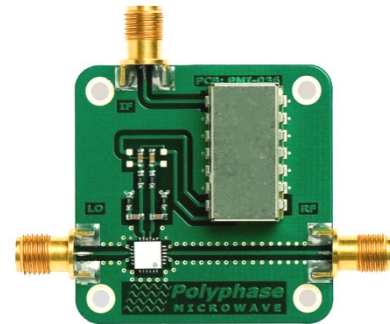


**FEATURES**

|                  |                               |
|------------------|-------------------------------|
| LO/RF Frequency: | 9 – 12 GHz                    |
| Image Rejection: | 38 dB                         |
| LO-RF Isolation: | 55 dB                         |
| Input IP3:       | +23 dBm                       |
| Input P1dB:      | +14 dBm                       |
| Size:            | 1.5" X 1.5" [3.8 cm X 3.8 cm] |

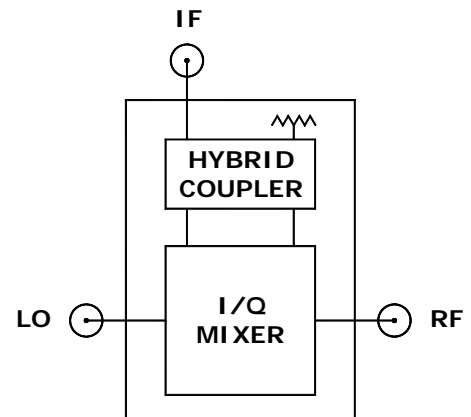

**DESCRIPTION**

The IRM90120N image-reject mixer is ideal for high performance microwave downconverters and receivers. The desired RF sideband is downconverted to the IF while the unwanted RF image is internally rejected.

The IRM90120N is available as a miniature caseless PCB with SMA female connectors. In-stock IF bands include:

- 10 MHz to 50 MHz
- 30 MHz to 90 MHz

Other common IF bands are available. Please specify  $IF=RF-LO$  or  $IF=LO-RF$  and IF band when ordering.


**ELECTRICAL SPECIFICATIONS**

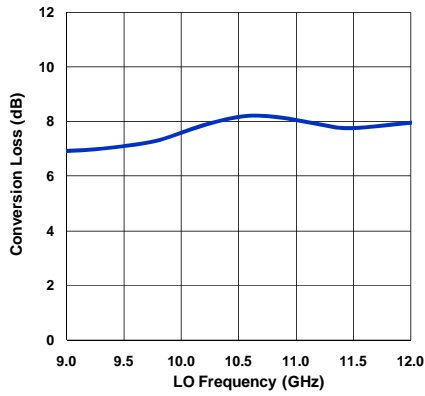
Test Conditions: +25°C, LO Input = +16 dBm, RF input = 0 dBm @ LO+30 MHz unless otherwise noted.

| PARAMETER                    | TEST CONDITIONS            | MIN | TYP   | MAX | UNITS    |
|------------------------------|----------------------------|-----|-------|-----|----------|
| LO Frequency Range           |                            | 9   |       | 12  | GHz      |
| LO Power                     |                            | +15 | +16   | +18 | dBm      |
| LO VSWR                      |                            |     | 1.4:1 |     | Ratio    |
| RF VSWR                      |                            |     | 3:1   |     | Ratio    |
| IF Output Impedance          |                            |     | 50    |     | $\Omega$ |
| Conversion Loss              |                            |     | 8     | 9.5 | dB       |
| Noise Figure                 |                            |     | 8.5   | 10  | dB       |
| Input IP3                    | 2-Tone, $\Delta f = 1$ MHz |     | +23   |     | dBm      |
| Input P1dB                   |                            |     | +14   |     | dBm      |
| LO-RF Isolation              | No RF input                | 40  | 55    |     | dB       |
| LO-IF Isolation              | No RF input                |     | 55    |     | dB       |
| Image Rejection              | Over IF Frequency Band     | 27  | 38    |     | dB       |
| Operating Temperature Range  |                            | -40 |       | +85 | °C       |
| LO/RF Input Power w/o Damage |                            |     |       | +20 | dBm      |

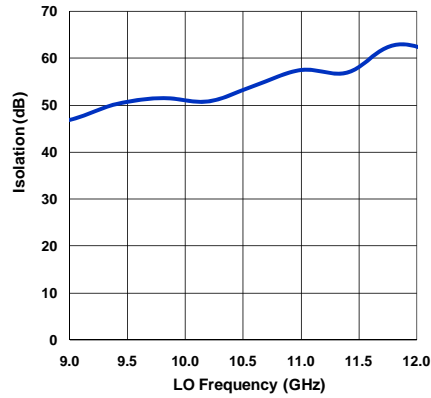
**TYPICAL PERFORMANCE CHARACTERISTICS**

Standard Test Conditions: +25°C, LO Input = +16 dBm, RF Input = 0 dBm @ LO+30 MHz.

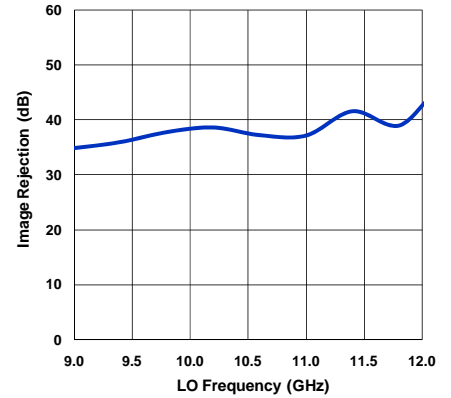
**Conversion Loss**



**LO-RF Isolation**



**Image Rejection**



**DIMENSION DRAWING**

