

MIXERS

DOUBLE -BALANCED

$LO = +17 \text{ dBm}$

VERY HIGH DYNAMIC RANGE

SURFACE MOUNT



| FREQUENCY RANGE (MHz) | | CONVERSION LOSS (dB) | | LO-RF ISOLATION (dB) | | | LO-IF ISOLATION (dB) | | | PACKAGE | PIN OUT | MODEL |
|-----------------------|---------|----------------------|-------------------|----------------------|------------|------------|----------------------|------------|------------|---------|---------|-----------|
| RF/LO | IF | XMB TYP/MAX | FULL BAND TYP/MAX | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | | | |
| 0.5-500 | DC-500 | 6.2/7 | 6.4/8.5 | 55/44 | 44/25 | 33/20 | 50/34 | 45/25 | 37/22 | 159 | 1 | SLD-K1M* |
| 0.5-500 | DC-500 | 6.2/7 | 6.4/8.5 | 55/44 | 44/25 | 33/20 | 50/34 | 45/25 | 37/22 | 134 | 1 | SMD-K1M* |
| 0.5-500 | DC-500 | 6.2/7 | 6.4/8.5 | 55/44 | 44/25 | 33/20 | 50/34 | 45/25 | 37/22 | 134J | 1 | SMZ-K1M* |
| 1-1000 | DC-1000 | 6.5/7.5 | 7.5/9.5 | 70/45 | 45/30 | 40/25 | 60/40 | 35/23 | 30/15 | 133 | 3 | SMD-C1M |
| 2-600 | DC-600 | 5.5/7 | 7/8 | 60/50 | 42/30 | 37/25 | 60/45 | 47/30 | 36/22 | 106B | 2 | TOP-1MZ |
| 5-1000 | DC-900 | 7/8.5 | 7.8/9.3 | 55/40 | 39/22 | 33/20 | 52/30 | 45/20 | 39/22 | 159 | 1 | SLD-K2M* |
| 5-1000 | DC-900 | 7/8.5 | 7.8/9.3 | 55/40 | 39/22 | 33/20 | 52/30 | 45/20 | 39/22 | 134 | 1 | SMD-K2M* |
| 5-1000 | DC-900 | 7/8.5 | 7.8/9.3 | 55/40 | 39/22 | 33/20 | 52/30 | 45/20 | 39/22 | 134J | 1 | SMZ-K2M* |
| 5-1500 | DC-900 | 6.3/8 | 7.5/9.8 | 65/40 | 36/20 | 22/15 | 50/30 | 30/18 | 17/7 | 159 | 1 | SLD-K3M* |
| 5-1500 | DC-900 | 6.3/8 | 7.5/9.8 | 65/40 | 36/20 | 22/15 | 50/30 | 30/18 | 17/7 | 134 | 1 | SMD-K3M* |
| 5-1500 | DC-900 | 6.3/8 | 7.5/9.8 | 65/40 | 36/20 | 22/15 | 50/30 | 30/18 | 17/7 | 134J | 1 | SMZ-K3M* |
| 5-2500 | 3-600 | 8/9.5 | 10.5/12 | 60/35 | 40/25 | 35/20 | 50/35 | 30/20 | 25/15 | 159 | 1 | SLD-K4M |
| 5-2500 | 3-600 | 8/9.5 | 10.5/12 | 60/35 | 40/25 | 35/20 | 50/35 | 30/20 | 25/15 | 134 | 1 | SMD-K4M |
| 5-2500 | 3-600 | 8/9.5 | 10.5/12 | 60/35 | 40/25 | 35/20 | 50/35 | 30/20 | 25/15 | 134J | 1 | SMZ-K4M |
| 10-1000 | 10-750 | 6.5/8 | 7/9.5 | 50/40 | 38/30 | 30/23 | 50/30 | 40/25 | 34/22 | 159 | 1 | SLD-K2UM* |
| 10-1000 | 10-750 | 6.5/8 | 7/9.5 | 50/40 | 38/30 | 30/23 | 50/30 | 40/25 | 34/22 | 134 | 1 | SMD-K2UM* |
| 10-1000 | 10-750 | 6.5/8 | 7/9.5 | 50/40 | 38/30 | 30/23 | 50/30 | 40/25 | 34/22 | 134J | 1 | SMZ-K2UM* |
| 20-1500 | DC-1000 | 7.5/8 | 8.5/9 | 54/40 | 42/30 | 39/25 | 40/25 | 29/18 | 20/8 | 106B | 2 | TOP-5MZ |
| 20-1500 | DC-1500 | 7/8.5 | 8.5/9 | 50/35 | 40/25 | 20/10 | 40/25 | 30/18 | 15/8 | 133 | 3 | SMD-C2M |
| 20-2500 | 20-600 | 8/9 | 9/10.5 | 45/30 | 30/23 | 30/15 | 40/20 | 25/15 | 25/12 | 133 | 3 | SMD-C3M |
| 50-1000 | DC-1000 | 6/7 | 7.8/9 | 58/45 | 45/30 | 38/25 | 50/35 | 40/20 | 28/18 | 106B | 2 | TOP-2MZ |

NOTES:

- * Phase Detection, Positive Polarity
- 1. 1dB Compression Point = +10 dBm (Typ)
- 2. IP3 (Input) = +22 dBm (Typ)
- 3. Maximum Input Power without damage = 250 mW ave. cw

XMB= 2LF to HF/2
 FULL BAND = LF to HF
 LB= LF to 10LF
 MB = 10LF to HF/2
 UB= HF/2 to HF

PIN-OUT TABLE

| | RF | LO | IF | GND | CASE GND |
|----|----|----|----|---------|----------|
| #1 | 4 | 1 | 5 | 2, 3, 6 | -- |
| #2 | 1 | 4 | 2 | 3 | 3 |
| #3 | 1 | 2 | 3 | 4, 5, 6 | -- |

GND = Ground externally
 For pin location and package outline drawings, see back pages.

MIXERS

DOUBLE -BALANCED

$LO = +17 \text{ dBm}$

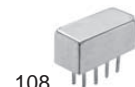
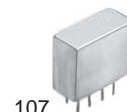
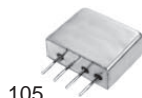
VERY HIGH DYNAMIC RANGE

THROUGH-HOLE (RELAY)



| FREQUENCY RANGE (MHz) | | CONVERSION LOSS (dB) | | LO-RF ISOLATION (dB) | | | LO-IF ISOLATION (dB) | | | PACKAGE | PIN OUT | MODEL |
|-----------------------|---------|----------------------|-------------------|----------------------|------------|------------|----------------------|------------|------------|---------|---------|---------|
| RF/LO | IF | XMB TYP/MAX | FULL BAND TYP/MAX | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | | | |
| 0.01-125 | DC-125 | 5.5/6 | 6/6.5 | 60/50 | 50/40 | 40/35 | 60/45 | 50/35 | 40/30 | 102 | 4 | CMP-202 |
| 0.025-200 | DC-200 | 5.5/6 | 6/7 | 65/55 | 55/45 | 45/35 | 60/50 | 45/35 | 35/30 | 103 | 4 | CMP-212 |
| 0.1-500 | DC-500 | 6/7 | 7/8 | 65/40 | 60/40 | 50/30 | 45/30 | 50/35 | 35/20 | 103 | 4 | CMP-201 |
| 1-750 | DC-750 | 5.5/7.5 | 6.5/8.5 | 50/40 | 45/25 | 35/25 | 45/35 | 40/30 | 30/20 | 102 | 1 | CMP-2E4 |
| 0.5-1000 | DC-1000 | 5.5/7 | 7/8.5 | 70/40 | 45/35 | 40/25 | 60/40 | 40/30 | 30/20 | 103 | 1 | CMP-203 |
| 20-1500 | DC-1000 | 7.5/8.5 | 8/9 | 60/35 | 40/25 | 25/20 | 50/30 | 40/25 | 20/12 | 102 | 1 | CMP-211 |
| 10-2000 | 5-600 | 7/8.5 | 7.5/9 | 60/35 | 40/25 | 40/20 | 50/30 | 30/20 | 25/15 | 120 | 2 | CMP-209 |

THROUGH-HOLE (MINI-RELAY)



| FREQUENCY RANGE (MHz) | | CONVERSION LOSS (dB) | | LO-RF ISOLATION (dB) | | | LO-IF ISOLATION (dB) | | | PACKAGE | PIN OUT | MODEL |
|-----------------------|---------|----------------------|-------------------|----------------------|------------|------------|----------------------|------------|------------|---------|---------|---------|
| RF/LO | IF | XMB TYP/MAX | FULL BAND TYP/MAX | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | | | |
| 0.01-125 | DC-125 | 5.5/6 | 6/6.5 | 60/50 | 50/40 | 40/35 | 60/45 | 50/35 | 40/30 | 105 | 3 | CMP-302 |
| 0.025-200 | DC-200 | 5.5/6 | 6/7 | 65/55 | 55/45 | 45/35 | 60/50 | 45/35 | 35/30 | 105 | 3 | CMP-312 |
| 0.1-500 | DC-500 | 6/7 | 7/8 | 65/40 | 60/40 | 50/30 | 45/30 | 50/35 | 35/20 | 106 | 3 | CMP-301 |
| 0.5-1000 | DC-1000 | 5.5/7 | 7/8.5 | 70/40 | 45/35 | 40/25 | 60/40 | 40/30 | 30/20 | 106 | 3 | CMP-303 |
| 20-1500 | DC-1000 | 7.5/8.5 | 8/9 | 60/35 | 40/25 | 25/20 | 50/30 | 40/25 | 20/12 | 106 | 3 | CMP-311 |
| 10-2000 | 5-600 | 7/8.5 | 7.5/9 | 60/35 | 40/25 | 40/20 | 50/30 | 30/20 | 25/15 | 105 | 3 | CMP-309 |
| 0.01-125 | DC-125 | 5.5/6 | 6/6.5 | 60/50 | 50/40 | 40/35 | 60/45 | 50/35 | 40/30 | 107 | 4 | CMP-402 |
| 0.025-200 | DC-200 | 5.5/6 | 6/7 | 65/55 | 55/45 | 45/35 | 60/50 | 45/35 | 35/30 | 107 | 4 | CMP-412 |
| 0.1-500 | DC-500 | 6/7 | 7/8 | 65/40 | 60/40 | 50/30 | 45/30 | 50/35 | 35/20 | 108 | 4 | CMP-401 |
| 0.5-1000 | DC-1000 | 5.5/7 | 7/8.5 | 70/40 | 45/35 | 40/25 | 60/40 | 40/30 | 30/20 | 108 | 1 | CMP-403 |
| 20-1500 | DC-1000 | 7.5/8.5 | 8/9 | 60/35 | 40/25 | 25/20 | 50/30 | 40/25 | 20/12 | 107 | 1 | CMP-411 |

NOTES:

1. 1dB Compression Point = +10 dBm (Typ)
2. IP3 (Input) = +22 dBm (Typ)
3. Maximum Input Power without damage = 250 mW ave. cw

XMB= 2LF to HF/2
 FULL BAND = LF to HF
 LB= LF to 10LF
 MB = 10LF to HF/2
 UB= HF/2 to HF

PIN-OUT TABLE

| | RF | LO | IF | GND | CASE GND | NO CONN |
|----|----|----|------|---------|----------|---------|
| #1 | 1 | 8 | *3,4 | 2,5,6,7 | 2,5,6,7 | -- |
| #2 | 1 | 8 | 3 | 2,5,6,7 | 2,5,6,7 | 4 |
| #3 | 1 | 4 | 2 | 3 | 3 | -- |
| #4 | 1 | 8 | *3,4 | 2,5,6,7 | 2 | -- |

GND = Ground externally
 * Pins must be tied together externally
 For pin location and package outline drawings, see back pages.



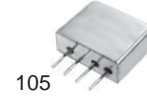
MIXERS

DOUBLE -BALANCED

$LO = +17 \text{ dBm}$

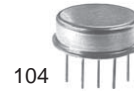
VERY HIGH DYNAMIC RANGE

THROUGH-HOLE (RELAY)



| FREQUENCY RANGE (MHz) | | CONVERSION LOSS (dB) | | LO-RF ISOLATION (dB) | | | LO-IF ISOLATION (dB) | | | PACKAGE | PIN OUT | MODEL |
|-----------------------|---------|----------------------|-------------------|----------------------|------------|------------|----------------------|------------|------------|---------|---------|----------------|
| RF/LO | IF | XMB TYP/MAX | FULL BAND TYP/MAX | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | | | |
| 0.05-300 | DC-300 | 5/7 | 6/8.5 | 55/45 | 40/30 | 30/25 | 50/40 | 35/25 | 25/20 | 103 | 1 | CMP-2P2 |
| 1-500 | DC-500 | 5.5/7 | 6/7 | 40/30 | 50/40 | 40/35 | 30/23 | 40/30 | 35/30 | 102 | 2 | CMP-221 |
| 2-500 | DC-500 | 6/7.5 | 7/8.5 | 50/40 | 40/30 | 30/25 | 45/35 | 35/25 | 25/20 | 103 | 1 | CMP-2Q3 |
| 5-750 | DC-750 | 6.2/7.5 | 7/9 | 50/40 | 40/30 | 30/25 | 45/35 | 35/25 | 30/20 | 103 | 3 | CMP-2R4 |
| 0.1-250 | DC-250 | 5/7 | 6/8.5 | 50/45 | 40/30 | 28/23 | 45/40 | 35/25 | 26/20 | 106 | 4 | CMP-3G2 |
| 2-500 | DC-500 | 6/7.5 | 7/8.5 | 50/45 | 40/30 | 30/20 | 45/40 | 35/25 | 25/20 | 106 | 4 | CMP-3G3 |
| 5-1000 | DC-1000 | 6.2/7 | 7/10 | 50/45 | 40/30 | 30/20 | 45/40 | 35/25 | 20/17 | 106 | 4 | CMP-3M4 |
| 5-1200 | DC-1200 | 6.5/8 | 7/9 | 50/40 | 35/25 | 30/20 | 50/40 | 35/20 | 30/20 | 105 | 4 | CMP-3J5 |

THROUGH-HOLE (TO CAN)



| FREQUENCY RANGE (MHz) | | CONVERSION LOSS (dB) | | LO-RF ISOLATION (dB) | | | LO-IF ISOLATION (dB) | | | PACKAGE | PIN OUT | MODEL |
|-----------------------|---------|----------------------|-------------------|----------------------|------------|------------|----------------------|------------|------------|---------|---------|----------------|
| RF/LO | IF | XMB TYP/MAX | FULL BAND TYP/MAX | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | | | |
| 0.01-125 | DC-125 | 5.5/6 | 6/6.5 | 60/50 | 50/40 | 40/35 | 60/45 | 50/35 | 40/30 | 104 | 5 | CMP-502 |
| 0.025-200 | DC-200 | 5.5/6 | 6/7 | 65/55 | 55/45 | 45/35 | 60/50 | 45/35 | 35/30 | 104 | 5 | CMP-512 |
| 0.1-500 | DC-500 | 6/7 | 7/8 | 65/40 | 60/40 | 50/30 | 45/30 | 50/35 | 35/20 | 104 | 5 | CMP-501 |
| 0.5-1000 | DC-1000 | 5.5/7 | 7/8.5 | 70/40 | 45/35 | 40/25 | 60/40 | 40/30 | 30/20 | 104 | 5 | CMP-503 |
| 0.025-200 | DC-200 | 5.5/6 | 6/7 | 65/55 | 55/45 | 45/35 | 60/50 | 45/35 | 35/30 | 122 | 6 | CMP-612 |
| 0.5-1000 | DC-1000 | 5.5/7 | 7/8.5 | 70/40 | 45/35 | 40/25 | 60/40 | 40/30 | 30/20 | 122 | 6 | CMP-603 |
| 20-1500 | DC-1000 | 7.5/8.5 | 8/9 | 60/35 | 40/25 | 25/20 | 50/30 | 40/25 | 20/12 | 122 | 6 | CMP-611 |
| 10-2000 | 5-600 | 7/8.5 | 7.5/9 | 60/35 | 40/25 | 40/20 | 50/30 | 30/20 | 25/15 | 122 | 6 | CMP-609 |
| 800-2500 | DC-400 | --/-- | 6.5/8.5 | 30/20 | 30/20 | 30/20 | 20/10 | 20/10 | 20/10 | 122 | 6 | CMP-604 |

NOTES:

- 1dB Compression Point = +14 dBm (Typ)
- IP3 (Input) = +26 dBm (Typ)
- Maximum Input Power without damage = 250 mW ave. cw

XMB= 2LF to HF/2
 FULL BAND = LF to HF
 LB= LF to 10LF
 MB = 10LF to HF/2
 UB= HF/2 to HF

PIN-OUT TABLE

| | RF | LO | IF | GND | CASE GND | NO CONN |
|----|----|----|------|-----------|-----------|---------|
| #1 | 1 | 8 | *3,4 | 2,5,6,7 | 2 | -- |
| #2 | 1 | 8 | 3 | 2,5,6,7 | 2,5,6,7 | 4 |
| #3 | 1 | 8 | *3,4 | 2,5,6,7 | 2,5,6,7 | -- |
| #4 | 1 | 4 | 2 | 3 | 3 | -- |
| #5 | 2 | 5 | 11 | All other | All other | -- |
| #6 | 1 | 3 | 2 | 4 | 4 | -- |

* Pins must be tied together
 GND = Ground externally
 For pin location and package outline drawings, see back pages.

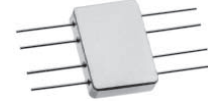
MIXERS

DOUBLE -BALANCED

$LO = +17\text{ dBm}$

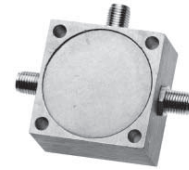
VERY HIGH DYNAMIC RANGE

FLAT-PACK



| FREQUENCY RANGE (MHz) | | CONVERSION LOSS (dB) | | LO-RF ISOLATION (dB) | | | LO-IF ISOLATION (dB) | | | PACKAGE | PIN OUT | MODEL |
|-----------------------|---------|----------------------|-------------------|----------------------|------------|------------|----------------------|------------|------------|---------|---------|---------|
| RF/LO | IF | XMB TYP/MAX | FULL BAND TYP/MAX | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | | | |
| 0.01-125 | DC-125 | 5.5/6 | 6/6.5 | 60/50 | 50/40 | 40/35 | 60/45 | 50/35 | 40/30 | 101 | 1 | CMF-102 |
| 0.025-200 | DC-200 | 5.5/6 | 6/7 | 65/55 | 55/45 | 45/35 | 60/50 | 45/35 | 35/30 | 101 | 1 | CMF-112 |
| 0.1-500 | DC-500 | 6/7 | 7/8 | 65/40 | 60/40 | 50/30 | 45/30 | 50/35 | 35/20 | 101 | 1 | CMF-101 |
| 0.5-1000 | DC-1000 | 5.5/7 | 7/8.5 | 70/40 | 45/35 | 40/25 | 60/40 | 40/30 | 30/20 | 101 | 1 | CMF-103 |
| 20-1500 | DC-1000 | 7.5/8.5 | 8/9 | 60/35 | 40/25 | 25/20 | 50/30 | 40/25 | 20/12 | 101 | 1 | CMF-111 |
| 10-2000 | 5-600 | 7/8.5 | 7.5/9 | 60/35 | 40/25 | 40/20 | 50/30 | 30/20 | 25/15 | 101 | 1 | CMF-109 |
| 800-2500 | DC-400 | --/-- | 5.5/7 | 30/20 | 30/20 | 30/20 | 20/10 | 20/10 | 20/10 | 101 | 1 | CMF-104 |

COAXIAL



| FREQUENCY RANGE (MHz) | | CONVERSION LOSS (dB) | | LO-RF ISOLATION (dB) | | | LO-IF ISOLATION (dB) | | | PACKAGE | PIN OUT | MODEL |
|-----------------------|---------|----------------------|-------------------|----------------------|------------|------------|----------------------|------------|------------|---------|---------|------------|
| RF/LO | IF | XMB TYP/MAX | FULL BAND TYP/MAX | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | LB TYP/MIN | MB TYP/MIN | UB TYP/MIN | | | |
| 0.01-125 | DC-125 | 5.5/6 | 6/6.5 | 60/50 | 50/40 | 40/35 | 60/45 | 50/35 | 40/30 | 110 | 2 | CMK-702* |
| 0.025-200 | DC-200 | 5.5/6 | 6/7 | 65/55 | 55/45 | 45/35 | 60/50 | 45/35 | 35/30 | 110 | 2 | CMK-712* |
| 0.1-500 | DC-500 | 6/7 | 7/8 | 65/40 | 60/40 | 50/30 | 45/30 | 50/35 | 35/20 | 110 | 2 | CMK-701* |
| 0.5-1000 | DC-1000 | 5.5/7 | 7/8.5 | 70/40 | 45/35 | 40/25 | 60/40 | 40/30 | 30/20 | 110 | 2 | CMK-703* |
| 20-1500 | DC-1000 | 7.5/8.5 | 8/9 | 60/35 | 40/25 | 25/20 | 50/30 | 40/25 | 20/12 | 110 | 2 | CMK-711S |
| 10-2000 | 5-600 | 7/8.5 | 7.5/9 | 60/35 | 40/25 | 40/20 | 50/30 | 30/20 | 25/15 | 110 | 2 | CMK-709S |
| 800-2500 | DC-400 | --/-- | 6.5/8.5 | 30/20 | 30/20 | 30/20 | 20/10 | 20/10 | 20/10 | 110 | 2 | CMK-704S |
| 800-4200 | DC-1000 | --/-- | 6/10 | 25/13 | 25/13 | 25/13 | 20/10 | 20/10 | 20/10 | 110 | 2 | CMK-215S |
| 0.05-300 | DC-300 | 5/7 | 6/8.5 | 55/45 | 45/30 | 30/25 | 50/40 | 35/25 | 25/20 | 110 | 2 | CMK-7N2* ■ |
| 5-1000 | DC-1000 | 6.2/7 | 7/10 | 50/40 | 40/30 | 30/20 | 45/40 | 35/25 | 25/17 | 110 | 2 | CMK-7Q4* ■ |
| 5-1200 | DC-1200 | 6.5/8 | 7/9 | 50/40 | 35/25 | 30/20 | 50/40 | 35/20 | 30/20 | 110 | 2 | CMK-7L5S ■ |

NOTES:

- 1) 1dB Compression Point = +10 dBm (Typ)
- 2) IP3 (Input) = +22 dBm (Typ)
3. Maximum Input Power without damage = 250 mW ave. cw

* Connector style: "B" = BNC, "T" = TNC, "N" = Type N, "S" = SMA

- 1dB Compression Point = +14dBm (Typ)
- IP3 (Input) = +26 dBm (Typ)

XMB= 2LF to HF/2
 FULL BAND = LF to HF
 LB= LF to 10LF
 MB = 10LF to HF/2
 UB= HF/2 to HF

PIN-OUT TABLE

| | RF | LO | IF | GND | CASE GND |
|----|----|----|----|-----------|-----------|
| #1 | 1 | 4 | 5 | 2,3,6,7,8 | 2,3,6,7,8 |
| #2 | 1 | 3 | 2 | -- | -- |

GND = Ground externally
 For pin location and package outline drawings, see back pages.