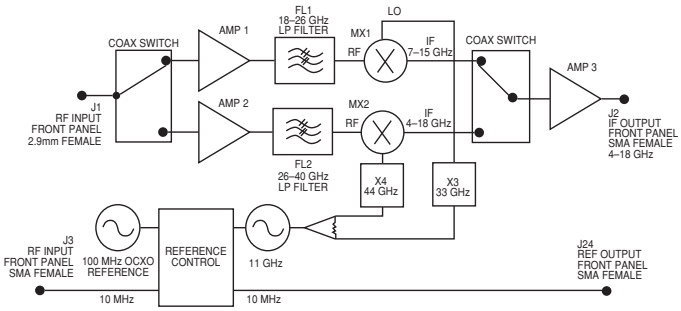
# LOW-NOISE BLOCK DOWNCONVERTER

## MODEL: SYS1840N01R

## FEATURES

- **RF frequency range..... 18 to 40 GHz**
- **Conversion gain ..... 30 dB**
- **Noise figure..... 7 dB**




The SYS1840N01R low-noise, block downconverter is a dual-band downconverter with frequency coverage from 18 to 40 GHz. It is suitable for use as a receiver front-end for wideband systems, or frequency extension modules. An internally generated LO source can be commanded to lock to an internal 10 MHz reference, or to an external 10 MHz reference for phase coherent applications. The internal 10 MHz reference is low phase-noise, ovenized design and is available at a reference output connector. The RF band is selected via an external TTL input, for remote control applications. The unit is integrated into a 3" x 4" x 5.3" cube for ease of integration into an equipment chassis or antenna feed.

## ELECTRICAL SPECIFICATIONS

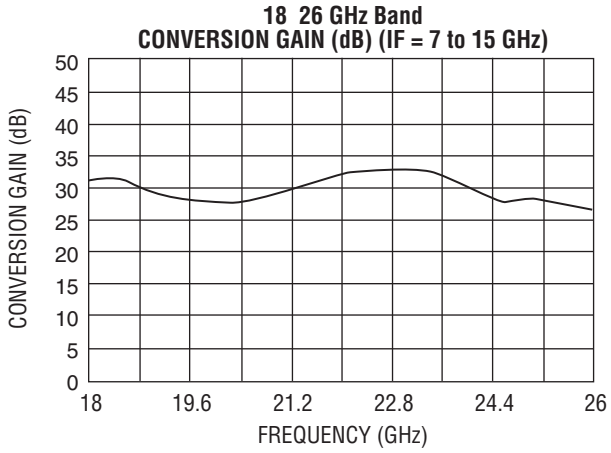
| INPUT PARAMETERS | CONDITION | UNITS | MIN. | TYP. | MAX. |
|---|---|---|---|---|---|
| RF frequency range | Band 1<br>Band 2 | GHz<br>GHz | 18<br>26 | | 26<br>40 |
| RF VSWR | | Ratio | | 2.5:1 | |
| Reference select | External | Volts | | 5 | |
| Reference input | 10 MHz | dBm | +3 | | +11 |
| Power supply voltages | +15 at .8A max.<br>-15 at .06A max.<br>+9 at .8A max. | Volts<br>Volts<br>Volts | 14.5<br>-16<br>8.7 | | 15.5<br>-9<br>10 |
| **TRANSFER CHARACTERISTICS** | **CONDITION** | **UNITS** | **MIN.** | **TYP.** | **MAX.** |
| Conversion gain | | dB | 24 | | 36 |
| Single-sideband noise figure at 25°C | | dB | | 4 | 7 |
| Fundamental LO leakage at IF | 11 GHz | dBm | | -55 | -50 |
| Image rejection | | dB | 40 | | |
| Output power at 1 dB compression | | dBm | +5 | +7 | |
| **OUTPUT PARAMETERS** | **CONDITION** | **UNITS** | **MIN.** | **TYP.** | **MAX.** |
| IF frequency range | Band 1<br>Band 2 | GHz<br>GHz | 7<br>4 | | 15<br>18 |
| IF VSWR | | Ratio | | 2.0 | |
| Reference output | 10 MHz | dBm | | +4 | |

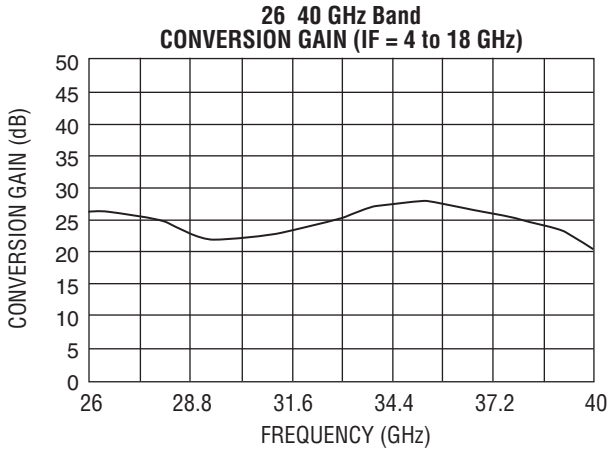


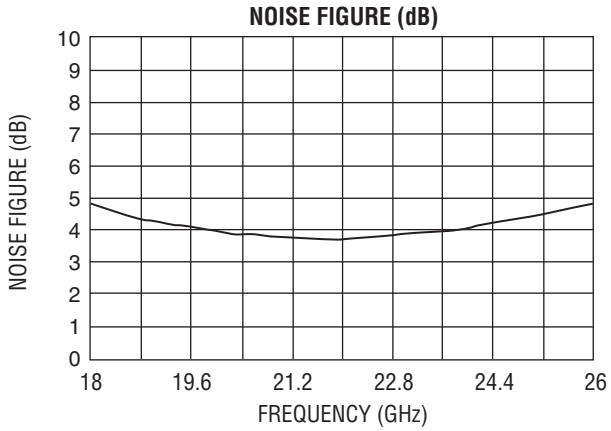


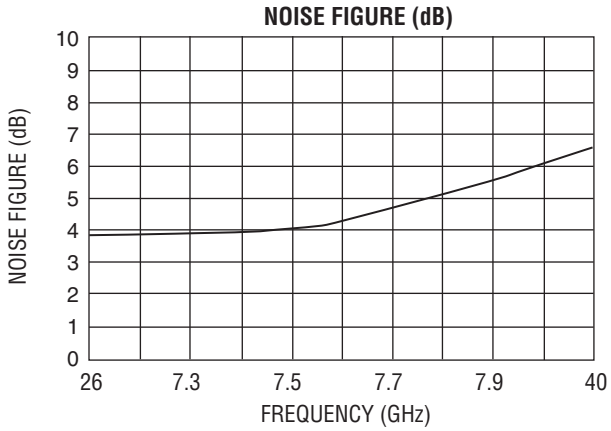
Revised: 05/05/11

# SYS1840N01R TYPICAL TEST DATA



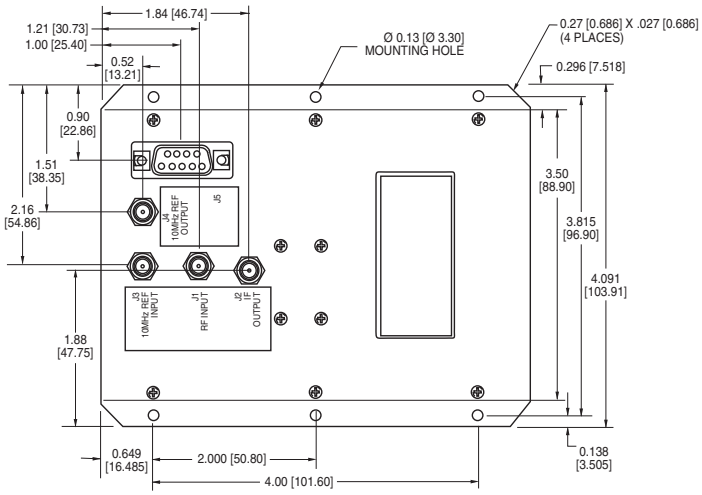



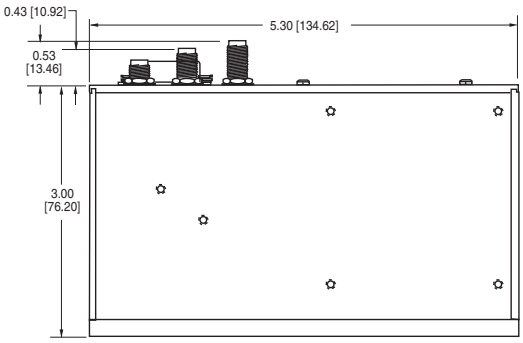

**MAXIMUM RATINGS**

Specification temperature ..... +25°C
Operating temperature ..... -40 to +70°C*
Storage temperature ..... -65 to +125°C
*Unit to be mounted with thermal heatsink attached to base plate.

NOTE: Test data supplied at 25°C; conversion gain, noise figure, image rejection and compression point.

## OUTLINE DRAWING




NOTE: All dimensions shown in brackets [ ] are in millimeters.