

# Coaxial Amplifier

50Ω Medium High Power 10 to 4200 MHz

## ZHL-1042J+

### Features

- wideband, 10 to 4200 MHz
- high IP3, +35 dBm typ.
- low noise, 6 dB min.

### Applications

- communication systems
- laboratory



ZHL-1042JX+



ZHL-1042J+

CASE STYLE: NN92

| Connectors | Model       |
|------------|-------------|
| SMA        | ZHL-1042J+  |
| SMA        | ZHL-1042JX+ |

#### +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) | ZHL-1042J+<br>▲ZHL-1042JX+ |      |       | Units |
|------------------------------------|-----------------|----------------------------|------|-------|-------|
|                                    |                 | Min.                       | Typ. | Max.  |       |
| Frequency Range                    |                 | 10                         | —    | 4200  | MHz   |
| Gain                               | 10-4200         | 24                         | 27   | 32    | dB    |
| Gain Flatness                      | 10-4200         | —                          | ±1.2 | ±1.7  | dB    |
| Output Power at 1dB compression    | 10-4200         | +20                        | +22  | —     | dBm   |
| Output Power at 3dB compression    | 10-4200         | +21                        | +23  | —     | dBm   |
| Noise Figure                       | 10-4200         | —                          | 6.0  | —     | dB    |
| Output third order intercept point | 10-4200         | —                          | +35  | —     | dBm   |
| Input VSWR                         | 10-4200         | —                          | —    | 2.5   | :1    |
| Output VSWR                        | 10-4200         | —                          | —    | 2.5   | :1    |
| DC Supply Voltage                  |                 | —                          | 15   | —     | V     |
| Supply Current                     |                 | —                          | —    | 0.330 | A     |

Open load is not recommended, potentially can cause damage.  
With no load derate max. input power by 20 dB.

▲Heat sink not included. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 65°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 2.2°C/W max.

### Maximum Ratings

| Parameter                  | Ratings        |
|----------------------------|----------------|
| Operating Temperature      | -20°C to 65°C  |
| Storage Temperature        | -55°C to 100°C |
| DC Voltage                 | +20V           |
| Input RF Power (no damage) | +10 dBm        |

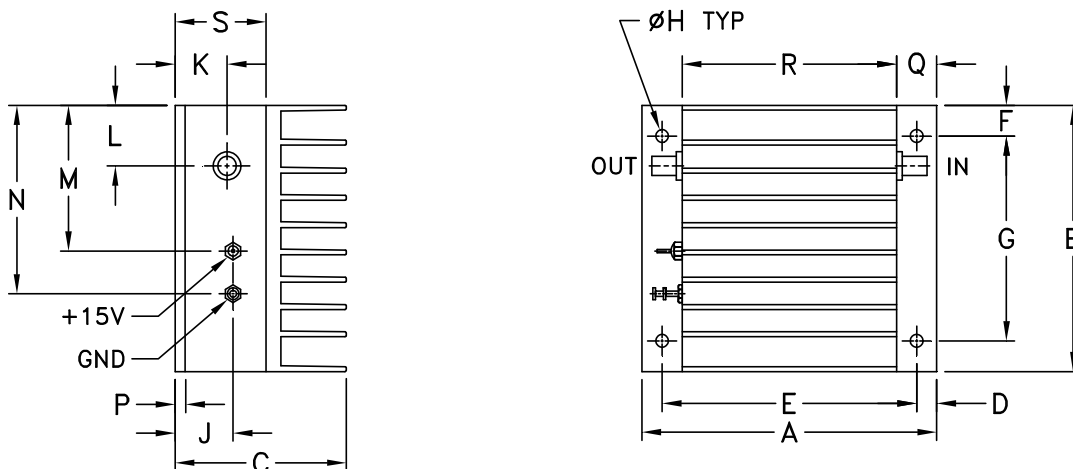
Permanent damage may occur if any of these limits are exceeded.

#### Notes

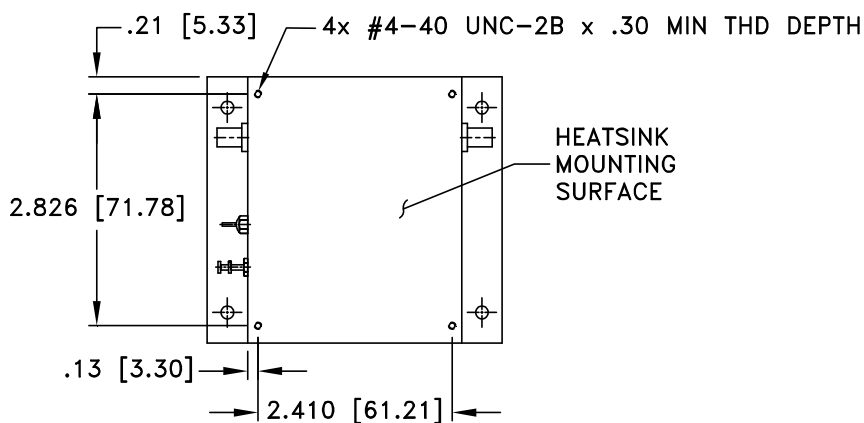
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## Outline Drawing for models with heatsink



## MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



## Outline Dimensions (inch mm)

| A     | B     | C     | D    | E     | F    | G     | H    | J     | K     | L     | M     | N     | P    | Q     | R     | S    | wt     |
|-------|-------|-------|------|-------|------|-------|------|-------|-------|-------|-------|-------|------|-------|-------|------|--------|
| 3.66  | 3.25  | 2.13  | .25  | 3.16  | .38  | 2.50  | .156 | .72   | .64   | .74   | 1.78  | 2.30  | .125 | .50   | 2.66  | 1.13 | grams* |
| 92.96 | 82.55 | 54.10 | 6.35 | 80.26 | 9.65 | 63.50 | 3.96 | 18.29 | 16.26 | 18.80 | 45.21 | 58.42 | 3.18 | 12.70 | 67.56 | 28.7 | 500.0  |

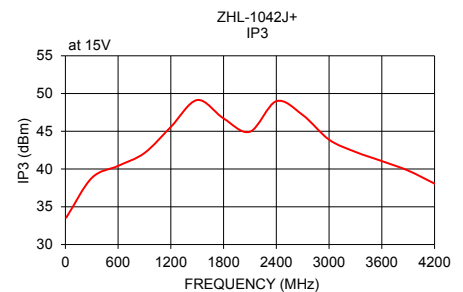
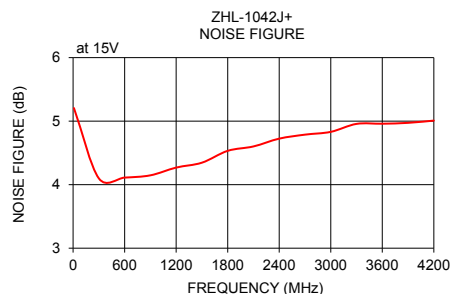
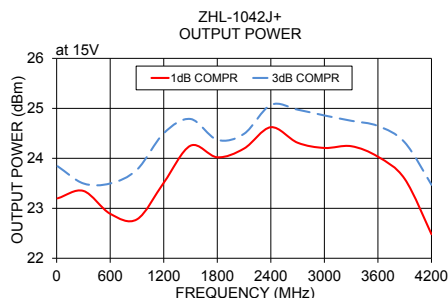
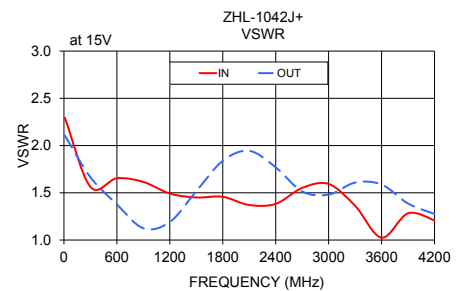
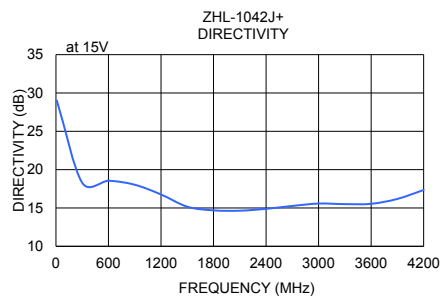
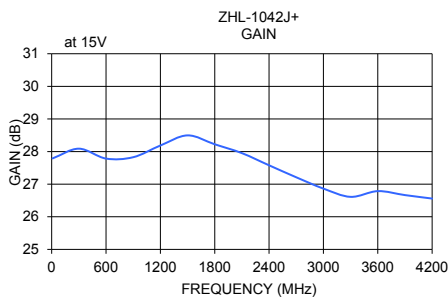
\*362 grams without heatsink

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| FREQUENCY<br>(MHz) | GAIN<br>(dB) | DIRECTIVITY<br>(dB) | VSWR<br>(:1) |      | POUT at<br>1 dB COMPR.<br>(dBm) | NOISE<br>FIGURE<br>(dB) | IP3<br>(dBm) |
|--------------------|--------------|---------------------|--------------|------|---------------------------------|-------------------------|--------------|
|                    | 15V          | 15V                 | IN           | OUT  | 15V                             | 15V                     | 15V          |
| 10                 | 27.79        | 29.01               | 2.29         | 2.11 | 23.20                           | 5.21                    | 33.56        |
| 300                | 28.09        | 18.28               | 1.56         | 1.67 | 23.35                           | 4.10                    | 38.81        |
| 600                | 27.78        | 18.55               | 1.65         | 1.38 | 22.89                           | 4.11                    | 40.42        |
| 900                | 27.83        | 18.03               | 1.62         | 1.12 | 22.78                           | 4.15                    | 42.12        |
| 1200               | 28.19        | 16.76               | 1.49         | 1.19 | 23.51                           | 4.27                    | 45.58        |
| 1500               | 28.50        | 15.16               | 1.45         | 1.52 | 24.25                           | 4.35                    | 49.14        |
| 1800               | 28.22        | 14.69               | 1.46         | 1.84 | 24.02                           | 4.53                    | 46.70        |
| 2100               | 27.95        | 14.64               | 1.37         | 1.94 | 24.20                           | 4.60                    | 44.94        |
| 2400               | 27.58        | 14.89               | 1.38         | 1.77 | 24.62                           | 4.72                    | 48.99        |
| 2700               | 27.21        | 15.26               | 1.55         | 1.51 | 24.31                           | 4.79                    | 47.16        |
| 3000               | 26.86        | 15.57               | 1.59         | 1.48 | 24.21                           | 4.83                    | 43.89        |
| 3300               | 26.61        | 15.50               | 1.36         | 1.61 | 24.24                           | 4.96                    | 42.27        |
| 3600               | 26.79        | 15.54               | 1.03         | 1.59 | 24.03                           | 4.96                    | 41.05        |
| 3900               | 26.67        | 16.18               | 1.28         | 1.39 | 23.59                           | 4.97                    | 39.79        |
| 4200               | 26.56        | 17.35               | 1.21         | 1.28 | 22.48                           | 5.01                    | 38.07        |



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