

# FD26 / FD26C / FD26E / SFD26

## Frequency Doubler

Rev. V2

### Features

- INPUT: 50 TO 3300 MHz
- OUTPUT: 100 TO 6600 MHz
- INPUT DRIVE LEVEL +10 dBm (NOMINAL)
- HERMETICALLY-SEALED PACKAGE

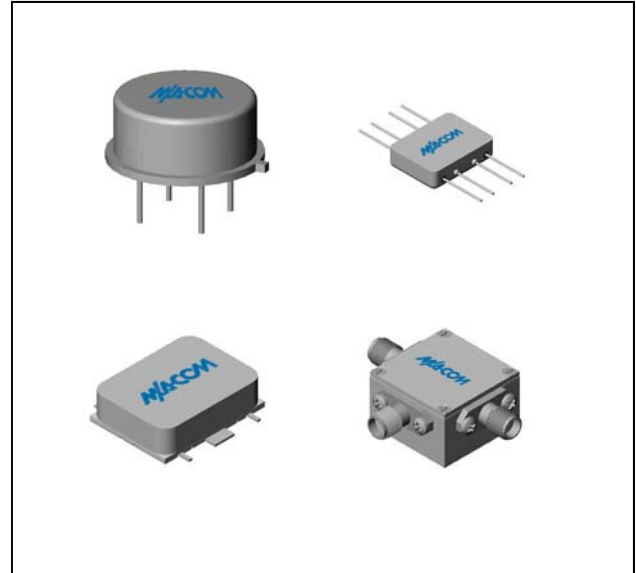
### Description

The FD26 is a passive bridge diode frequency doubler, designed for use in military, commercial and test equipment applications. The design utilizes Schottky bridge quad diodes and broadband soft dielectric and/or ferrite baluns to attain excellent performance. The use of high temperature solder assembly processes used internally makes it ideal for use in manual and semi-automated assembly. Environmental screening available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

### Ordering Information

| Part Number | Package           |
|-------------|-------------------|
| FD26        | TO-8              |
| FD26C       | SMA Connectorized |
| FD26E       | Flatpack          |
| SFD26       | Surface Mount     |

### Product Image



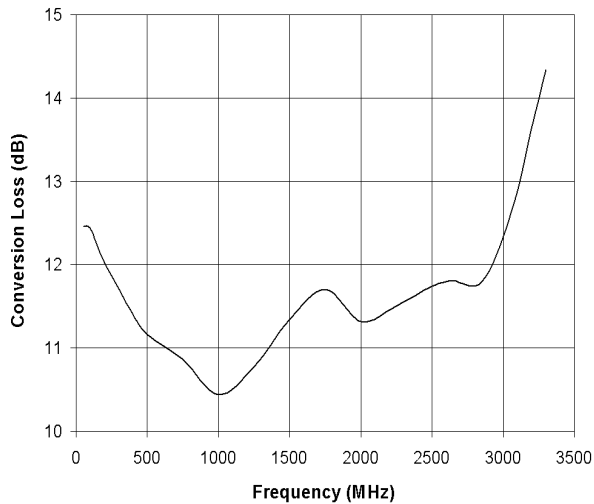
### Electrical Specifications: $Z_0 = 50\Omega$ $P_{in} = +10$ dBm

| Parameter                     | Test Conditions             | Units | Typical | Guaranteed |                |
|-------------------------------|-----------------------------|-------|---------|------------|----------------|
|                               |                             |       |         | +25°C      | -54° to +85°C* |
| SSB Conversion Loss (max)     | $f_{in} = 5$ to 400 MHz     | dB    | 12.0    | 14.5       | 15.0           |
|                               | $f_{in} = 400$ to 2500 MHz  | dB    | 12.0    | 13.5       | 14.0           |
|                               | $f_{in} = 2500$ to 3000 MHz | dB    | 12.5    | 14.0       | 14.5           |
|                               | $f_{in} = 3000$ to 3300 MHz | dB    | 13.5    | 15.5       | 16.0           |
| Fundamental Suppression (min) | $f_{in} = 50$ to 500 MHz    | dBc   | 25      | 22         | 20             |
|                               | $f_{in} = 500$ to 3300 MHz  | dBc   | 20      | 17         | 15             |
| Third Harmonic Suppression    | $f_{in} = 50$ to 200 MHz    | dBc   | 25      | 22         | 20             |
|                               | $f_{in} = 200$ to 3300 MHz  | dBc   | 19      | 17         | 15             |
| Input VSWR                    | $f_{in} = 50$ to 2500 MHz   |       | 1.5:1   |            |                |
|                               | $f_{in} = 2500$ to 3300 MHz |       | 2.0:1   |            |                |

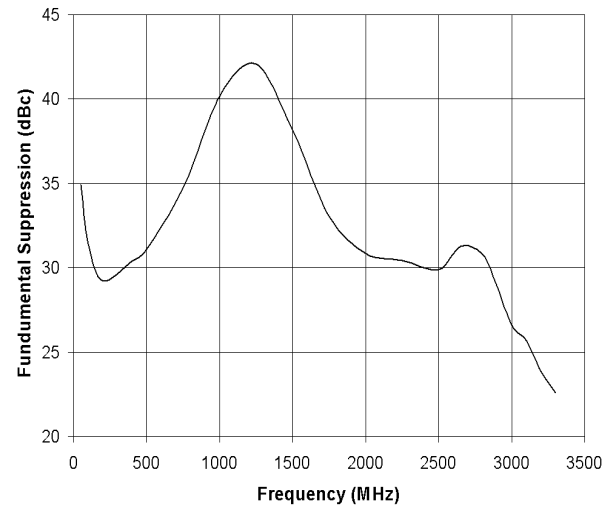
\* The FD26C specification limits apply at 0°C to +50°C.

### Typical Performance Curves

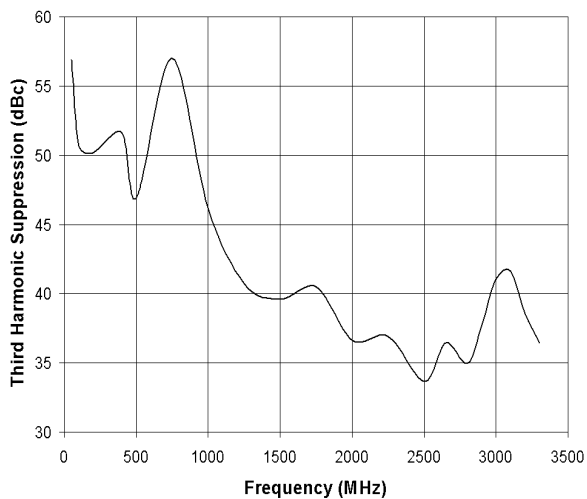
**Conversion Loss vs. Frequency**



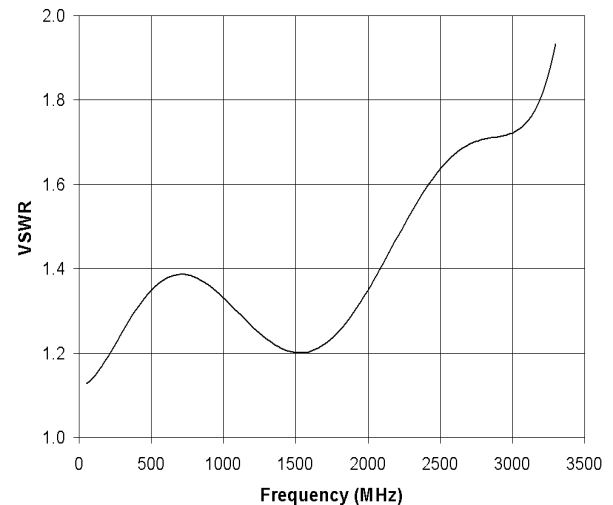
**Fundamental Suppression vs. Frequency**



**Third Harmonic Suppression vs. Frequency**



**Input VSWR vs. Frequency**



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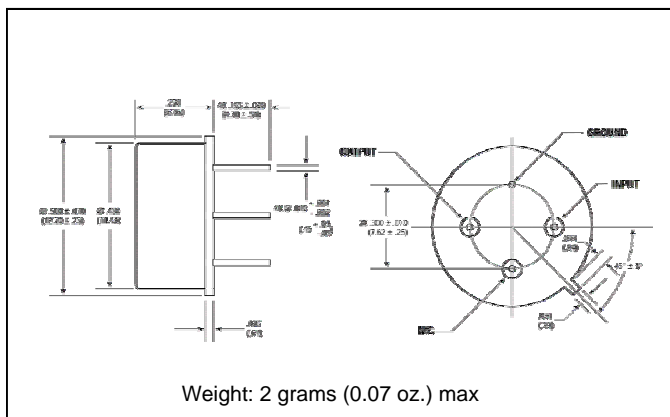
## Frequency Doubler

Rev. V2

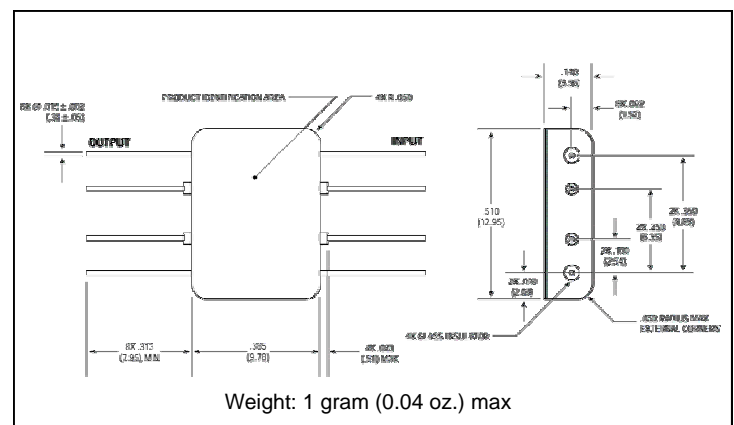
### Absolute Maximum Ratings

| Parameter             | Absolute Maximum                            |
|-----------------------|---|
| Operating Temperature | -54°C to +100°C                             |
| Storage Temperature   | -65°C to +100°C                             |
| Peak Input Power      | +23 dBm max @ +25°C<br>+20 dBm max @ +100°C |

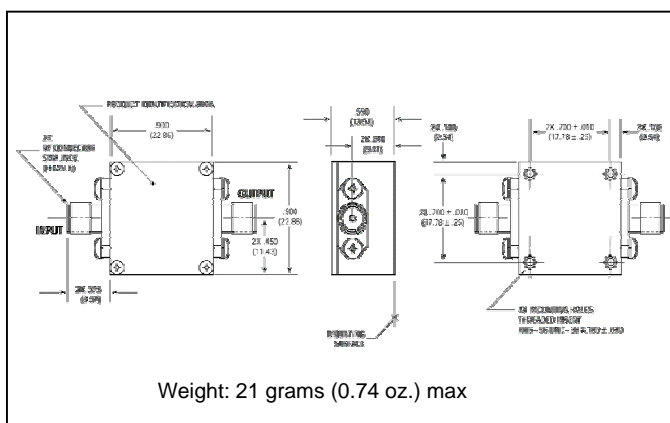
### Outline Drawing: TO-8 \*



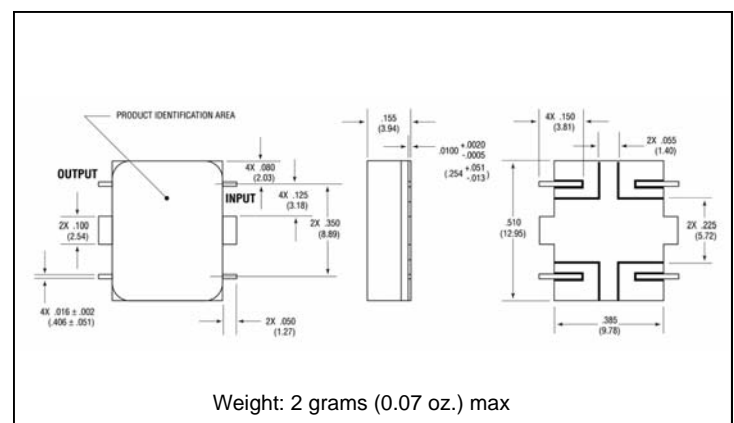
### Outline Drawing: Flatpack \*



### Outline Drawing: SMA Connectorized \*



### Outline Drawing: Surface Mount \*



\* Dimensions are inches (millimeters)  $\pm 0.015$  (0.38) unless otherwise specified.