

Coaxial Frequency Mixer

Level 23 (LO Power +23 dBm) 0.1 to 500 MHz

ZFY-1



BNC version shown

CASE STYLE: K18

Maximum Ratings

| | |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 350mW |
| IF Current | 40mA |

Coaxial Connections

| | |
|----|---|
| LO | 1 |
| RF | 2 |
| IF | 3 |

Features

- low conversion loss, 4.85 dB typ.
- good L-R & L-I isolation, 46 dB typ.
- rugged shielded case

Applications

- VHF/UHF
- instrumentation
- federal & defense communications

| Connectors | Model | Price | Qty. |
|----------------------|---------|---------|-------|
| BNC | ZFY-1 | \$74.95 | (1-9) |
| SMA | ZFY-1-S | \$79.95 | (1-9) |
| BRACKET (OPTION "B") | | \$2.50 | (1+) |

Electrical Specifications

| FREQUENCY (MHz) | | CONVERSION LOSS (dB) | | | | LO-RF ISOLATION (dB) | | | | | | LO-IF ISOLATION (dB) | | | | | |
|-----------------|-----------|----------------------|----------|------------------|------|----------------------|------|------|------|------|------|----------------------|------|------|------|------|------|
| LO/RF | IF | Mid-Band m | | Total Range Max. | | L | M | U | | | | L | M | U | | | |
| f_L - f_U | | \bar{X} | σ | Max. | Max. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Min. |
| 0.1-500 | 0.01-500* | 4.85 | 0.18 | 6.0 | 7.5 | 40 | 20 | 46 | 35 | 40 | 30 | 37 | 23 | 46 | 35 | 40 | 30 |

1 dB COMP.: +20 dBm typ.

*IF response from 0.1 to 0.01 MHz falls off 3 dB.

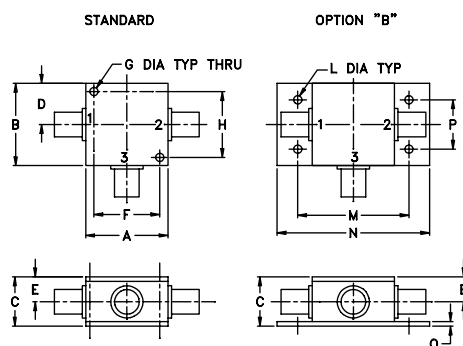
L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]

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

Typical Performance Data

| Frequency (MHz) | | Conversion Loss (dB) | Isolation L-R (dB) | Isolation L-I (dB) | VSWR RF Port (:1) | VSWR LO Port (:1) |
|-----------------|--------|----------------------|--------------------|--------------------|-------------------|-------------------|
| RF | LO | LO +23dBm | LO +23dBm | LO +23dBm | LO +23dBm | LO +23dBm |
| 0.10 | 30.10 | 5.89 | 25.02 | 25.81 | 1.35 | 1.41 |
| 1.00 | 31.00 | 5.82 | 46.68 | 47.33 | 1.37 | 1.45 |
| 10.00 | 40.00 | 5.59 | 47.08 | 47.94 | 1.37 | 1.35 |
| 20.00 | 50.00 | 5.60 | 46.71 | 47.64 | 1.37 | 1.42 |
| 34.58 | 64.58 | 5.59 | 45.97 | 46.92 | 1.37 | 1.46 |
| 69.05 | 99.05 | 5.57 | 45.02 | 46.05 | 1.38 | 1.42 |
| 100.00 | 70.00 | 5.52 | 43.63 | 44.10 | 1.42 | 1.37 |
| 120.77 | 90.77 | 5.53 | 42.68 | 43.10 | 1.45 | 1.34 |
| 155.24 | 125.24 | 5.68 | 40.68 | 41.09 | 1.50 | 1.37 |
| 189.72 | 159.72 | 5.73 | 39.25 | 39.09 | 1.57 | 1.32 |
| 224.19 | 194.19 | 5.85 | 39.09 | 38.89 | 1.53 | 1.30 |
| 241.43 | 211.43 | 5.95 | 38.42 | 38.05 | 1.64 | 1.31 |
| 258.67 | 228.67 | 6.00 | 37.01 | 36.93 | 1.68 | 1.25 |
| 293.15 | 263.15 | 5.91 | 36.97 | 35.23 | 1.76 | 1.25 |
| 327.62 | 297.62 | 5.81 | 37.56 | 34.01 | 1.81 | 1.30 |
| 362.10 | 332.10 | 5.87 | 40.25 | 33.42 | 1.89 | 1.34 |
| 396.57 | 366.57 | 5.96 | 41.18 | 33.85 | 1.95 | 1.37 |
| 431.05 | 401.05 | 6.22 | 41.74 | 36.25 | 1.99 | 1.42 |
| 465.53 | 435.53 | 6.39 | 43.60 | 37.76 | 2.05 | 1.53 |
| 500.00 | 470.00 | 6.56 | 42.79 | 37.30 | 2.02 | 1.55 |

Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H |
|-------|-------|-------|-------|-------|-------|------|-------|
| 1.25 | 1.25 | .75 | .63 | .38 | 1.00 | .125 | 1.000 |
| 31.75 | 31.75 | 19.05 | 16.00 | 9.65 | 25.40 | 3.18 | 25.40 |
| J | K | L | M | N | P | Q | wt |
| -- | -- | .125 | 1.688 | 2.18 | .75 | .07 | grams |
| -- | -- | 3.18 | 42.88 | 55.37 | 19.05 | 1.78 | 70.0 |

Electrical Schematic

