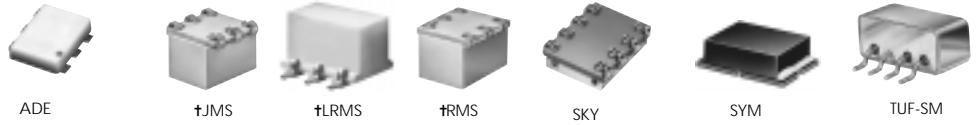
L = low range [ $f_L$  to  $10 f_L$ ]

M = mid range [ $10 f_L$  to  $f_U/2$ ]  
m = mid band [ $2 f_L$  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 ( $f_L+f_U/4$ )
- $\sigma$  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
- \*\*\* Prices 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 200mW
    - 1b. Peak IF current, 40mA



+17 dBm LO, up to +14 dBm RF

MODEL NO.	FREQUENCY MHz		CONVERSION LOSS dB				LO-RF ISOLATION, dB						LO-IF ISOLATION, dB						IP3@ center band Typ. (dBm)	CAPD DATA (see RF/IF Designer Handbook) Page	CASE STYLE Note B	CONNECTION	Price \$ Qty. (1-9)
	LO/RF $f_L-f_U$	IF	Mid-Band $m$	Total Range Max.			L Typ.	M Typ.	U Typ.	L Typ.	M Typ.	U Typ.	L Typ.	M Typ.	U Typ.								
				x	$\sigma$	Max.										Min.	Min.	Min.					
ADE-12H	500-1200	DC-250	6.7	.20	—	8.2	34 (Typ.) 25 (Min.)			28 (Typ.) 20 (Min.)			28	—	CD542	jv	8.95***						
JMS-1H	2-500	DC-500	5.90	.10	7.0	8.5	60	45	50	25	37	22	55	45	50	25	37	22	—	1-151	BH292	ht	11.45
JMS-2H	20-1000	DC-1000	7.00	.15	8.4	9.5	63	40	50	28	35	20	56	30	47	22	37	20	—	1-147	BH292	ht	12.45
JMS-5H	5-1500	DC-1000	5.90	.10	8.0	9.5	70	50	50	25	35	20	60	40	35	18	20	8	—	1-207	BH292	ht	12.95
◆ LRMS-1H	2-500	DC-500	6.25	.034	7.0	8.5	55	44	44	25	33	20	50	34	45	25	37	22	—	1-151	QQQ130	w	10.95
◆ LRMS-1WH	10-750	DC-750	7.00	.11	8.5	8.8	55	40	43	22	28	20	52	30	38	22	29	20	—	1-149	QQQ130	w	11.95
◆ LRMS-2H	5-1000	DC-900	6.98	.054	8.5	9.3	55	40	39	22	33	20	52	30	45	22	30	17	—	1-147	QQQ130	w	11.95
◆ LRMS-2UH	10-1000	10-750	7.10	.083	9.2	9.9	50	40	38	30	30	23	50	30	40	25	34	22	—	1-145	QQQ130	w	14.45
◆ LRMS-5H	10-1500	DC-900	6.36	.05	8.0	9.8	65	40	36	20	22	15	50	30	30	18	17	7	—	1-207	QQQ130	w	17.95
RMS-1H	2-500	DC-500	6.25	.034	7.0	8.5	55	44	44	25	33	20	50	34	45	25	37	22	—	1-151	TT240	w	10.95
RMS-1WH	10-750	DC-750	7.00	.11	8.5	8.8	55	40	43	22	28	20	52	30	38	22	29	20	—	1-149	TT240	w	11.95
RMS-2H	5-1000	DC-900	6.98	.054	8.5	9.3	55	40	39	22	33	20	52	30	45	22	30	17	—	1-147	TT240	w	11.95
RMS-2UH	10-1000	10-750	7.10	.083	9.2	9.9	50	40	38	30	30	23	50	30	40	25	34	22	—	1-145	TT240	w	14.45
RMS-5H	10-1500	DC-900	6.36	.05	8.0	9.8	65	40	36	20	22	15	50	30	30	18	17	7	—	1-207	TT240	w	17.95
SKY-53HR	2800-5300	DC-500	5.70	.20	—	9.5	28 (Typ.) 15 (Min.)			12 (Typ.) 8 (Min.)			—	1-105	BJ398	hp	18.95						
SKY-60H	2500-6000	DC-1500	6.20	.20	—	9.7	28 (Typ.) 17 (Min.)			14 (Typ.) 8 (Min.)			—	1-107	BJ398	je	18.95						
SYM-14H	100-1370	10-1000	6.50	.20	7.4	8.9	36 (Typ.) 28 (Min.)			30 (Typ.) 24 (Min.)			30	—	TTT167	x	16.95						
NEW SYM-18H	5-1800	10-1500	5.75	.10	7.6	8.9	50	28	45	35	40	24	39	22	50	30	30	22	30	—	TTT167	x	17.95
SYM-20DH	1700-2000	10-300	6.70	.16	—	8.2	35 (Typ.) 22 (Min.)			34 (Typ.) 22 (Min.)			32	—	TTT167	x	16.95						
SYM-20DHW	10-2000	10-1800	6.20	.10	7.5	8.8	33	20	40	25	37	22	44	30	42	28	34	22	27	—	TTT167	x	17.95
TUF-1HSM	2-600	DC-600	5.90	.18	7.0	8.0	68	50	50	30	43	25	62	45	48	30	33	22	—	1-164	NNN150	z	9.25
TUF-2HSM	50-1000	DC-1000	6.20	.22	7.5	9.0	58	40	47	30	42	25	58	35	44	25	28	18	—	1-166	NNN150	z	10.20
TUF-3HSM	0.15-400	DC-400	5.00	.33	7.0	8.0	60	50	50	35	40	30	60	40	45	25	35	20	—	1-170	NNN150	z	11.10
TUF-5HSM	20-1500	DC-1000	7.50	.17	8.5	9.0	62	55	50	40	38	25	40	25	29	18	20	8	—	1-123	NNN150	z	14.45
TUF-11AHSM	1400-1900	40-500	7.30	.28	9.0	9.0	35 (Typ.) 25 (Min.)			30 (Typ.) 15 (Min.)			—	1-121	NNN150	z	21.95						
TUF-860HSM	800-1050	DC-250	6.80	.31	8.3	8.3	38 (Typ.) 25 (Min.)			24 (Typ.) 18 (Min.)			—	1-119	NNN150	z	14.45						

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  $f_U$ ]

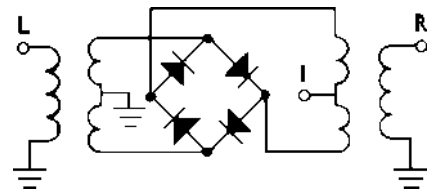
m = mid band [ $2f_L$  to  $f_U/2$ ]

### pin connections

see case style outline drawings

PORT	w	x	z	hp	ht <sup>1</sup>	je	jv	jw	ka
LO	1	2	4	5	6	1	6	4	11
RF	4	1	1	1	3	5	4	6	5
IF	5	3	2	7	2	7	3	3	2
GND EXT.	2,3,6	4,5,6	3	2,3,4,6,8	1,4,5	2,3,4,6,8	1,2,5	1,2,5	all other pins
CASE GND	—	—	3	—	—	—	—	—	—
NOT USED	—	—	—	—	—	—	—	—	—
DEMO BOARD	TB-44	TB-12	—	TB-11	TB-03	TB-11	TB-02	TB-02	—

<sup>1</sup> pin connection physically same as w



In Stock... Immediate Delivery



Available Tape & Reel

For Custom Versions Of Standard Models Consult Our Applications Dept.