

# X2 Frequency Multiplier

50Ω Output 10 to 1000 MHz

FD-2+



Generic photo used for illustration purposes only

CASE STYLE: FF55

| Connectors | Model |
|------------|-------|
| BNC        | FD-2+ |

## Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature   | -55°C to 100°C |
| RF Input Power*       | 200mW          |

\* Input is at Male BNC

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

## Features

- wideband, 10 to 1000 MHz
- low conversion loss, 13.5 dB typ.
- rugged shielded case

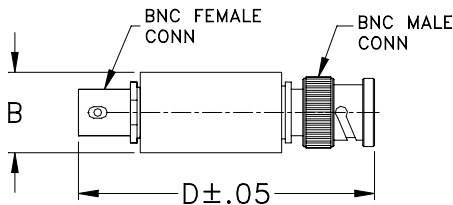
## Applications

- synthesizers
- local oscillators

**+RoHS Compliant**

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

## Outline Drawing



## Outline Dimensions (inch/mm)

| B     | D     | wt    |
|-------|-------|-------|
| .57   | 2.59  | grams |
| 14.47 | 65.79 | 40.0  |

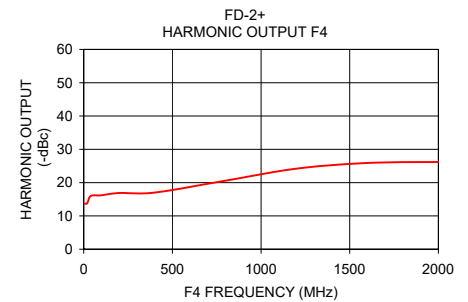
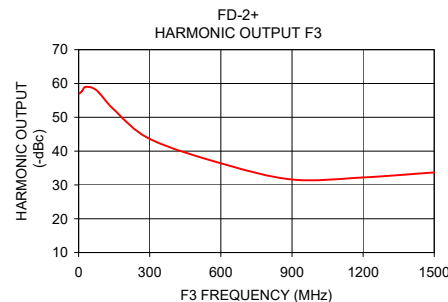
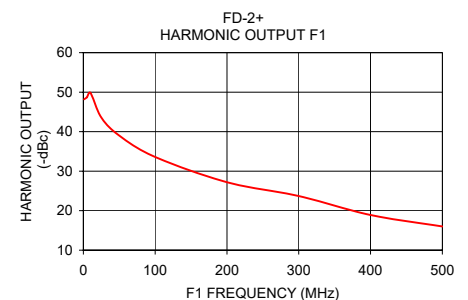
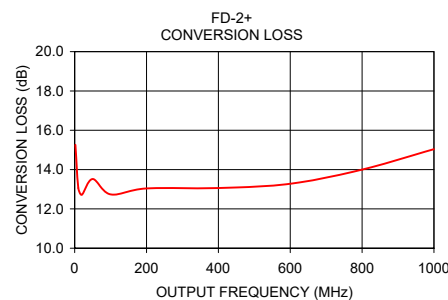
## Electrical Specifications

| MULTIPLICATION FACTOR | FREQUENCY (MHz) |          | INPUT POWER (dBm) |      | CONVERSION LOSS (dB) |      | *HARMONIC OUTPUT (dBc) |      |      |      |      |      |
|-----------------------|-----------------|----------|-------------------|------|----------------------|------|------------------------|------|------|------|------|------|
|                       | F1              | F2       | Min.              | Max. | Typ.                 | Max. | F1                     |      | F3   |      | F4   |      |
|                       | Input           | Output   |                   |      |                      |      | Typ.                   | Min. | Typ. | Min. | Typ. | Min. |
| 2                     | 5-100           | 10-200   | 1                 | 15   | 13.0                 | 16.0 | 40                     | 30   | 50   | 40   | 16   | 12   |
|                       | 100-300         | 200-600  | 1                 | 15   | 13.5                 | 15.5 | 25                     | 20   | 40   | 30   | 16   | 12   |
|                       | 300-500         | 600-1000 | 1                 | 15   | 14.0                 | 16.5 | 20                     | 15   | 30   | 25   | 16   | 12   |

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

## Typical Performance Data

| Input Frequency (MHz) | Conversion Loss (dB)<br>F2 | Harmonic Output (-dBc) |       |       |  |
|-----------------------|----------------------------|------------------------|-------|-------|--|
|                       |                            | F1                     | F3    | F4    |  |
| 1.00                  | 15.26                      | 48.20                  | 57.00 | 13.70 |  |
| 5.00                  | 13.06                      | 48.70                  | 57.80 | 13.80 |  |
| 10.00                 | 12.72                      | 49.80                  | 59.00 | 16.00 |  |
| 25.00                 | 13.52                      | 43.60                  | 58.00 | 16.20 |  |
| 50.00                 | 12.74                      | 39.00                  | 52.20 | 16.90 |  |
| 100.00                | 13.04                      | 33.60                  | 43.60 | 17.00 |  |
| 200.00                | 13.06                      | 27.20                  | 36.40 | 20.60 |  |
| 300.00                | 13.28                      | 23.70                  | 31.60 | 24.20 |  |
| 400.00                | 14.00                      | 18.90                  | 32.20 | 25.90 |  |
| 500.00                | 15.04                      | 16.00                  | 33.70 | 26.20 |  |



## Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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