*Coaxial*

# Frequency Mixer

## ZX05-1+
## ZX05-1

Level 7 (LO Power +7 dBm) 0.5 to 500 MHz

CASE STYLE: FL905

| Connectors | Model | Price | Qty. |
|---|---|---|---|
| **SMA** | ZX05-1-S(+) | $37.95 ea. | (1-24) |

*+ RoHS compliant in accordance with EU Directive (2002/95/EC)*

*The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.*

### Maximum Ratings

| | |
|---|---|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 50mW |
| IF Current | 40mA |

### Coaxial Connections

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

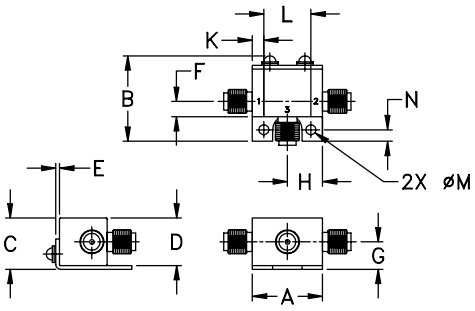
### Features

- rugged construction
- small size
- low convesion loss
- high L-R isolation
- protected by US Patents 6,133,525 & 6,790,049

### Applications

- cellular
- PCS
- instrumentation
- satellite communication

### Outline Drawing




### Outline Dimensions ( inch / mm )

| A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|
| .74 | .90 | .54 | .50 | .04 | .16 | .29 |
| 18.80 | 22.86 | 13.72 | 12.70 | 1.02 | 4.06 | 7.37 |

| H | J | K | L | M | N | wt |
|---|---|---|---|---|---|---|
| .37 | -- | .122 | .496 | .106 | .122 | grams |
| 9.40 | -- | 3.10 | 12.60 | 2.69 | 3.10 | 20.0 |

### Electrical Specifications ($T_{AMB}$=25°C)

| FREQUENCY (MHz) | | CONVERSION LOSS (dB) | | | | LO-RF ISOLATION (dB) | | | | | | LO-IF ISOLATION (dB) | | | | | | IP3 at center band (dBm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mid-Band m | | | Total Range | L | | M | | U | | L | | M | | U | | |
| LO/RF | IF | | | | | | | | | | | | | | | | | |
| $f_L$-$f_U$ | | $\bar{X}$ | σ | Max. | Max. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. |
| 0.5-500 | DC-500 | 5.0 | 0.1 | 6.5 | 7.8 | 70 | 50 | 55 | 35 | 45 | 30 | 65 | 45 | 40 | 25 | 30 | 20 | 15 |

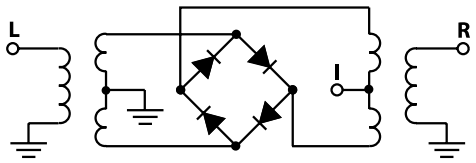
1 dB COMP.: +1 dBm typ.

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

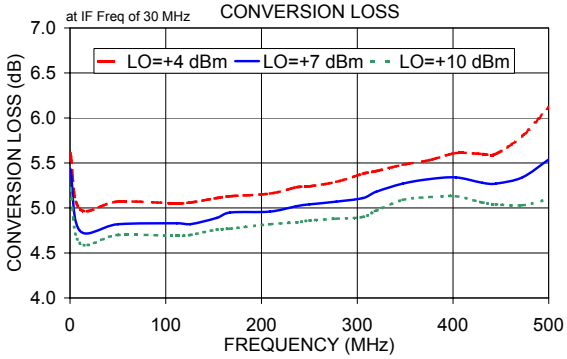
| Frequency (MHz) | | Conversion Loss (dB) | Isolation L-R (dB) | Isolation L-I (dB) | VSWR RF Port (:1) | VSWR LO Port (:1) |
|---|---|---|---|---|---|---|
| RF | LO | LO +7dBm | LO +7dBm | LO +7dBm | LO +7dBm | LO +7dBm |
| 0.50 | 30.50 | 5.43 | 87.25 | 65.36 | 1.40 | 2.73 |
| 10.10 | 40.10 | 4.75 | 78.62 | 65.76 | 1.14 | 2.60 |
| 50.10 | 80.10 | 4.82 | 64.80 | 62.59 | 1.11 | 2.60 |
| 111.71 | 81.71 | 4.83 | 58.65 | 49.84 | 1.08 | 2.60 |
| 125.58 | 95.58 | 4.82 | 58.02 | 48.48 | 1.07 | 2.60 |
| 153.33 | 123.33 | 4.89 | 56.73 | 46.06 | 1.05 | 2.64 |
| 167.20 | 137.20 | 4.95 | 56.61 | 45.36 | 1.04 | 2.64 |
| 208.81 | 178.81 | 4.96 | 52.62 | 43.32 | 1.02 | 2.63 |
| 236.55 | 206.55 | 5.02 | 54.29 | 41.47 | 1.02 | 2.72 |
| 250.10 | 220.10 | 5.04 | 54.34 | 40.76 | 1.02 | 2.70 |
| 278.17 | 248.17 | 5.07 | 54.24 | 41.16 | 1.04 | 2.65 |
| 305.91 | 275.91 | 5.11 | 50.00 | 39.81 | 1.08 | 2.76 |
| 319.78 | 289.78 | 5.18 | 48.59 | 38.79 | 1.09 | 2.81 |
| 347.52 | 317.52 | 5.27 | 45.62 | 37.96 | 1.09 | 2.71 |
| 375.26 | 345.26 | 5.32 | 46.14 | 35.84 | 1.10 | 2.63 |
| 403.00 | 373.00 | 5.34 | 45.16 | 33.19 | 1.12 | 2.80 |
| 430.75 | 400.75 | 5.28 | 44.30 | 32.33 | 1.12 | 2.84 |
| 444.62 | 414.62 | 5.27 | 43.71 | 31.87 | 1.11 | 2.78 |
| 472.36 | 442.36 | 5.34 | 45.07 | 29.71 | 1.15 | 2.88 |
| 500.10 | 470.10 | 5.54 | 45.02 | 29.13 | 1.27 | 3.13 |

### Electrical Schematic

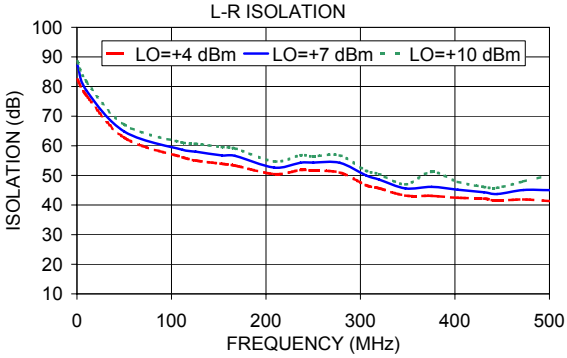


# Performance Charts

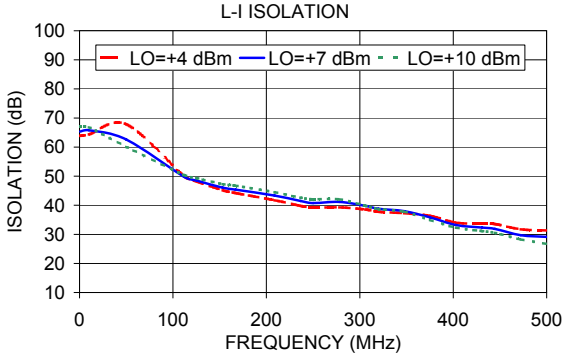
ZX05-1
CONVERSION LOSS
at IF Freq of 30 MHz



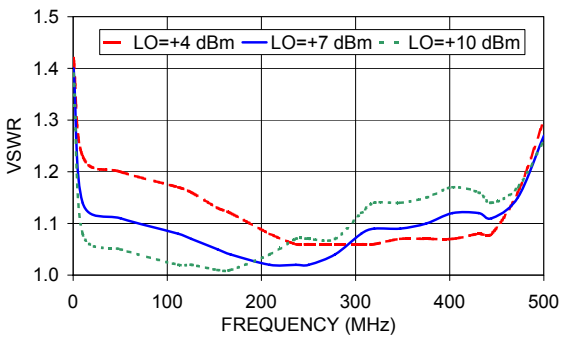

ZX05-1
L-R ISOLATION



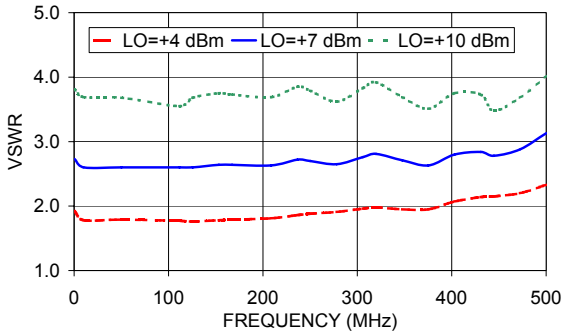

ZX05-1
L-I ISOLATION



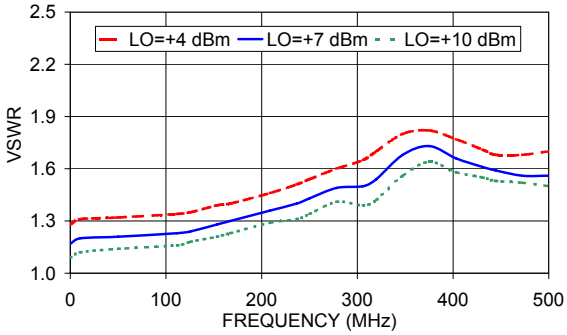

ZX05-1
RF VSWR




ZX05-1
LO VSWR




ZX05-1
IF VSWR




ZX05-1
IP3