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# UMJ-410-D14-G

## VOLTAGE CONTROLLED OSCILLATOR FOR IF CONVERSION

**Package: D14, 12.7mm x 12.7mm x 5.59mm**

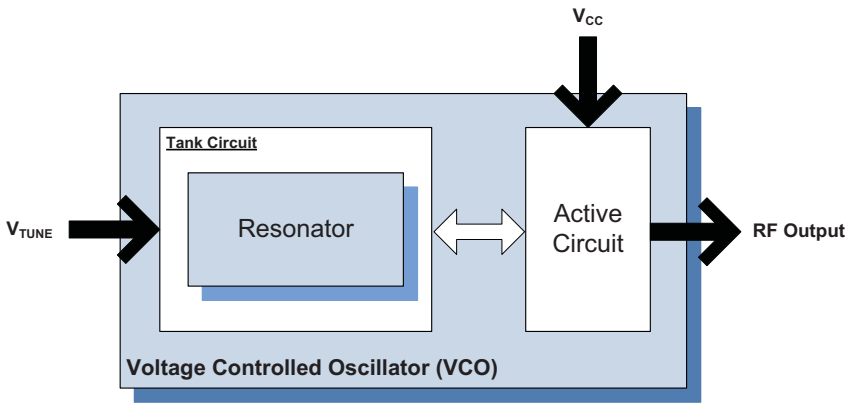
RoHS

## Features

- Ultra-low Phase Noise/Low Current
- Frequency: 105MHz to 120MHz
- Resonator: Aircoil
- PCB: Rogers
- Package Size: 12.7mm x 12.7mm x 5.59mm (0.5in x 0.5in x 0.22in)

## Applications

- IF Conversion Applications
- Low Phase Noise Agile Clock Applications
- Low Phase Noise Applications




Functional Block Diagram

## Product Description

This series of VCO modules offers an ultra-low noise VCO which includes an internal buffer amplifier for high performance IF conversion.

### Ordering Information

UMJ-410-D14-G Contact us at 1-480-756-6070

### Optimum Technology Matching® Applied

| | | | |
|---|---|---|---|
| ☐ GaAs HBT | ☐ SiGe BiCMOS | ☐ GaAs pHEMT | ☐ GaN HEMT |
| ☐ GaAs MESFET | ☐ Si BiCMOS | ☐ Si CMOS | ☐ BiFET HBT |
| ☐ InGaP HBT | ☐ SiGe HBT | ☑ Si BJT | ☐ LDMOS |





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## Absolute Maximum Ratings

| Parameter | Rating | Unit |
|---|---|---|
| Operating Ambient Temperature[1] | -40 to +85 | °C |
| Storage Temperature | -55 to +125 | °C |

[1] Frequency drift: 0.5MHz typical (either extreme)

**Caution!** ESD sensitive device.

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability. Specified typical performance or functional operation of the device under Absolute Maximum Rating conditions is not implied.



RoHS (Restriction of Hazardous Substances): Compliant per EU Directive 2002/95/EC.

| Parameter | Specification | | | Unit | Condition |
|---|---|---|---|---|---|
| | Min. | Typ. | Max. | | |
| **Overall** | | | | | |
| Frequency Range | 105 | | 120 | MHz | |
| Tuning Voltage | 0.5 | | 4.5 | $V_{DC}$ | |
| Tuning Sensitivity | | 8 | | MHz/V | |
| Output Power | 5 | 7 | 9 | dBm | |
| | 5 | | | dBm | At $V_T$=0 |
| Output Phase Noise | | -97 | -90 | dBc/Hz | 1kHz |
| | | -125 | -120 | dBc/Hz | 10kHz |
| | | -145 | -140 | dBc/Hz | 100kHz |
| | | -164 | -155 | dBc/Hz | 1000kHz |
| Second Harmonic | | -20 | -15 | dBc | |
| Frequency Pulling | | 0.2 | 1 | MHz p-p | At 12dBr, all phases |
| Tuning Port Capacitance | | 330 | | pF | |
| Modulation Bandwidth | | 100 | | kHz | 3dB BW |
| Frequency Pushing | | 0.1 | 0.3 | MHz/V | |
| **Power Supply** | | | | | |
| Operating Voltage | | 5 | | V | |
| Supply Current | | 15 | | mA | |



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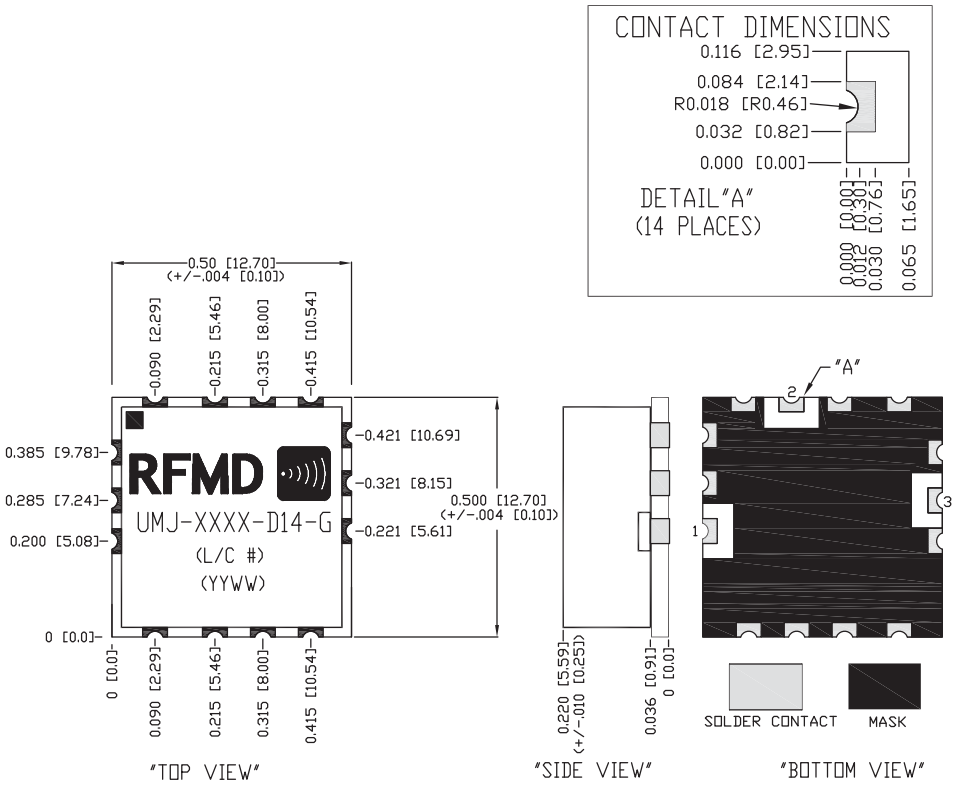
## Package Drawing & Pin Outs

12.7mm x 12.7mm x 5.59mm (0.5in x 0.5in x 0.22in)




| CONTACT ASSIGNMENTS: | |
|---|---|
| 1: RF OUT | |
| 2: SUPPLY INPUT | |
| 3: TUNING VOLTAGE INPUT | |
| ALL OTHER CONTACTS ARE GROUND | |



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