

# Low Noise Amplifier

## ZX60-362LN+

50Ω

3300 to 3600 MHz

### Features

- Ultra low noise figure, 0.9 dB typ.
- Output power, up to +10.5 dBm typ.
- Good output IP3, 22 dBm typ.
- Low current consumption, 20mA typ.
- Good return loss
- Unconditionally stable
- Protected by US patent 6,790,049

### Applications

- WiMAX
- Defence system radar
- Base transceiver station, tower mounted amplifier, repeater
- General purpose low noise amplifier
- Lab
- Instrumentation
- Test equipment



Case Style: GA955

| Connectors | Model         | Price       | Qty.  |
|------------|---------------|-------------|-------|
| SMA        | ZX60-362LN-S+ | \$44.95 ea. | (1-9) |

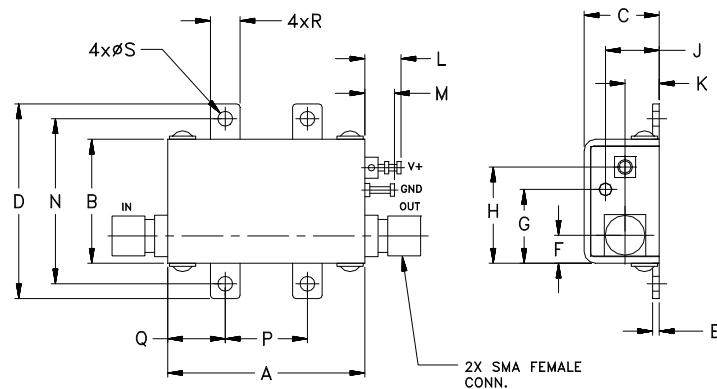
+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### Electrical Specifications at 25°C

| Parameter                          | Condition (MHz) | Min. | Typ.  | Max.  | Units |
|------------------------------------|-----------------|------|-------|-------|-------|
| Frequency Range                    |                 | 3300 |       | 3600  | MHz   |
| Noise Figure                       | 3300-3600       |      | 0.9   | 1.2   | dB    |
| Gain                               | 3300-3600       | 9.0  | 11.5  |       | dB    |
| Gain Flatness                      | 3300-3600       |      | ± 0.5 | ± 1.0 | dB    |
| Output Power at 1dB compression    | 3300-3600       | 8.5  | 10.5  |       | dBm   |
| Output third order intercept point | 3300-3600       |      | 22    |       | dBm   |
| Input VSWR                         | 3300-3600       |      | 1.4   |       | :1    |
| Output VSWR                        | 3300-3600       |      | 1.4   |       | :1    |
| Active Directivity                 | 3300-3600       |      | 8     |       | dB    |
| DC Supply Voltage                  |                 |      | 5     |       | V     |
| Supply Current                     |                 |      | 20    | 30    | mA    |

### Outline Drawing



### Maximum Ratings

| Parameter                  | Ratings            |
|----------------------------|--------------------|
| Operating Temperature      | -40°C to 85°C Case |
| Storage Temperature        | -55°C to 100°C     |
| DC Voltage                 | 5.5 V              |
| Input RF Power (no damage) | 0 dBm              |
| Power Consumption          | 165 mW             |

Permanent damage may occur if any of these limits are exceeded.

### Outline Dimensions (inch mm)

| A     | B     | C     | D     | E    | F    | G     | H     | J    | K    | L    | M    | N     | P     | Q    | R    | S    | wt.   |
|-------|-------|-------|-------|------|------|-------|-------|------|------|------|------|-------|-------|------|------|------|-------|
| 1.20  | .75   | .46   | 1.18  | .04  | .17  | .45   | .59   | .33  | .21  | .22  | .18  | 1.00  | .50   | .35  | .18  | .106 | grams |
| 30.48 | 19.05 | 11.68 | 29.97 | 1.02 | 4.32 | 11.43 | 14.99 | 8.38 | 5.33 | 5.59 | 4.57 | 25.40 | 12.70 | 8.89 | 4.57 | 2.69 | 35.0  |



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IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

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REV. OR  
M120783  
EDR-9575/2  
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RAV  
121022  
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| FREQUENCY<br>(MHz) | GAIN<br>(dB) | DIRECTIVITY<br>(dB) | VSWR<br>IN<br>(:1) | VSWR<br>OUT<br>(:1) | POWER OUT @ 1dB<br>COMPRESSION<br>(dBm) | OUTPUT<br>IP3<br>(dBm) | NF<br>(dB) |
|--------------------|--------------|---------------------|--------------------|---------------------|-----------------------------------------|------------------------|------------|
| 3300.00            | 12.13        | 7.87                | 1.20               | 1.35                | 10.37                                   | 23.09                  | 0.88       |
| 3320.00            | 12.06        | 7.93                | 1.23               | 1.36                | 10.51                                   | 22.80                  | 0.86       |
| 3340.00            | 11.98        | 7.98                | 1.26               | 1.37                | 10.64                                   | 22.23                  | 0.86       |
| 3360.00            | 11.91        | 8.03                | 1.28               | 1.38                | 10.63                                   | 22.50                  | 0.90       |
| 3380.00            | 11.83        | 8.11                | 1.31               | 1.39                | 10.49                                   | 22.42                  | 0.84       |
| 3400.00            | 11.76        | 8.15                | 1.34               | 1.39                | 10.42                                   | 22.16                  | 0.85       |
| 3415.00            | 11.70        | 8.21                | 1.36               | 1.40                | 10.49                                   | 21.86                  | 0.82       |
| 3420.00            | 11.68        | 8.24                | 1.36               | 1.40                | 10.52                                   | 22.34                  | 0.79       |
| 3440.00            | 11.60        | 8.31                | 1.39               | 1.40                | 10.58                                   | 23.13                  | 0.79       |
| 3450.00            | 11.56        | 8.34                | 1.40               | 1.40                | 10.54                                   | 22.23                  | 0.81       |
| 3460.00            | 11.53        | 8.35                | 1.41               | 1.41                | 10.50                                   | 22.32                  | 0.87       |
| 3470.00            | 11.48        | 8.37                | 1.43               | 1.41                | 10.43                                   | 22.17                  | 0.88       |
| 3480.00            | 11.45        | 8.40                | 1.44               | 1.41                | 10.35                                   | 22.36                  | 0.84       |
| 3500.00            | 11.37        | 8.50                | 1.46               | 1.41                | 10.34                                   | 22.44                  | 0.85       |
| 3515.00            | 11.32        | 8.54                | 1.48               | 1.41                | 10.43                                   | 21.87                  | 0.89       |
| 3520.00            | 11.30        | 8.53                | 1.49               | 1.42                | 10.45                                   | 21.97                  | 0.88       |
| 3540.00            | 11.22        | 8.59                | 1.51               | 1.42                | 10.55                                   | 23.11                  | 0.84       |
| 3560.00            | 11.15        | 8.65                | 1.53               | 1.42                | 10.57                                   | 22.52                  | 0.81       |
| 3580.00            | 11.07        | 8.73                | 1.56               | 1.42                | 10.50                                   | 22.36                  | 0.86       |
| 3600.00            | 11.01        | 8.76                | 1.58               | 1.43                | 10.43                                   | 22.77                  | 0.74       |

