



**Product Features**

- Integrated Monolithic GaAs Converter Package Module
- High Reliability
- Lower Manufacturing Cost
- Higher Productivity
- Very Low Noise Figure & Low Distortion
- Very Low Phase Noise (Ceramic Resonator used)
- Pb Free / RoHS Standard

**Application**

- Repeater
- Base Station



Package Type: HY-5A

**Description**

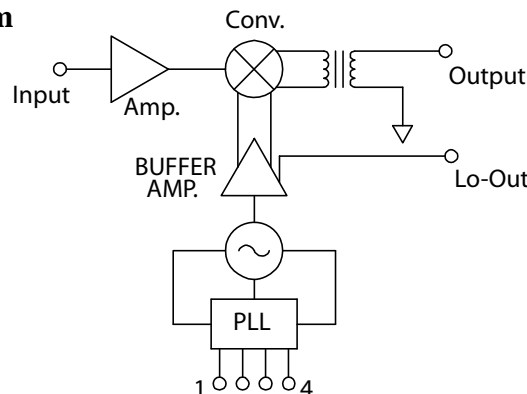
Converter is a very compact size due to using simple matching circuit board including PLL circuits. Customers can apply this part to systems.

**Specifications**

(Operating Temperature: -30°C~+80°C)

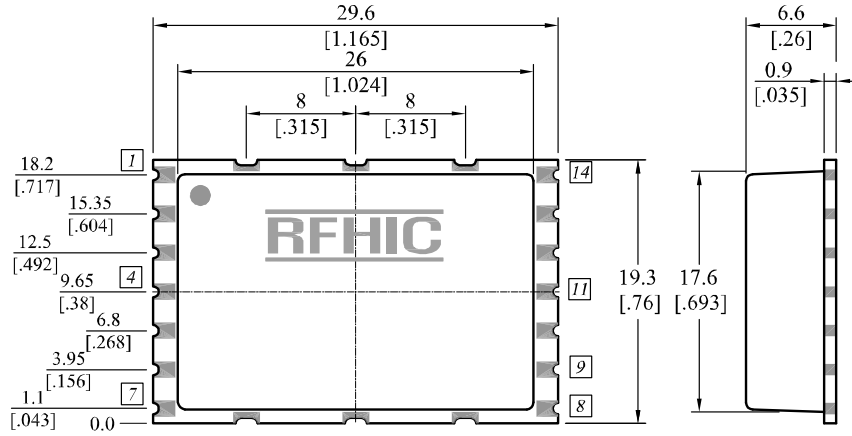
| PARAMETER                                   | RFUR89-60 (UP)  | RFDR98-61 (DOWN)  |
|---|---|---|
| Input Frequency Range (MHz)                 | 824~849   | 1750~1780   |
| Output Frequency Range (MHz)                | 1750~1780   | 824~849   |
| Local Frequency Range (MHz)                 | 926~931   | 926~931   |
| Conversion Gain (dB)                        | 6±1   | 6±1   |
| Gain Flatness @ 30MHz (dB) (Max.)           | ±1  | ±1  |
| Noise Figure (Typ.)(dB)                     | 7   | 10  |
| OIP3 (dBm)                                  | 24  | 24  |
| LO to RF Leakage (dBm)                      | -10   | -15   |
| LO to IF Leakage (dBm)                      | -20   | -20   |
| IF to RF / RF to IF Leakage (dBm)           | -20   | -20   |
| LO Output Level                             | 4±1   | 4±1   |
| LO Phase Noise (Typ.)<br>Step Size : 200KHz | -65dBc/Hz @1KHz<br>-95dBc/Hz @10KHz<br>-115dBc/Hz @100KHz | -65dBc/Hz @1KHz<br>-95dBc/Hz @10KHz<br>-115dBc/Hz @100KHz |
| PLL Control (LMX2326)                       | 3 wire  | 3 wire  |
| Vcc/Idd                                     | 5V / 170mA  | 5V / 170mA  |

**Functional Diagram**

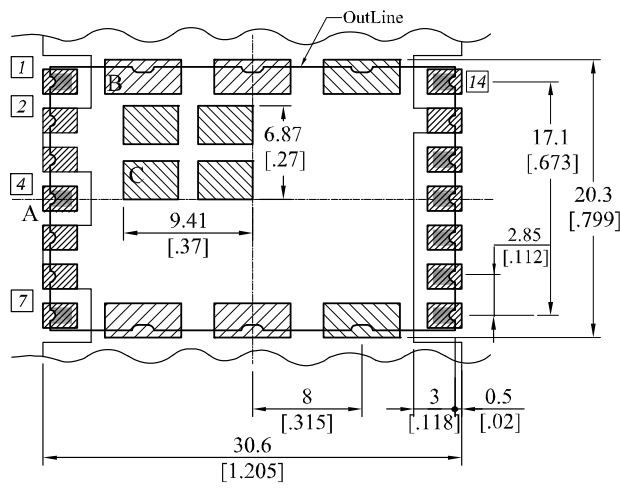


Pacakage Dimensions (Type: HY-5A)

|  |                                    |
|--|------------------------------------|
| Unit : $\frac{\text{mm}}{\text{[inch]}}$ | Tolerance : $\pm \frac{0.2}{.008}$ |
|--|------------------------------------|



Recommended Pattern



| Pin No. | Function | Pin No. | Function |
|---------|----------|---------|----------|
| 1       | Input    | 14      | Output   |
| 2       | Ground   | 13      | Ground   |
| 3       | Ground   | 12      | Lo_Out   |
| 4       | Vcc+5V   | 11      | Fo/LD    |
| 5       | Ground   | 10      | LE       |
| 6       | Ground   | 9       | Data     |
| 7       | Ref in   | 8       | Clock    |

|   | mm        | inch        |
|---|-----------|-------------|
| A | 2.5 x 1.8 | .098 x .071 |
| B | 5.6 x 2.5 | .22 x .098  |
| C | 4 x 2.8   | .157 x .11  |

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