

## MAIN FEATURES

- ❖ Very low noise
- ❖ High reliability
- ❖ Weather-proof housing
- ❖ Compact size



## DESCRIPTION

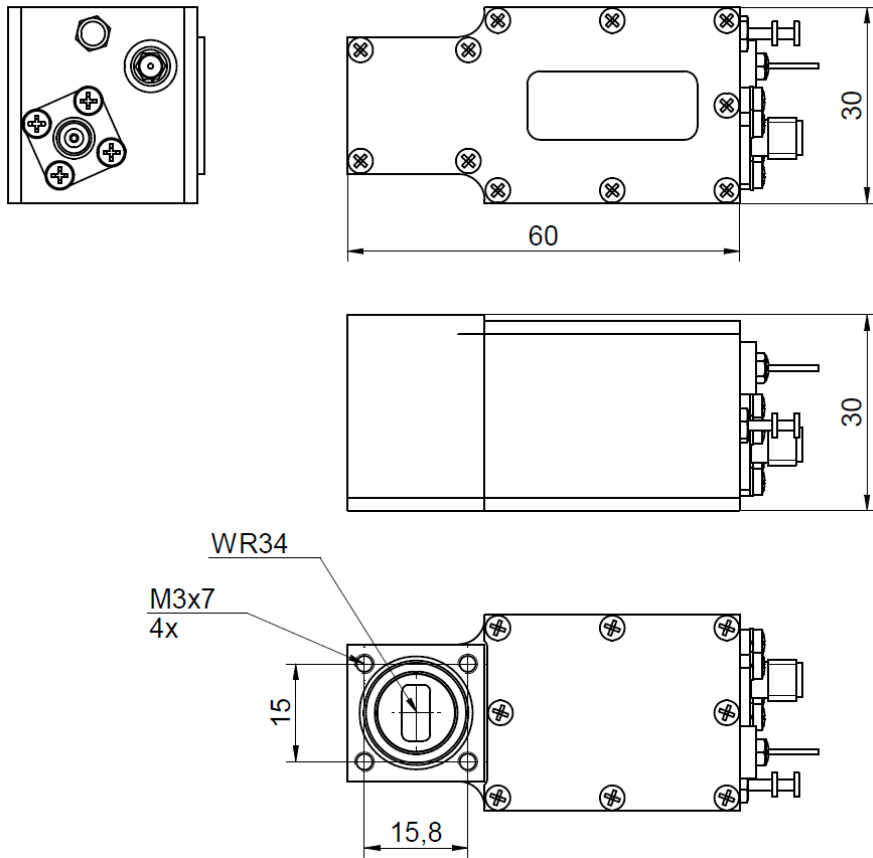
This Ka-band low noise amplifier is intended for use in modern solid state communications equipment, where high reliability microwave signal amplification and high dynamic range are important factors. Typical applications are in satellite ground station systems. Due to the weather-proof sealing, it can be used effectively in harsh environmental conditions.

## SPECIFICATIONS

| ELECTRICAL PARAMETERS                           |   |
|---|---|
| Frequency band                                  | 25.5 – 27 GHz   |
| Linear gain                                     | 40 dB min. @ room temperature   |
| Gain flatness                                   | 2 dB pk-pk in full band<br>1.2 dB pk-pk in any 500 MHz<br>0.25 dB pk-pk in any 40 MHz |
| Gain stability @ constant temperature           | 0.4 dB pk-pk / 24 hours   |
| Gain variation over operating temperature range | 3dB pk-pk max.  |
| Input noise temperature (noise figure)          | 160 K (1.9 dB) @ room temperature   |
| 1 dB compression                                | +10 dBm min.  |
| Output 3 <sup>rd</sup> order intercept point    | +20 dBm min.  |
| Maximum input power (damage level)              | +5 dBm (in operational frequency band)  |
| Input VSWR                                      | 1.6 : 1 max.  |
| Oupput VSWR                                     | 1.6 : 1 max.  |
| Group delay in full band                        | 0.5 ns pk-pk max.   |
| Group delay in any 40 MHz                       | Linear: 0.02 ns/MHz<br>Parabolic: 0.001 ns/MHz <sup>2</sup><br>Ripple: 0.1 ns         |
| Power supply voltage                            | +8 ... +30 VDC  |
| Power consumption                               | 66 mA typ. @ +12 VDC  |
| MECHANICAL PARAMETERS                           |   |
| RF input interface                              | WR34, UBR260 flange   |
| RF output interface                             | 2.92mm-Female (K) type coaxial  |
| DC & control interface                          | Solderable pin  |
| Weight  | 100 g   |
| Dimensions                                      | 30 x 30 x 60 mm (see outline dimensions)  |
| ENVIRONMENTAL PARAMETERS                        |   |
| Operating temperature range                     | 0°C ... +50°C<br>-20°C ... +60°C (option)   |
| Degree of protection                            | IP67 Outdoor  |

Specifications are subject to change without notice.

**OUTLINE DRAWING (mm)**

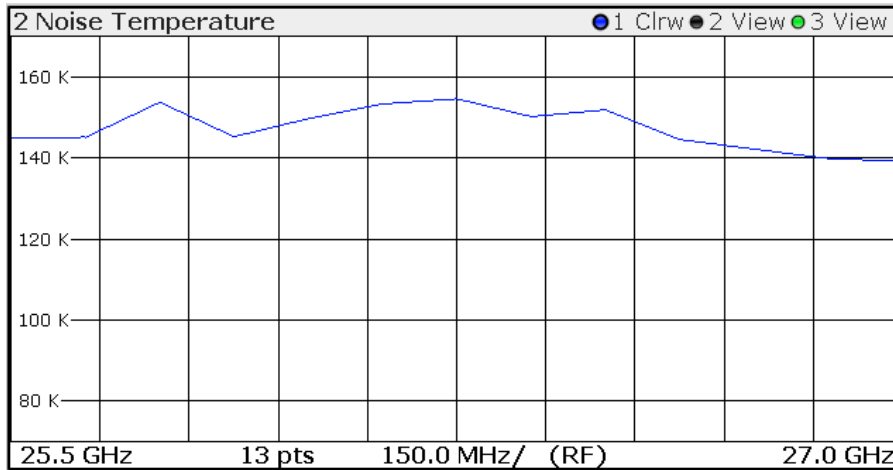




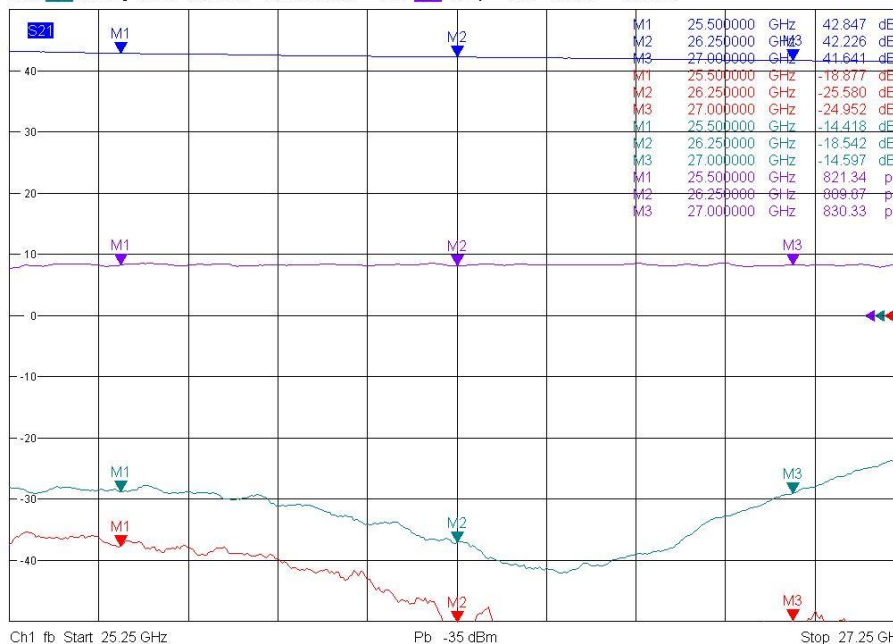
# BLKW13 Ka-band Low Noise Amplifier

## TYPICAL TEST DATA (NF & SMALL SIGNAL PARAMETERS)

| 4 Result Table [T1] |         |          |          |
|---------------------|---------|----------|----------|
| RF                  | Noise   | Temp     | Gain     |
| 25.500 GHz          | 1.76 dB | 144.89 K | 43.50 dB |
| 25.625 GHz          | 1.76 dB | 145.10 K | 43.49 dB |
| 25.750 GHz          | 1.85 dB | 153.74 K | 43.08 dB |
| 25.875 GHz          | 1.76 dB | 145.24 K | 42.10 dB |
| 26.000 GHz          | 1.81 dB | 149.68 K | 42.08 dB |
| 26.125 GHz          | 1.84 dB | 153.30 K | 38.84 dB |
| 26.250 GHz          | 1.86 dB | 154.54 K | 39.49 dB |
| 26.375 GHz          | 1.81 dB | 150.18 K | 40.84 dB |
| 26.500 GHz          | 1.83 dB | 151.85 K | 42.41 dB |
| 26.625 GHz          | 1.76 dB | 144.52 K | 41.97 dB |
| 26.750 GHz          | 1.73 dB | 142.14 K | 43.78 dB |
| 26.875 GHz          | 1.71 dB | 139.83 K | 42.25 dB |
| 27.000 GHz          | 1.70 dB | 139.13 K | 43.54 dB |



Trc1 S21 dB Mag 10 dB / Ref 0 dB Cal Math Smo Trc2 S22 dB Mag 5 dB / Ref 0 dB Cal Math Smo 1  
Trc3 S11 dB Mag 5 dB / Ref 0 dB Cal Math Smo Trc4 S21 Delay 1 ns / Ref 0 s Cal Smo





## BLKW13 Ka-band Low Noise Amplifier

### ORDERING INFORMATION

| MODEL NUMBER | DESCRIPTION                                    |
|--------------|--|
| BLKW13K11265 | BLKW13 Ka-band 25.5-27 GHz low noise amplifier |

### DOCUMENT REVISION

| DOCUMENT NAME    | REVISION | DATE       |
|------------------|----------|------------|
| BLKW13-LM-K11265 | V03      | 2023-05-10 |

