

# X2 Frequency Multiplier

50Ω Output 1000 to 2200 MHz

## ZX90-2-11-S+



Generic photo used for illustration purposes only

CASE STYLE: JA1242

| Connectors | Model        |
|------------|--------------|
| SMA        | ZX90-2-11-S+ |

**+RoHS Compliant**

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

### Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature   | -55°C to 100°C |
| RF Input Power, 25°C  | 23 dBm         |

Permanent damage may occur if any of these limits are exceeded.

### Coaxial Connections

|        |   |
|--------|---|
| INPUT  | 2 |
| OUTPUT | 1 |

### Features

- broadband
- low conversion loss, 10.5 dB typ.
- rugged construction
- protected by US Patent 6,790,049

### Applications

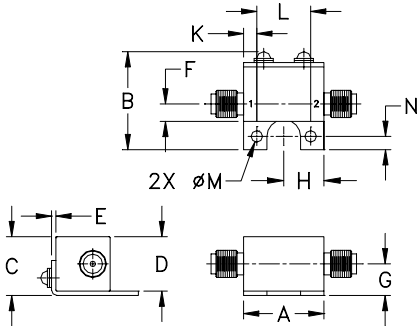
- synthesizers
- local oscillators

### Electrical Specifications

| MULTIPLICATION FACTOR | FREQUENCY (MHz) |           | INPUT POWER (dBm) |      | CONVERSION LOSS (dB) |      | *HARMONIC OUTPUT (dBc) |      |      |      |      |      |
|-----------------------|-----------------|-----------|-------------------|------|----------------------|------|------------------------|------|------|------|------|------|
|                       | F1              | F2        |                   |      |                      |      | F1                     |      | F3   |      | F4   |      |
|                       | Input           | Output    | Min.              | Max. | Typ.                 | Max. | Typ.                   | Min. | Typ. | Min. | Typ. | Min. |
| 2                     | 500-1100        | 1000-2200 | 5                 | 10   | 10.5                 | 13.5 | 27                     | 21   | 34   | 25   | 21   | 12   |
|                       | 550-750         | 1100-1500 | 5                 | 10   | 10.0                 | 13.5 | 30                     | 21   | 34   | 25   | 21   | 12   |

\* Harmonics of input frequency below the power level of F2

### Outline Drawing

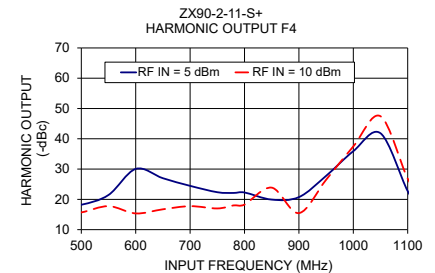
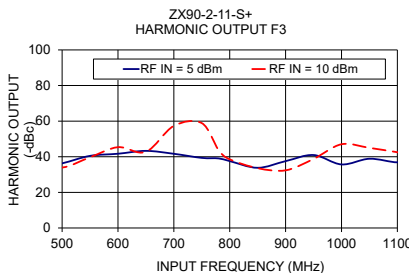
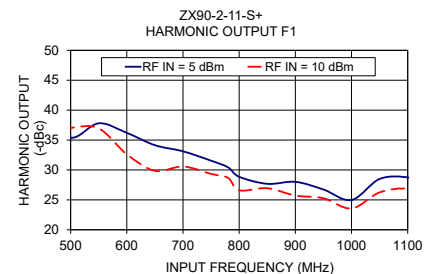
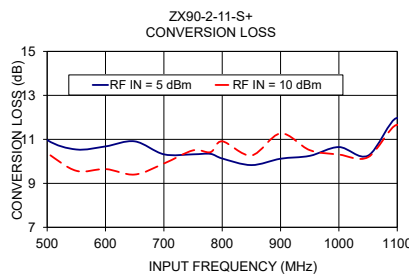


### Outline Dimensions (inch/mm)

|       |       |       |       |      |      |       |
|-------|-------|-------|-------|------|------|-------|
| 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 | 19.0  |

### Typical Performance Data

| Input Frequency (MHz) | INPUT RF= 5 dBm      |                                 |       |       | INPUT RF= 10 dBm     |                                 |       |       |
|-----------------------|----------------------|---------------------------------|-------|-------|----------------------|---------------------------------|-------|-------|
|                       | Conversion Loss (dB) | Harmonic Output Below F2 (-dBc) |       |       | Conversion Loss (dB) | Harmonic Output Below F2 (-dBc) |       |       |
|                       |                      | F1                              | F3    | F4    |                      | F1                              | F3    | F4    |
| 500                   | 10.97                | 35.40                           | 36.29 | 18.22 | 10.38                | 37.01                           | 33.95 | 15.69 |
| 550                   | 10.54                | 37.80                           | 40.50 | 21.45 | 9.57                 | 36.95                           | 39.73 | 17.75 |
| 600                   | 10.68                | 36.20                           | 41.69 | 30.06 | 9.65                 | 32.62                           | 45.38 | 15.36 |
| 650                   | 10.91                | 34.14                           | 43.30 | 26.98 | 9.40                 | 29.85                           | 42.77 | 16.72 |
| 700                   | 10.32                | 33.12                           | 41.66 | 24.46 | 9.90                 | 30.58                           | 57.35 | 17.75 |
| 750                   | 10.32                | 31.55                           | 39.36 | 22.36 | 10.50                | 29.34                           | 58.89 | 17.00 |
| 780                   | 10.34                | 30.45                           | 39.07 | 22.12 | 10.42                | 28.69                           | 43.80 | 18.01 |
| 800                   | 10.13                | 28.86                           | 37.56 | 22.27 | 10.91                | 26.60                           | 38.56 | 18.27 |
| 850                   | 9.83                 | 27.68                           | 33.80 | 19.92 | 10.27                | 26.95                           | 33.58 | 23.87 |
| 900                   | 10.12                | 28.01                           | 37.54 | 20.74 | 11.27                | 25.72                           | 32.38 | 15.46 |
| 950                   | 10.25                | 26.73                           | 40.97 | 27.76 | 10.51                | 25.27                           | 38.76 | 26.46 |
| 1000                  | 10.65                | 24.98                           | 35.69 | 35.91 | 10.31                | 23.56                           | 47.02 | 37.48 |
| 1050                  | 10.26                | 28.50                           | 38.88 | 41.83 | 10.19                | 26.25                           | 44.99 | 47.45 |
| 1100                  | 11.97                | 28.75                           | 36.89 | 22.73 | 11.66                | 26.83                           | 42.54 | 26.84 |



### Notes

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