

## Double-Balanced Mixer

Rev. V3

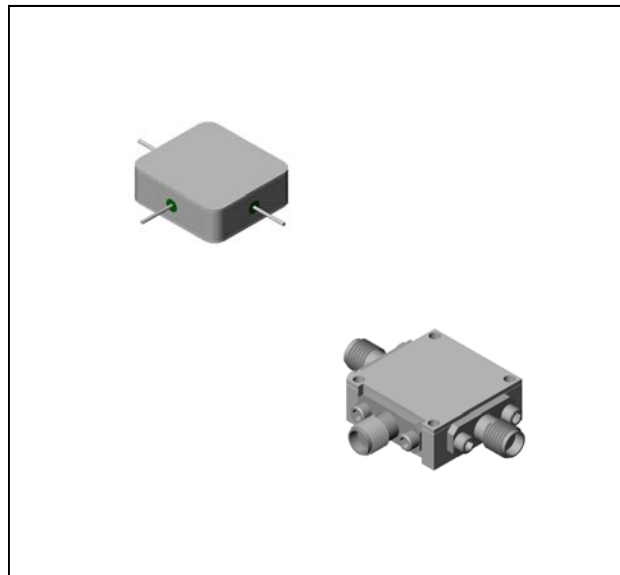
### Features

- LO 5 TO 18 GHz
- RF 7 TO 18 GHz
- IF DC TO 3000 MHz
- LO DRIVE: +20 dBm (NOMINAL)
- HIGH THIRD-ORDER I.P. +24 dBm (TYP.)

### Description

The M79H is a double balanced mixer, designed for use in military, commercial and test equipment applications. This mixer can also be used as a phase detector or bi-phase modulator since the IF port is DC coupled to the diodes. Environmental screening available to MIL-STD-202, and MIL-DTL-28837, consult factory.

### Product Image



### Ordering Information

| Part Number | Package           |
|-------------|-------------------|
| M79H        | Minpac            |
| M79HC       | SMA Connectorized |

### Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +20$ dBm (Downconverter application only)

| Parameter                                          | Test Conditions                                                     | Units | Typical | Guaranteed |               |
|----------------------------------------------------|---------------------------------------------------------------------|-------|---------|------------|---------------|
|                                                    |                                                                     |       |         | +25°C      | -54° to +85°C |
| SSB Conversion Loss (max) & SSB Noise Figure (max) | fR = 7 to 15 GHz, fL = 6 to 15 GHz, fl = 30 to 1000 MHz             | dB    | 6.5     | 8.0        | 8.3           |
|                                                    | fR = 7 to 16 GHz, fL = 5 to 18 GHz, fl = 30 to 2000 MHz             | dB    | 7.0     | 8.5        | 8.8           |
|                                                    | fR = 7 to 16 GHz, fL = 5 to 18 GHz, fl = 30 to 3000 MHz             | dB    | 7.5     | 9.5        | 9.8           |
|                                                    | fR = 16 to 18 GHz, fL = 5 to 15 GHz, fl = 30 to 3000 MHz            | dB    | 8.5     | 10.0       | 10.3          |
| Isolation, L to R (min)                            | fL = 5 to 14 GHz                                                    | dB    | 35      | 23         | 22            |
|                                                    | fL = 14 to 18 GHz                                                   | dB    | 30      | 20         | 19            |
| Isolation, L to I (min)                            | fL = 5 to 9 GHz                                                     | dB    | 27      | 17         | 16            |
|                                                    | fL = 9 to 18 GHz                                                    | dB    | 35      | 25         | 24            |
| 1 dB Conversion Comp.                              | fL = +20 dBm                                                        | dBm   | +15     |            |               |
| Input IP3                                          | fR1=13 GHz at 0 dBm, fR2=13.01GHz at 0 dBm, fL = 14 GHz at = 20 dBm | dBm   | +24     |            |               |

# M79H / M79HC

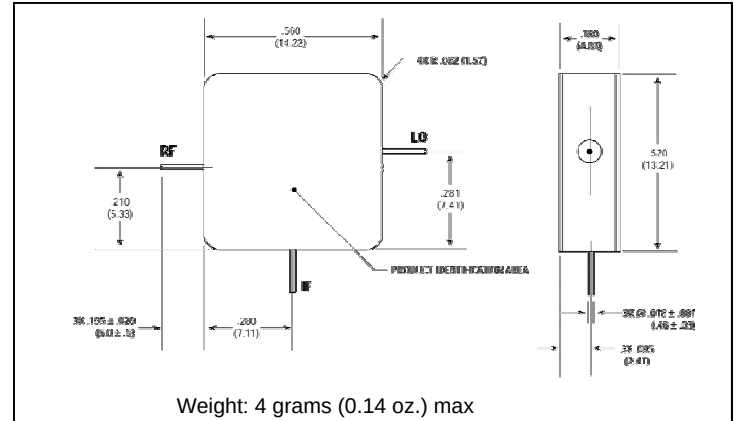
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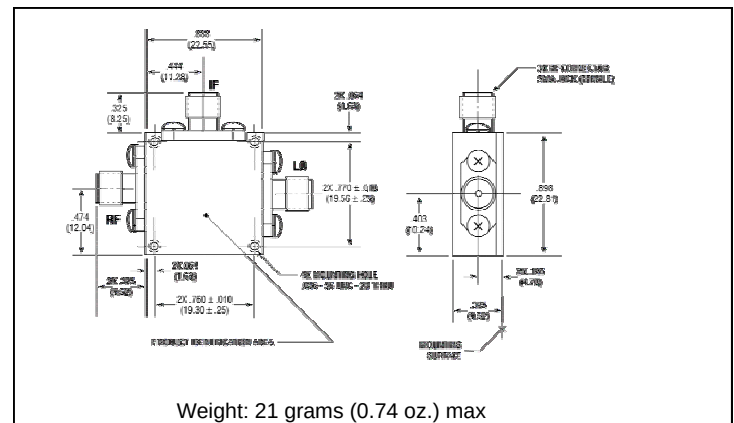
### Absolute Maximum Ratings

| Parameter             | Absolute Maximum                           |
|-----------------------|--------------------------------------------|
| Operating Temperature | -54°C to +100°C                            |
| Storage Temperature   | -65°C to +100°C                            |
| Peak Input Power      | +25 dBm max @ +25°C<br>+21 dBm max @ +85°C |
| Peak Input Current    | 100 mA DC                                  |

### Outline Drawing: Minipac \*



### Outline Drawing: SMA Connectorized \*



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