

Ku-band 6W BUC

RF Frequency:

13.75 to 14.5 GHz and 14.0 to 14.5 GHz

Model No. NJT8306 series

RF Frequency : 14.0 to 14.5 GHz / 13.75 to 14.5 GHz
LO Frequency : 13.05 GHz / 12.80 GHz
IF Frequency : 950 to 1,450 MHz / 950 to 1,700 MHz
Output Power @ 1dB G.C.P. :
+37.8 dBm (6W)
IF / Ref. (10MHz) Input :
N-type / F-type, Female Connector
DC Power Input : IF Connector

Specifications

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**New Japan Radio Co., Ltd.
Microwave Components Division**

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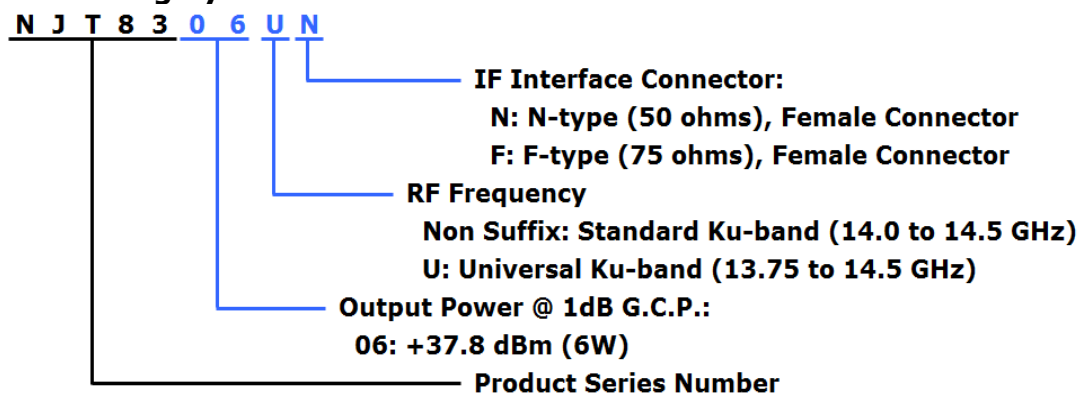
Caution

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
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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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Model Number

● Numbering System



● Line-up

Model No.	RF Frequency	Local Frequency	IF Frequency	Output Power @ P1dB	IF Connector	Power Supply
NJT8306N	14.0 to 14.5GHz (Standard Ku-band)	13.05 GHz	950 to	6W Linear (+37.8dBm min.)	N-type	+12 to +30 V DC Power
NJT8306F			1,450 MHz		F-type	
NJT8306UN	13.75 to 14.5GHz (Universal Ku-band)	12.80 GHz	950 to		N-type	
NJT8306UF			1,700 MHz		F-type	

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1. Electrical Specifications

1-1.	Output Frequency Range <Universal Ku-band> <Standard Ku-band>	13.75 to 14.5 GHz 14.0 to 14.5 GHz
1-2.	Input Frequency Range <Universal Ku-band> <Standard Ku-band>	950 to 1,700 MHz 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 <Universal Ku-band> <Standard Ku-band>	12.80 GHz 13.05 GHz
1-6.	Frequency Sense	Positive
1-7.	Output Power @ 1dB G.C.P. (P1dB)	+37.8 dBm min. over temperature
1-8.	Linear Gain	62 dB nom., 56 dB min.
1-9.	Gain Variation over frequency @ fixed temperature <Universal Ku-band> <Standard Ku-band>	5 dBp-p max. over 750 MHz 2 dBp-p max. over 54 MHz 5 dBp-p max. over 500 MHz 2 dBp-p max. over 54 MHz
1-10.	Gain Stability over temperature @ fixed frequency	4 dBp-p max. 2 dBp-p typ.
1-11.	ACPR	-30 dBc typ., -24 dBc min. @ Pout = +37.8 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. @ 10.95 to 12.75 GHz -50 dBc max.
1-15.	Receive Band Noise Density <Universal Ku-band> <Standard Ku-band>	Tx: 14.0 to 14.5 GHz -156 dBm/Hz max. @10.95 to 12.75 GHz Tx: 13.75 to 14.0 GHz -156 dBm/Hz max. @10.95 to 12.25 GHz -125 dBm/Hz max. @12.25 to 12.75 GHz Tx: 14.0 to 14.5GHz -156 dBm/Hz max. @ 10.95 to 12.75 GHz

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1-16.	Noise Figure	23 dB max.
1-17.	Input Impedance <N-type Model> <F-type Model>	50 ohms nom. 75 ohms nom.
1-18.	Input V.S.W.R.	2 : 1 max.
1-19.	Output Load V.S.W.R. [Recommendation] [Non Damage]	1.3 : 1 max. 3 : 1 max.
1-20.	DC Power Requirement [Voltage Range] [Power Consumption]	+24 VDC (+12 to +30 VDC) 35 W typ. @ No IF signal 40 W typ., 48 W max. @ Pout = +37.8 dBm 3 W max. @ 10 MHz reference off (Mute on)
1-21.	Mute	Shut off the HPA in case of L.O. unlocked or no 10 MHz reference signal.
1-22.	LED Indicator	GREEN: L.O. locked RED: L.O. unlocked (or no 10 MHz reference signal)

2. Mechanical Specifications

2-1.	Input Interface <N-type Model> <F-type Model>	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	174.9 (L) × 84 (W) × 59.2 (H) mm [6.89" (L) × 3.31" (W) × 2.33" (H)] without interface connectors and screws
2-4.	Weight	1.2 kg max. [2.6 lbs max.]

3. Environmental Specifications

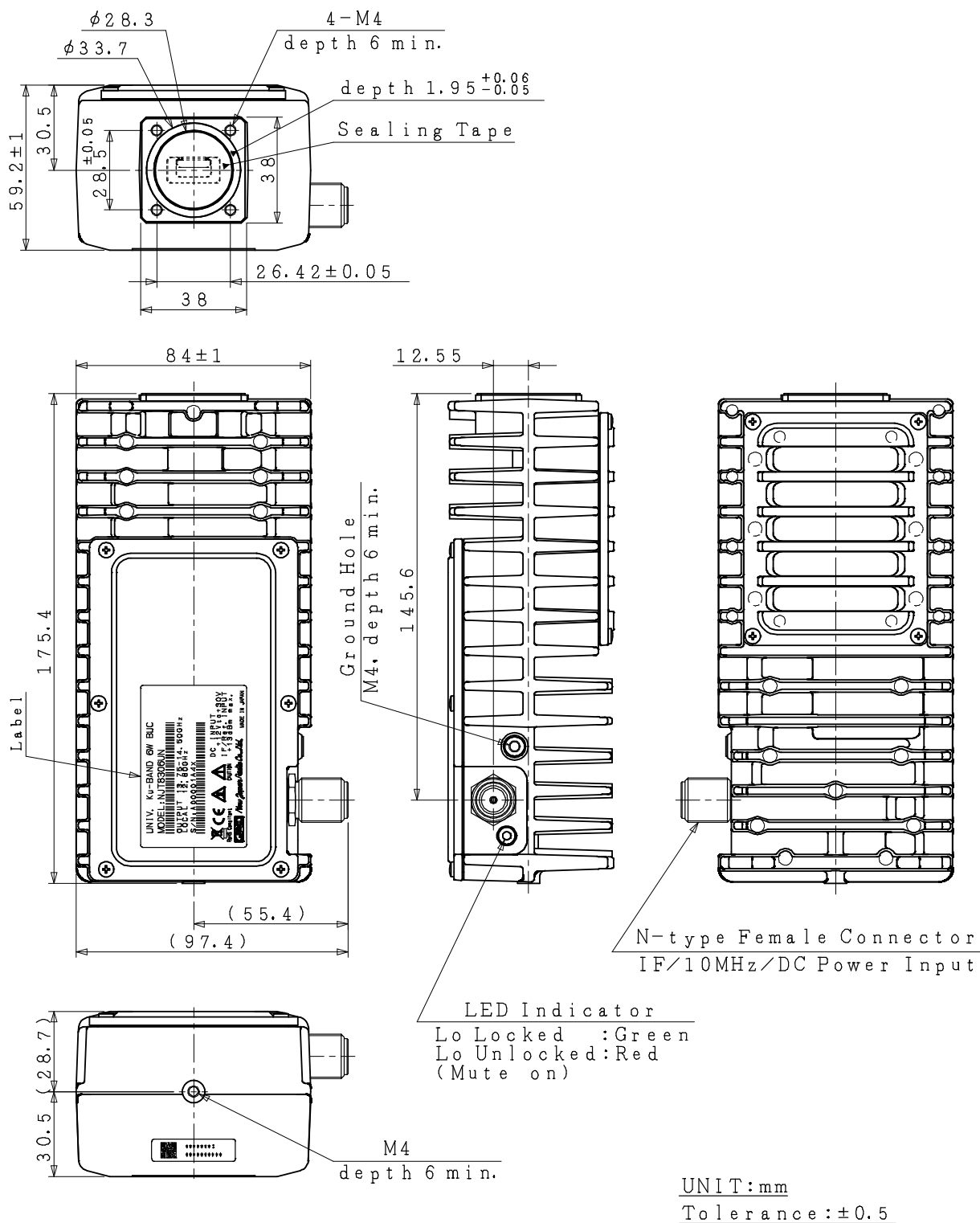
3-1.	Temperature Range (ambient) [Operating] [Storage]	Operation Guarantee: -40 to +65 °C Performance Guarantee: -40 to +60 °C -40 to +75 °C
3-2.	Humidity	0 to 100 %
3-3.	Altitude	15,000 feet (4,572 m)
3-4.	Vibration	5 G [49.03 m/s ²] (3 axis, 50 Hz to 2 kHz) 1 mm p-p (3 axis, 5 to 50 Hz)
3-5.	Shock	30 G [294.20 m/s ²] (3 axis)
3-6.	Waterproof / Dustproof (IP Code)	IP 67 *1
3-7.	Regulations	EU Directive (CE Marking) EMC (2014/30/EU) RoHS (2011/65/EU) Safety: EN60950-1
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

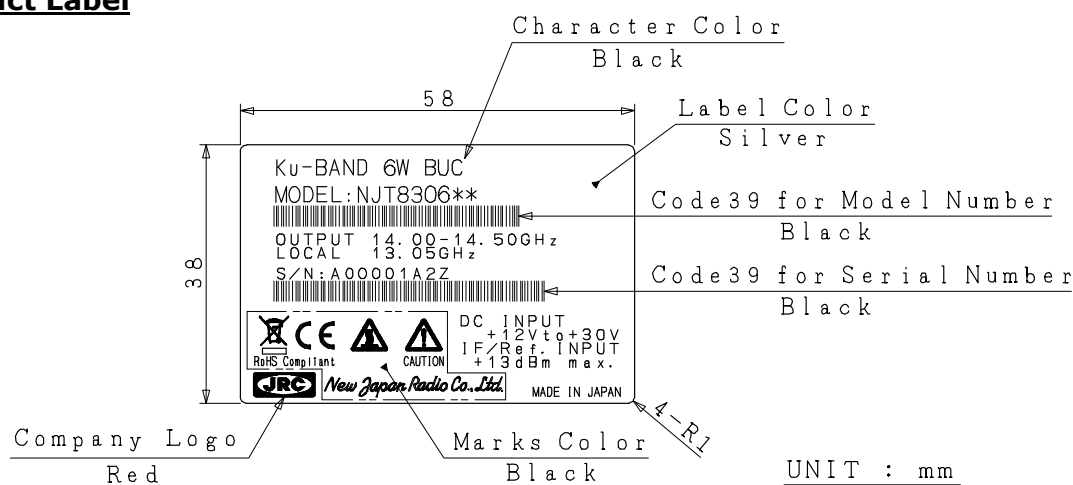
● N-type Model



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

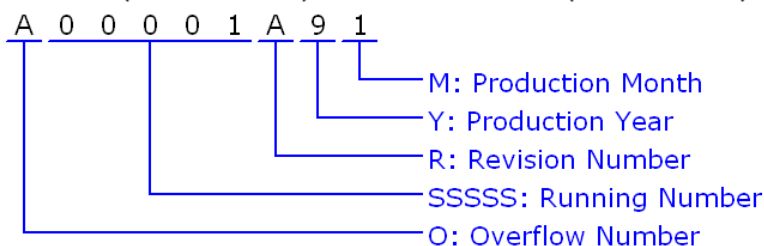
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5. Label Product Label



Definition of Serial Number

Serial Number (OSSSSSRYM) - ALPHANUMERIC (9 characters)



O: Overflow Number - ALPHABET (1 character)

"A" to "Z", e.g.: A99999 ⇒ B00001

SSSSS: Running Number - NUMBER (5 digits)

"00001" to "99999"

R: Revision Number - ALPHABET (1 character)

"A" to "Z"

Y: Production Year - NUMBER (1 digit)

Calendar Number, e.g.: 2009:9, 2010:0, 2011:1, 2012:2

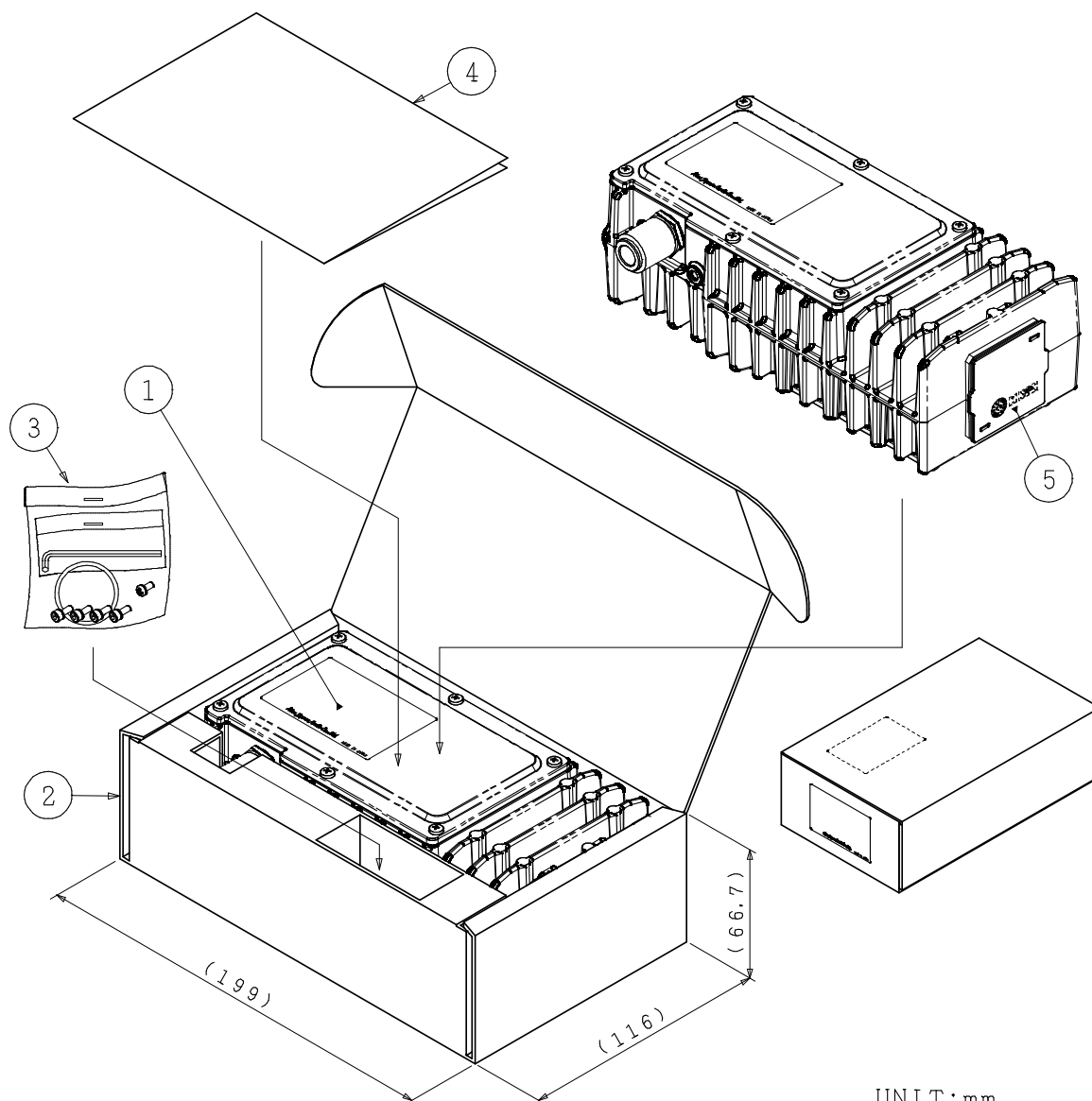
M: Production Month - ALPHANUMERIC (1character)

"1" to "9", "X" as October, "Y" as November, "Z" as December

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6. Package

Individual Package



UNIT:mm

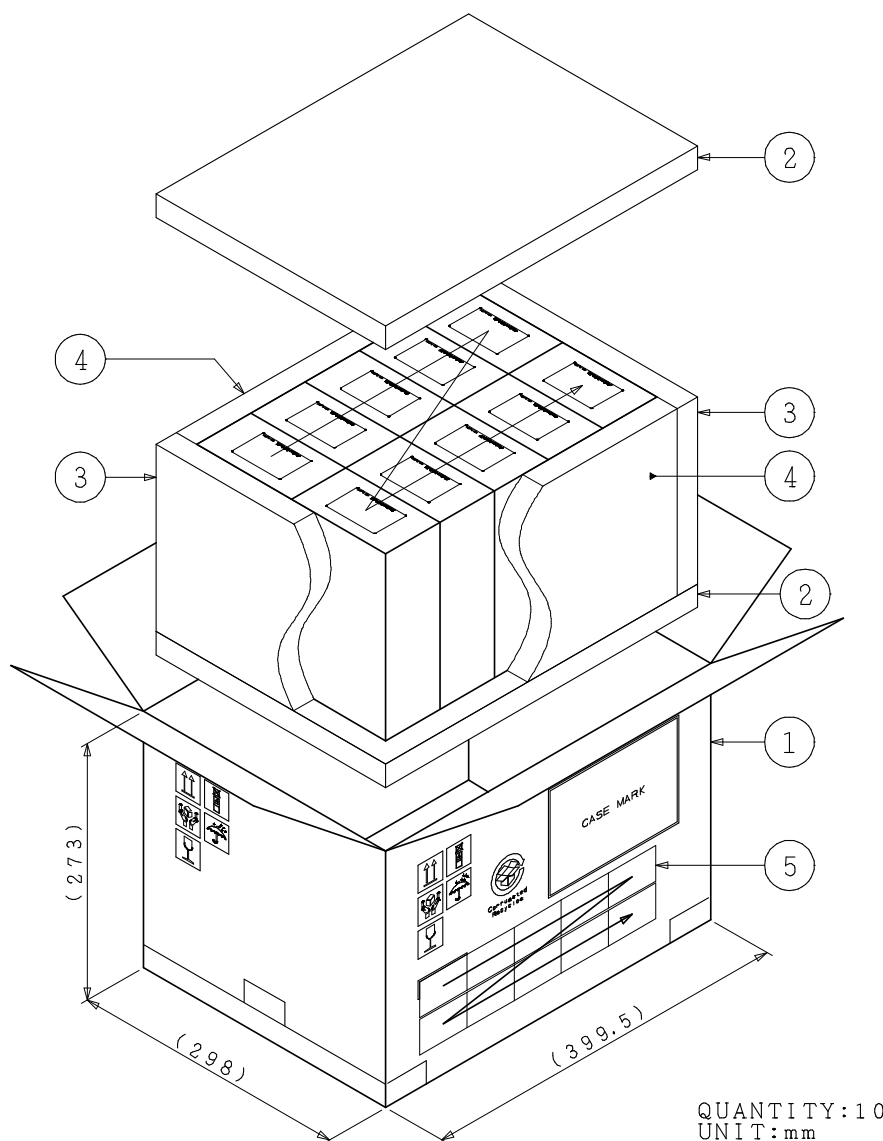
- ①: BUC
- ②: Single Wall Corrugated Fiberboard
- ③: Accessories
- ④: Data Sheet
- ⑤: Flange Cover (Polypropylene)

Accessories

- O-RING
- Cross Recessed Head Machine Screw
M4×6 1Piece (SUS, SW) for Ground Hole
- Hexagon Socket Head Bolts
M4×10 4Pieces (SUS, SW and W) for Waveguide Flange Holes
- Hexagon Wrench Keys (M4Type)

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Shipping Package



Pictorial Marking for Handling of Goods



THIS WAY UP



FRAGILE



KEEP DRY



HANDLE WITH CARE



LAYERS LIMIT: 4



CORRUGATED RECYCLES

- ①: Double Wall Corrugated Fiberboard
- ②: Polystyrene Foam For Package Cushioning
- ③: Polystyrene Foam For Package Cushioning
- ④: Polystyrene Foam For Package Cushioning
- ⑤: Label

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