FREQUENCY MIXERS

Surface Mount

LEVEL 7 500 kHz to 6.7 GHz

ADE

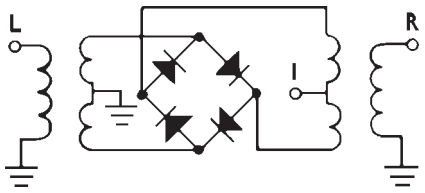
+7 dBm LO, up to +1 dBm RF

	MODEL NO.◆	FREQUENCY MHz LO/RF f_L-f_U	FREQUENCY MHz IF	CONVERSION LOSS dB Mid-Band m $\bar{x}$	Mid-Band m σ	Mid-Band m Max.	Total Range Max.	LO-RF ISOLATION, dB L Typ.	L Min.	M Typ.	M Min.	U Typ.	U Min.	LO-IF ISOLATION, dB L Typ.	L Min.	M Typ.	M Min.	U Typ.	U Min.	IP3@ center band Typ. (dBm)	CASE STYLE	CONNECTION	PRICE $ Qty. (10-49)
NEW	ADE-1	0.5-500	DC-500	5.0	.10	6.5	7.8	70	50	55	35	45	30	65	45	40	25	30	20	15	CD636	ht	1.99
†	ADE-1ASK	2-600	DC-600	5.3	.10	6.5	7.5	55	45	50	30	40	25	50	40	45	24	35	18	16	CD542	ht	3.95
†	ADE-2ASK	1-1000	DC-1000	5.4	.10	6.8	9.5	55	45	45	30	36	20	50	40	32	22	22	12	12	CD542	ht	4.25
†	ADE-3G	2300-2700	DC-400	5.6	.10	—	7.0			36 (typ.)	25 (min.)					26 (typ.)	17 (min.)			13	CD542	ht	3.45
	ADE-3GL	2100-2600	DC-600	6.0	.25	—	8.8			34 (typ.)	25 (min.)					20 (typ.)	7 (min.)			17	CD541	jw	4.95
NEW	ADE-4¨	200-1000	DC-800	6.8	0.1	8.5	8.5	60	45	53	40	45	30	45	30	40	22	35	20	15	CD542	ht	4.25
†	ADE-5	5-1500	DC-1000	6.6	.10	7.5	9.3	50	40	40	25	33	23	50	40	30	20	20	10	15	CD542	ht	3.45
	ADE-12	50-1000	DC-1000	7.0	.15	8.0	9.0	40	25	—	—	33	22	44	26	—	—	37	20	17	CD541	jv	2.95
	ADE-13	50-1600	50-1000	8.1	.10	9.0	9.8	50	25	40	25	33	20	49	30	35	20	32	20	11	CD541	ju	3.10
	ADE-14	800-1000	DC-200	7.4	.20	—	8.9			32 (typ.)	22 (min.)					34 (typ.)	20 (min.)			17	CD541	jv	3.25
	ADE-18	1700-2500	DC-600	4.9	.20	—	7.3			27 (typ.)	22 (min.)					10 (typ.)	7 (min.)			10	CD542	jw	3.45
	ADE-18W	1750-3500	DC-700	5.4	.30	8.9	8.9			33 (typ.)	20 (min.)					12 (typ.)	7 (min.)			11	CD542	jw	3.95
	ADE-20	1500-2000	DC-300	5.4	.10	—	7.8			31 (typ.)	22 (min.)					28 (typ.)	20 (min.)			14	CD542	jv	4.95
	ADE-30	200-3000	DC-1000	4.5	.20	9.0	9.8			35 (typ.)	20 (min.)					20 (typ.)	7 (min.)			14	CD542	ht	6.95
	ADE-30W	300-4000	DC-950	6.8	.20	9.0	9.8			35 (typ.)	17 (min.)					16 (typ.)	7 (min.)			12	CD542	ht	8.95
NEW	ADE-32	2500-3200	DC-1200	5.4	0.2	—	9.4			29 (typ.)	20 (min.)					30 (typ.)	20 (min.)			15	CD542	jv	6.95
†	ADE-35	1600-3500	DC-1500	6.3	.50	—	9.8			25 (typ.)	16 (min.)					22 (typ.)	12 (min.)			11	CD542	jv	4.95
	ADE-901	800-1000	DC-200	5.9	.10	—	7.3			32 (typ.)	22 (min.)					26 (typ.)	18 (min.)			13	CD542	jv	2.95

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)

features

- low conversion loss, 6.6 dB typ.
- excellent isolation, 40 dB typ.
- IP3, up to 17 dBm typ.
- ultra low profile package (patent pending)
- solder plated leads for excellent solderability
- waterwash compatibility
- low cost



applications

- cellular
- PCN
- ISM
- instrumentation
- wireless/VSAT systems
- PCMCIA cards

NOTES:

$\bar{x}$ Average of conversion loss at center of mid-band frequency (f_L+f_U/4)
σ Standard deviation
◆ ADE models, aqueous washable
¨ ¨ L=200-400 MHz M=400-500 MHz U=500-1000 MHz
* BLUE CELL™ mixers protected by U.S. Patents 5,534,830 5,640,132 5,640,134 5,640,699
† Phase detection, positive polarity.
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

991123

MBA

+7 dBm LO, up to +1 dBm RF

BLUE CELL

MODEL NO.	FREQUENCY MHz LO/RF f_L-f_U	IF	CONVERSION LOSS dB Mid-Band m $\bar{x}$	σ	Total Range Max.	LO-RF ISOLATION, dB Typ.	Min.	LO-IF ISOLATION, dB Typ.	Min.	IP3@ center band Typ. (dBm)	CASE STYLE	CONNECTION	PRICE $ Qty. (10-49)
MBA-9*	800-1000	DC-200	7.3	.20	9.0	22	20	17	12	10	SM2	lc	5.95
MBA-12*	800-2500	DC-500	7.5	.10	9.0	30	20	15	8	12	SM2	lc	5.95
MBA-26*	2200-2700	DC-500	5.7	.10	8.0	40	32	33	18	9	SM2	ld	5.95
MBA-591*	2800-5900	DC-1000	6.5	.10	9.0	36	20	26	17	10	SM2	le	6.95
MBA-671*	2400-6700	DC-1000	6.5	.10	9.2	36	20	26	17	10	SM2	le	8.95

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)

features

- excellent temperature stability
- performance repeatability
- solder plated leads with strain relief
- very low cost
- ultra low height, 0.07"

applications

- cellular
- WLAN
- satellite communication
- ISM band
- PCMCIA
- PCN/PCS/ wideband CDMA
- VSAT systems

BLUE CELL™ TECHNOLOGY

Incorporates multi-layer monolithic ceramic substrates for moderate bandwidth and low cost RF/Microwave products

pin connections

see case style outline drawings

PORT	ju	jv	jw	ht	lc	ld	le
LO	6	6	4	6	10	10	10
RF	3	4	6	3	5	5	6
IF	4	3	3	2	3	3	1
GND	1,2,5	1,2,5	1,2,5	1,4,5	1,4,7,8,9	all others	all others
ISOLATE	—	—	—	—	2,6	—	—
DEMO BOARD	TB-02	TB-02	TB-02	TB-03	—	—	—

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