Released

Lower Ku-band 4W BUC

RF Frequency: 12.75 to 13.25 GHz

Model No. NJT8316L

RF Frequency : 12.75 to 13.25 GHz
LO Frequency : 11.80 GHz
IF Frequency : 950 to 1,450 MHz
Output Power @ 1dB G.C.P. :
+36.0 dBm (4W)
IF / Ref. (10MHz) Input :
N-type / F-type, Female Connector
DC Power Input: IF Connector

Specifications
Rev.01 February 18, 2019

Caution

1. NJRC strives to produce reliable and high quality microwave components. NJRC's microwave components are intended for specific applications and require proper maintenance and handling. To enhance the performance and service of NJRC's microwave components, the devices, machinery or equipment into which they are integrated should undergo preventative maintenance and inspection at regularly scheduled intervals. Failure to properly maintain equipment and machinery incorporating these products can result in catastrophic system failures.

2. To ensure the highest levels of reliability, NJRC products must always be properly handled. The introduction of external contaminants (e.g. dust, oil or cosmetics) can result in failures of microwave components.

3. NJRC offers a variety of microwave components intended for particular applications. It is important that you select the proper component for your intended application. You may contact NJRC's sales office or sales representatives, if you are uncertain about the products listed in the catalog and the specification sheets.

4. Special care is required in designing devices, machinery or equipment, which demand high levels of reliability. This is particularly important when designing critical components or systems whose foreseeable failure can result in situations that could adversely affect health or safety. In designing such critical devices, equipment or machinery, careful consideration should be given to, amongst other things, their safety design, fail-safe design, back-up and redundancy systems, and diffusion design.

5. The products listed in the catalog and specification sheets may not be appropriate for use in certain equipment where reliability is critical or where the products may be subjected to extreme conditions. You should consult our sales office or sales representatives before using the products in any of the following types of equipment.
   * Aerospace Equipment
   * Equipment Used in the Deep Sea
   * Power Generator Control Equipment (nuclear, steam, hydraulic)
   * Life Maintenance Medical Equipment
   * Fire Alarm/Intruder Detector
   * Vehicle Control Equipment (automobile, airplane, railroad, ship, etc.)
   * Various Safety Equipment

6. NJRC's products have been designed and tested to function within controlled environmental conditions. Do not use products under conditions that deviate from methods or applications specified in the catalog and specification sheets. Failure to employ NJRC's products in the proper applications can lead to deterioration, destruction or failure of the products. NJRC shall not be responsible for any bodily injury, fires or accidents, property damage or any consequential damages resulting from the misuse or misapplication of its products. PRODUCTS ARE SOLD WITHOUT WARRANTY OF ANY OF KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

7. The product specifications and descriptions listed in the catalog and specification sheets are subject to change at any time, without notice.

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1. Electrical Specifications

#	Items	Specifications
1-1.	Output Frequency Range	12.75 to 13.25 GHz
1-2.	Input Frequency Range	950 to 1,450 MHz
1-3.	Maximum IF Input Level (without damage)	+13 dBm max.
1-4.	Conversion Type	Single, fixed L.O.
1-5.	L.O. Frequency	11.80 GHz
1-6.	Frequency Sense	Positive
1-7.	Output Power @ 1dB G.C.P. (P1dB)	+36.0 dBm min. over temperature
1-8.	Linear Gain	62 dB nom., 56 dB min.
1-9.	Gain Variation over frequency @ fixed temperature	5 dBp-p max. over 500 MHz 2 dBp-p max. over 54 MHz
1-10.	Gain Stability over temperature @ fixed frequency	5 dBp-p max. 2 dBp-p typ.
1-11.	ACPR	-26 dBc min. @ Pout = +35 dBm
1-12.	Requirement for External Reference [Frequency] [Input Power] [Phase Noise]	 10 MHz (sine-wave) -5 to +5 dBm @ Input port -125 dBc/Hz max. @ 100 Hz -135 dBc/Hz max. @ 1 kHz -140 dBc/Hz max. @ 10 kHz
1-13.	L.O. Phase Noise	-60 dBc/Hz max. @ 100 Hz -70 dBc/Hz max. @ 1 kHz -80 dBc/Hz max. @ 10 kHz -90 dBc/Hz max. @ 100 kHz -100 dBc/Hz max. @ 1MHz
1-14.	Spurious @ P1dB Output [in band] [in receive band] [Out-of-band]	 -50 dBc max. @ RF Frequency -70 dBm max. @ 10.70 to 11.45 GHz -50 dBc max.
1-15.	Receive Band Noise Density	-156 dBm/Hz max. @10.70 to 11.45 GHz
1-16.	Noise Figure	18 dB nom., 23 dB max.
1-17.	Input Impedance	
	<N-type Model>	50 ohms nom.
	<F-type Model>	75 ohms nom.
1-18.	Input V.S.W.R.	2 : 1 max.
1-19.	Output V.S.W.R.	2 : 1 max.
1-20.	Output Load VSWR for Non Damage	Infinite : 1
1-21.	DC Power Requirement [Voltage Range] [Power Consumption]	 +24 VDC (+12 to +30 VDC) 28 W typ., 32 W max. @ Pout = +36 dBm 20 W max. @ No IF, +25 C 2 W max. @ 10 MHz reference off (Mute on)
1-22.	Mute	Shut off the HPA in case of L.O. unlocked or no 10 MHz reference signal.

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2. Mechanical Specifications

#	Items	Specifications
2-1.	Input Interface	IF / Ref. / DC Input: N-type female connector, 50 ohms F-type female connector, 75 ohms
2-2.	Output Interface	Waveguide, WR-75 (with Groove)
2-3.	Dimension & Housing	98 (L) × 98 (W) × 42.5 (H) mm [3.86” (L) x 3.86” (W) x 1.67” (H)] without interface connectors and screws
2-4.	Weight	500 g max. [1.1 lbs max.]

3. Environmental Specifications

#	Items	Specifications
3-1.	Temperature Range (ambient) [Operating] [Storage]	 -40 to +60 ºC *1 -40 to +75 ºC
3-2	Humidity	0 to 100 %
3-3.	Altitude	15,000 feet (4,572 m)
3-4.	Vibration	5 G [49.03 m/s^2] (3 axis, 50 Hz to 2 kHz) 1 mm p-p (3 axis, 5 to 50 Hz)
3-5.	Shock	30 G [294.20 m/s^2] (3 axis)
3-6	Waterproof / Dustproof (IP Code)	IP 67
3-7.	Regulations	EU Directive (CE Marking) EMC (2014/30/EU) RoHS (2011/65/EU) Safety: EN62368-1
3-8.	Comply with RoHS (Restricting the use of Hazardous Substances) directives	

*1: Conditioned on connection with waveguide.

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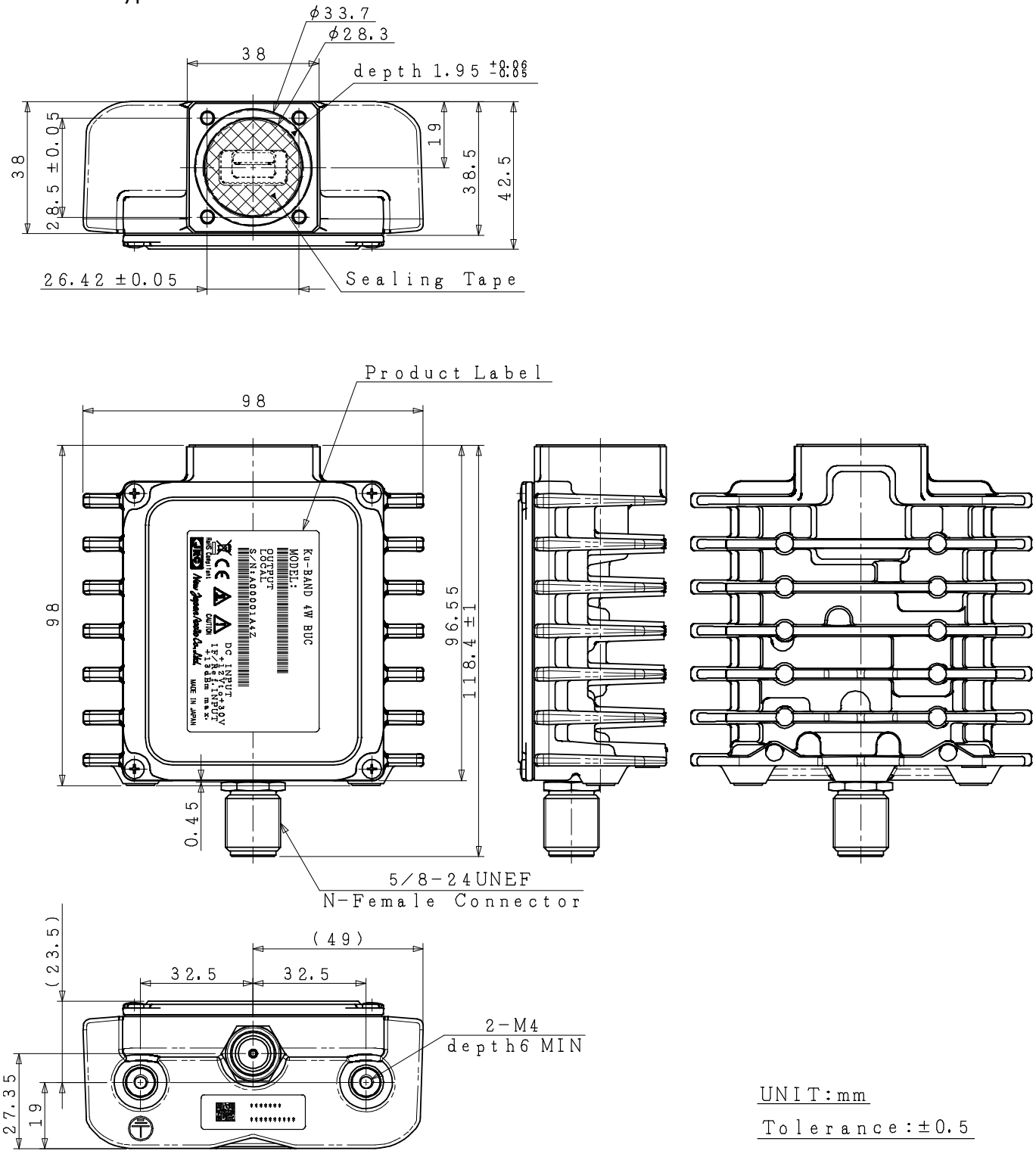
4. Outline Drawing

- N-type Model : NJT8316LN



Caution: *<u>DO NOT</u> remove the sealing tape on the waveguide. If the sealing tape is removed, it may lose the performance of waterproof.*

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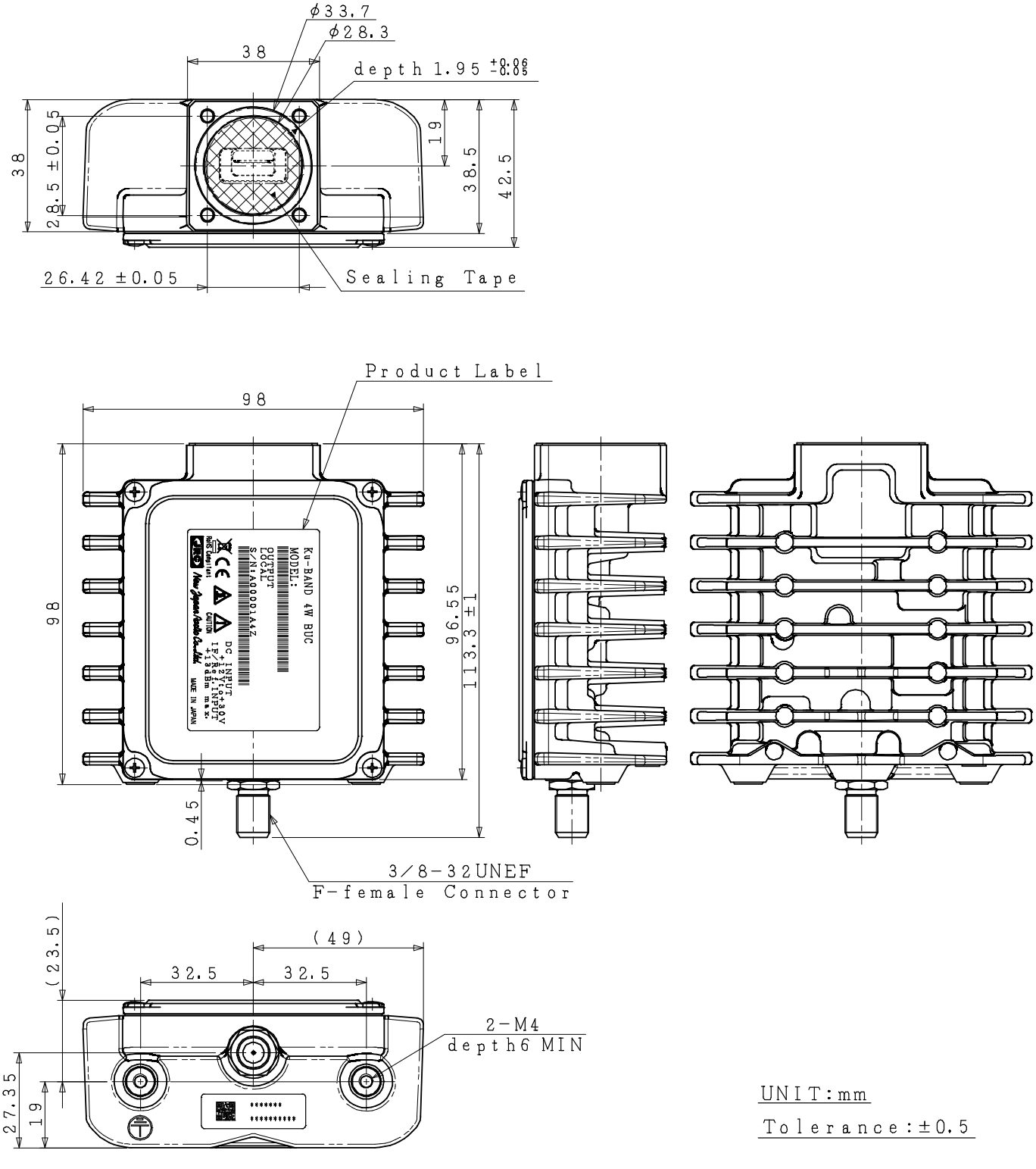
- F-type Model : NJT8316LF



Caution: *<u>DO NOT</u> remove the sealing tape on the waveguide. If the sealing tape is removed, it may lose the performance of waterproof.*

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