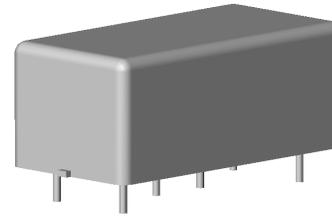


Features

- Frequency:
LO & RF: 0.5 - 500 MHz
IF: DC - 500 MHz
- LO Drive: 17 dBm (nom.)
- High Intercept: 25 dB
- High Isolation: 50 dB



Applications

- Military, Commercial, and test Equipment

Description

The M9BC is a double balanced mixer, designed for use in military, commercial, and test equipment applications. The design utilizes Schottky ring quad diodes and broadband ferrite baluns to attain excellent performance. This mixer can also be used as a phase detector and/or bi-phase modulator since the IF port is DC coupled to the diodes. Environmental screening is available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Ordering Information

| Part Number | Package |
|-------------|-----------|
| M9BC | Relay Can |

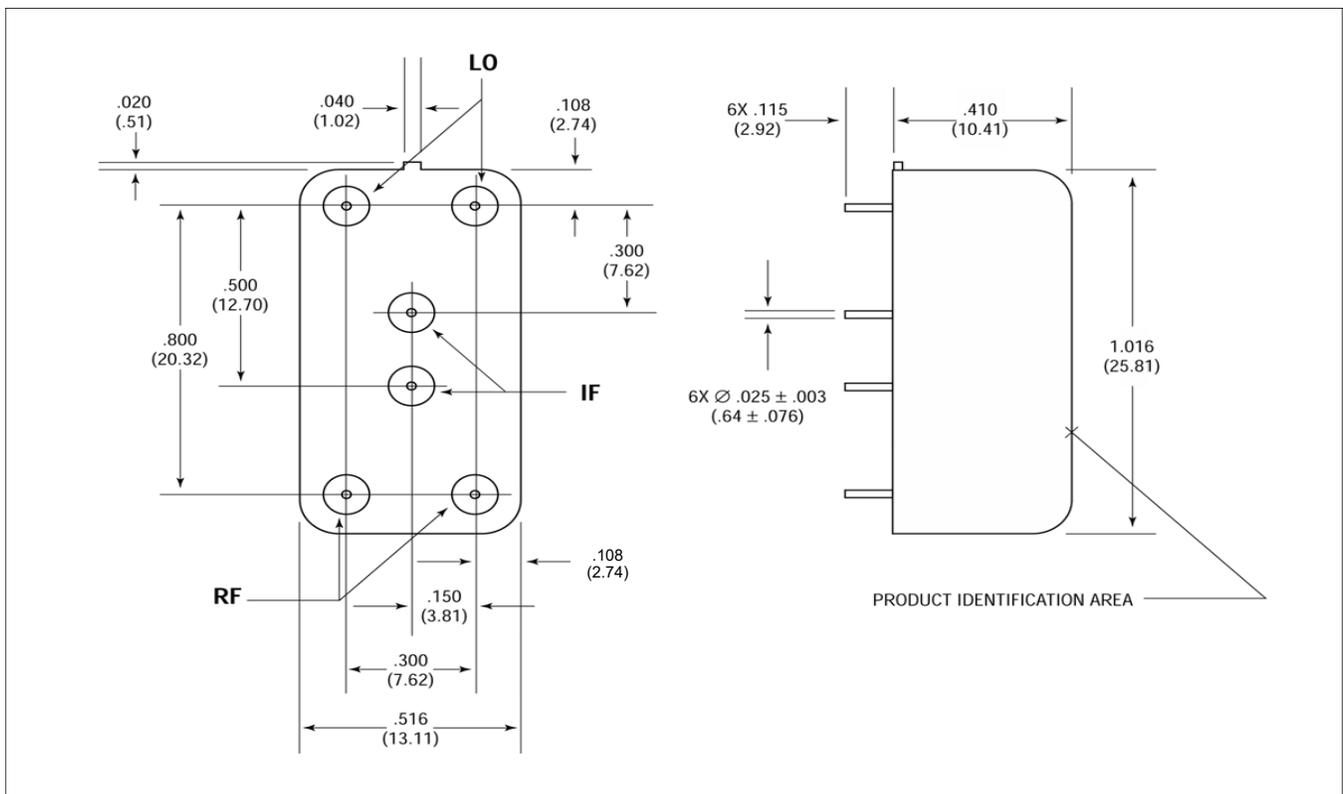
Electrical Specifications: $Z_0 = 50\Omega$ $L_o = +17$ dBm (Downconverter Application only)

| Parameter | Test Conditions | Units | Typical | Guaranteed | |
|---|---|-------|---------|-------------|---------------|
| | | | +25°C | 0° to +50°C | -54° to +85°C |
| SSB Conversion Loss & SSB Noise Figure (max.) | $f_R = 0.0005 - 0.03$ GHz, $f_L = 0.0005 - 0.03$ GHz, $f_I = 0.0004 - 0.03$ GHz | dB | 6.0 | 7.0 | 7.3 |
| | $f_R = 0.03 - 0.1$ GHz, $f_L = 0.03 - 0.1$ GHz, $f_I = 0.0004 - 0.1$ GHz | | 7.0 | 7.5 | 7.8 |
| | $f_R = 0.1 - 0.5$ GHz, $f_L = 0.1 - 0.5$ GHz, $f_I = 0.0004 - 0.5$ GHz | | 8.0 | 9.0 | 9.3 |
| Isolation, L to R (min) | $f_L = 0.0005 - 0.03$ GHz | dB | 60 | 55 | 54 |
| | $f_L = 0.03 - 0.1$ GHz | | 55 | 45 | 44 |
| | $f_L = 0.1 - 0.5$ GHz | | 40 | 35 | 34 |
| Isolation, L to I (min) | $f_L = 0.0005 - 0.03$ GHz | dB | 55 | 45 | 44 |
| | $f_L = 0.03 - 0.1$ GHz | | 45 | 35 | 34 |
| | $f_L = 0.1 - 0.5$ GHz | | 30 | 25 | 24 |
| Isolation, R to I (min) | $f_L = 0.0005 - 0.5$ GHz | dB | 20 | — | — |
| 1 dB Conversion Compression | $f_L @ +17$ dBm | dBm | 8 | — | — |
| Input IP3 | — | dBm | 23 | — | — |

Absolute Maximum Ratings @ +25°C

| Parameter | Absolute Maximum |
|-----------------------|------------------|
| Peak Input Power | 23 dBm |
| Peak Input Current | 100 mA DC |
| Operating Temperature | -54°C to +100°C |
| Storage Temperature | -65°C to +100°C |

Outline Drawing: Relay Can



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