

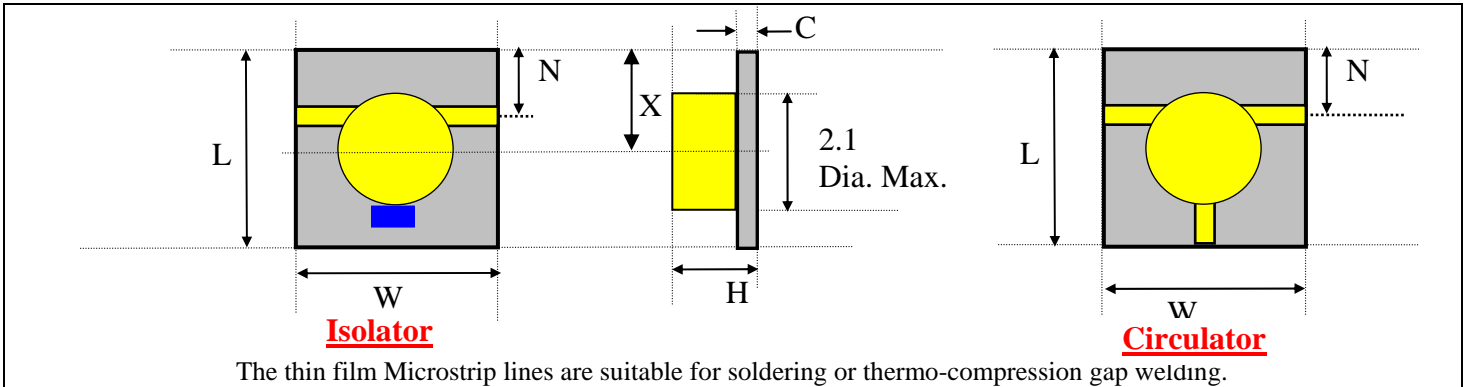
## Isolator and Circulator: Microstrip Substrate only 0.25mm Thick code-b

### RADI-FLOW-FHIGH-MSS-0.25WR-M-0.25mm-b

L counter clockwise, R clockwise (default)

(-NM mounted on Non Magnetic material available to 24GHz only) / (-M magnetic for Steel / Kovar mounting (default))

Special very thin substrate unit



Units: mm (inch). Not to scale.

Specifications over full operating temperature (-30 to +70 °C)

| I | C | RADI/C:-<br>(GHz)-MSS | W<br>mm | L<br>mm | H<br>mm | N<br>mm | X<br>mm | C<br>mm | In.<br>loss<br>dB | Isol<br>dB | VSWR | Pwr<br>W<br>fwd | Pwr<br>W<br>Rev | NM/<br>M | Bw<br>% |
|---|---|-----------------------|---------|---------|---------|---------|---------|---------|-------------------|------------|------|-----------------|-----------------|----------|---------|
|   |   | <b>Tolerance:</b>     | ±.03    | ±.03    | ±.03    | ±.03    | ±.03    | ±.01    |                   |            |      |                 |                 |          |         |
| ✓ | ✓ | 16.85-20.5            | 6       | 6       | 2.3     | 1.0     | 2       | 0.25    | 0.7               | 18         | 1.35 | 2               | 0.25*           | M        | 20      |
| ✓ |   | 22.25-25.3            | 6       | 6       | 2.3     | 1.0     | 2       | 0.25    | 0.9               | 20         | 1.30 | 1               | 0.25            | M        | 13      |
|   | ✓ | 22.25-25.3            | 6       | 6       | 2.3     | 1.0     | 2       | 0.25    | 0.9               | 18         | 1.30 | 1               | 0.25            | M        | 13      |
| ✓ | ✓ | 32.4-34.5             | 5       | 5       | 2.3     | 1.1     | 1.5     | 0.25    | 1.1               | 17         | 1.35 | 1               | 0.25*           | M        | 10      |
| ✓ | ✓ | 32.5-34.5             | 5       | 5       | 2.3     | 1.1     | 1.5     | 0.25    | 1.1               | 17         | 1.35 | 1               | 0.25*           | M        | 10      |
| ✓ | ✓ | 34.7-38.3             | 5       | 5       | 2.3     | 1.1     | 1.5     | 0.25    | 1.1               | 17         | 1.35 | 1               | 0.25*           | M        | 10      |

Samarium Cobalt magnet, 2 μm thin film Gold on 4μm Copper,  
survives non operating 120 °C for up to 10 min..

150 °C for up to 3 min., {**\*1W dissipation possible if good thermal conductivity to heat sink**}

#### Maximum Temperature during Welding 350C @ 25 microseconds

1. The MSS Substrate only series is a little more difficult to use than the carrier versions
  - a. The magnetic circuit has to be considered,
    - i. if the mounting surface is either steel or kovar the magnetic mount version should be selected, lower frequency units must be -M, if steel or kovar mounting is not possible check out the MSSM series which is the same units with a metal back
    - b. If a non magnetic mounting surface ie aluminum is used then the non magnetic mount version should be selected.
2. Adhesive is preferably non conductive epoxy, with a very thin smear used, adequately cured, if conductive epoxy is used take great care that none comes out the sides as it can degrade performance significantly.

#### We have exhaustively tested the Microstrip Drop in's. for shock and vibration .

- The units have low mass and are very robust.
- Vibration in frequency range 1-5000Hz with acceleration 400m/sec<sup>2</sup> (40g)
  - repeated shocks with acceleration 1500m/sec<sup>2</sup> (150g) and duration 1-5msec
  - single shock with acceleration 150m/sec<sup>2</sup> (15g) and duration 0.1-2msec
  - linear centrifugal acceleration 5000m/sec<sup>2</sup>
  - acoustic noise 50-10000Hz at sound pressure level up to 140dB
  - absence of resonance in frequency range 1-100Hz