

# RF Components

## Double Balanced Mixers

### Pin-Terminal Type

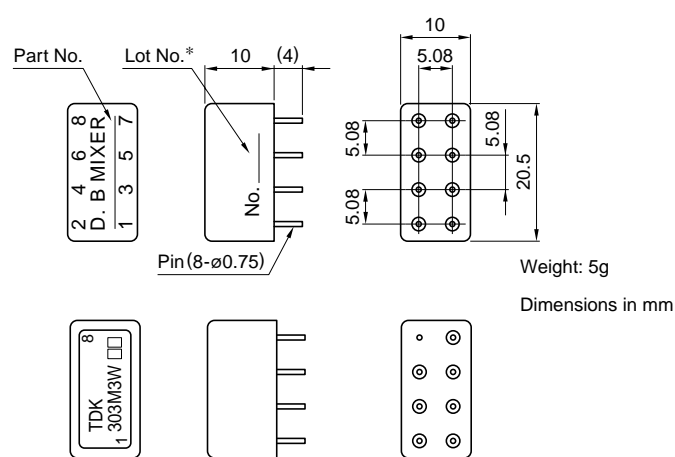
## CB Series

### FEATURES

- Compact - suitable for high-density mounting configurations.
- Wideband characteristics.
- No induction noise (EMC).
- Reliable performance over an extended service life.

### 8-PIN TYPE

#### SHAPES AND DIMENSIONS



\*At CB302M1W, CB303M1W, CB303M3W, CB304M3W, lot number is printed on upper side.

### APPLICATIONS

Radio equipment, broadcast equipment, studio equipment, measuring devices.

#### CIRCUIT DIAGRAMS

Fig.A

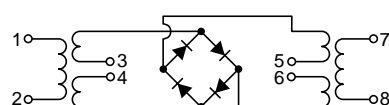


Fig.B

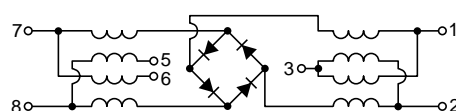
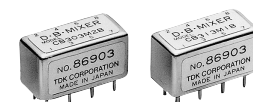
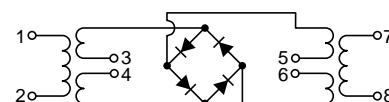


Fig.C



#### PIN CONNECTIONS

No.	1	2	3	4	5	6	7	8
LO	1	1	1	8	8	8	8	8
RF	8	5, 6	8	1	1	3, 4	1	1
IF	5, 6	8	5, 6	3	3, 4	1	3, 4	3
Ground	2, 3, 4, 7	2, 3, 4, 7	2, 3, 4, 7	2, 5, 6, 7	2, 5, 6, 7	2, 5, 6, 7	2, 5, 6, 7	2, 5, 6, 7
Case ground	7	2, 3, 4, 7	2, 3, 4, 7	2, 5, 6, 7	2	2, 5, 6, 7	2, 5, 6, 7	2, 5, 6, 7
NC				4				4

#### ELECTRICAL CHARACTERISTICS

Part No.	Frequency range		Conversion loss (dB)max.	Isolation (dB)min. LO-RF	LO-IF	RF input for 1dB compression level (dBm)typ.	3rd order intercept point (dBm)typ.	Max. input power (mW)	LO power (dBm)	Pin connections No.	Circuit Fig.
	RF(MHz)	IF(MHz)									
Low level CB3_ _M Series											
CB312M1*	0.3 to 250	DC to 250	7.5	25	25	-1	+17.5	50	+7	1	C
CB302M1W	0.3 to 400	DC to 300	8	25	25	0	+15	200	+7	1	A
CB303M1W	1 to 500	DC to 500	8	30	23	0	+15	200	+7	1	A
CB304M1	1 to 1000	1 to 500	8	25	20	+1	+9	50	+7	2	A
CB313M1	1 to 500	DC to 500	8	25	25	-1	+15	50	+7	1	C
CB314M1A	1 to 1000	0.5 to 400	8	20	20	-1	+10	50	+7	2	C
CB324M1	5 to 1000	DC to 1000	9	25	20	-1	+10	50	+7	3	C
CB334M1	5 to 1000	DC to 1000	9	25	20	0	+12.5	50	+7	3	A
CB346M1A	1 to 2200	0.5 to 500	10	25	20	+1	+17.5	50	+7	4	B

\* M1, M1A, M1W specifications apply when operated at +7dBm available LO power, with 50 $\Omega$  source.

- Temperature range: -20 to +80°C

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## Double Balanced Mixers

### Pin-Terminal Type

## CB Series

### 8-PIN TYPE

#### ELECTRICAL CHARACTERISTICS

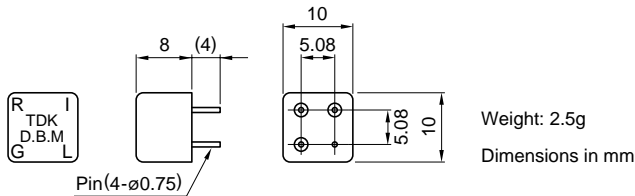
Part No.	Frequency range		Conversion loss (dB)max.	Isolation (dB)min. LO-RF	LO-IF	RF input for 1dB compression level (dBm)typ.	3rd order intercept point (dBm)typ.	Max. input power (mW)	LO power (dBm)	Pin connections No.	Circuit Fig.
	RF(MHz)	IF(MHz)									
High level CB3_ _M Series											
CB302M2	0.1 to 200	DC to 200	7.5	25	25	+8	+20	50	+17	1	C
CB303M2	1 to 500	DC to 500	8	25	25	+8	+22.5	50	+17	1	C
CB303M3W	1 to 600	DC to 600	8.5	25	25	+9	+15	200	+17	1	A
CB304M3W	1 to 700	DC to 700	9	25	20	+7	+15	200	+17	3	A
CB304M2	5 to 950	1 to 600	8	25	20	+5	+12.5	50	+17	2	C
Low level CB3_ _M_B Series for Low cost											
CB312M1B	0.5 to 250	DC to 250	7	30	30	0	+15	50	+7	5	A
CB313M1B	5 to 500	DC to 500	8	30	25	0	+15	50	+7	5	A
CB314M1B	0.1 to 1000	0.5 to 500	8	25	30	0	+10	50	+7	6	A
CB324M1B	0.5 to 1000	DC to 1000	10	30	25	+2	+13	50	+7	7	A
CB346M1B	1 to 2200	0.5 to 500	10	20	20	+1	+17.5	50	+7	4	B
High level CB3_ _M_B Series for Low cost											
CB302M2B	0.5 to 250	DC to 250	7	30	30	+9	+18	50	+17	5	A
CB303M2B	5 to 500	DC to 500	8	30	25	+8	+20	50	+17	5	A
CB304M2B	0.1 to 1000	0.5 to 700	8	25	25	+7	+17	50	+17	6	A
CB324M2B	0.5 to 1000	DC to 1000	10	25	25	+8	+20	50	+17	7	A

\* M1B specifications apply when operated at +7dBm available LO power, with 50Ω source. M2, M3W, M2B specifications apply when operated at +17dBm available LO power, with 50Ω source

• Temperature range: -20 to +80°C

### 4-PIN TYPE

#### SHAPES AND DIMENSIONS



#### PIN CONNECTIONS

LO	L
RF	R
IF	I
Ground	G



#### CIRCUIT DIAGRAMS

Fig.A

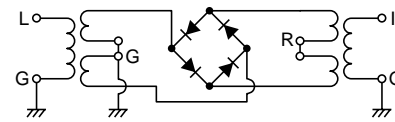
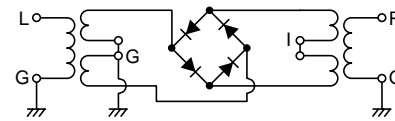


Fig.B



#### ELECTRICAL CHARACTERISTICS

Part No.	Frequency range		Conversion loss (dB)max.	Isolation (dB)min. LO-RF	LO-IF	RF input for 1dB compression level (dBm)typ.	3rd order intercept point (dBm)typ.	Max. input power (mW)	LO power (dBm)	Circuit Fig.
	RF(MHz)	IF(MHz)								
Low level CB4_ _M1 Series										
CB413M1*	0.1 to 500	DC to 500	8.5	20	20	0	+10	50	+7	B
CB414M1	0.1 to 1000	0.5 to 500	9	18	20	0	+10	50	+7	A
CB424M1	0.1 to 1000	DC to 1000	11	20	18	0	+13	50	+7	B
High level CB4_ _M2 Series										
CB413M2	0.1 to 500	DC to 500	8.5	20	20	+7	+14	50	+17	B
CB414M2	0.1 to 1000	0.5 to 700	9	18	20	+6	+14	50	+17	A
CB424M2	0.1 to 1000	DC to 1000	11	20	18	+9	+16	50	+17	B

\* M1 specifications apply when operated at +7dBm available LO power, with 50Ω source. M2 specifications apply when operated at +17dBm available LO power, with 50Ω source.

• Temperature range: -20 to +80°C