



Released

C-band 2W BUC

RF Frequency:
5.85 to 6.425 GHz and 5.85 to 6.725 GHz

Model No. NJT8102 series

RF Frequency : 5.85 to 6.425 GHz / 5.85 to 6.725 GHz
LO Frequency : 4.90 GHz
IF Frequency : 950 to 1,525 MHz / 950 to 1,825 MHz
Output Power @ 1dB G.C.P. :
+33.0 dBm (2W)
IF / Ref. (10MHz) Input :
N-type / F-type, Female Connector
DC Power Input : IF Connector

Specifications
Rev.02 January 31, 2017

Copyright 2017

New Japan Radio Co., Ltd.
Microwave Division

-Notice of Proprietary Information-
Documents and contents are proprietary to New Japan Radio Co., Ltd.
This publication and its contents may not be reproduced or distributed for any other purpose without the written permission of New Japan Radio Co., Ltd.



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.

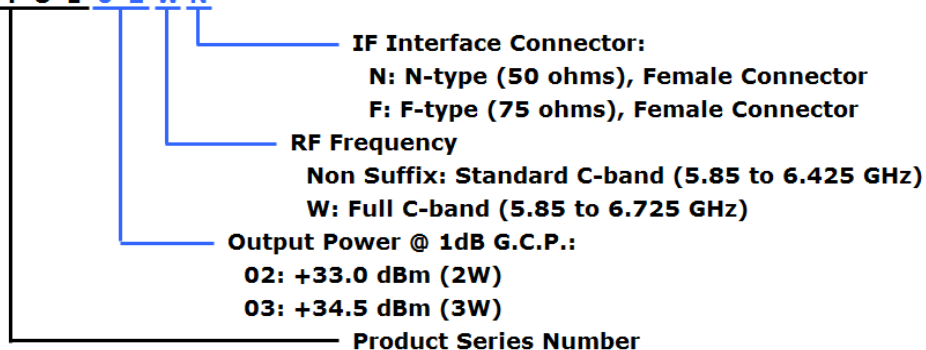
* Above Specifications are subject to change without notice.



Model Number

● Numbering System

N J T 8 1 0 2 W N



● Line-up

Model No.	RF Frequency	Local Frequency	IF Frequency	Output Power @ P1dB	IF Connector	Power Supply	
NJT8103N	5.85 to 6.425 GHz (Standard C-band)	4.90 GHz	950 to 1,525 MHz	3W Linear (+34.5dBm min.)	N-type	+12 to +30 V DC Power	
NJT8103F					F-type		
NJT8103WN	5.85 to 6.725 GHz (Full C-band)		950 to 1,825 MHz		2W Linear (+33.0dBm min.)		N-type
NJT8103WF							F-type
NJT8102N	5.85 to 6.425 GHz (Standard C-band)		950 to 1,525 MHz	2W Linear (+33.0dBm min.)			N-type
NJT8102F							F-type
NJT8102WN	5.85 to 6.725 GHz (Full C-band)		950 to 1,825 MHz	2W Linear (+33.0dBm min.)	N-type		
NJT8102WF					F-type		

* Above Specifications are subject to change without notice.



1. Electrical Specifications

#	Items	Specifications
1-1.	Output Frequency Range	
	<Full C-band>	5.85 to 6.725 GHz
	<Standard C-band>	5.85 to 6.425 GHz
1-2.	Input Frequency Range	
	<Full C-band>	950 to 1,825 MHz
	<Standard C-band>	950 to 1,525 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	4.90 GHz
1-6.	Frequency Sense	Positive
1-7.	Output Power @ 1dB G.C.P. (P1dB)	+33.0 dBm min. over temperature
1-8.	Linear Gain	58 dB nom., 52 dB min.
1-9.	Gain Variation over frequency @ fixed temperature	
	<Full C-band>	5 dBp-p max. over 875 MHz 2 dBp-p max. over 36 MHz
	<Standard C-band>	5 dBp-p max. over 575 MHz 2 dBp-p max. over 36 MHz
1-10.	Gain Stability over temperature @ fixed frequency	5 dBp-p max. 2 dBp-p typ.
1-11.	ACPR	-26 dBc typ. @ Pout = +33.0 dBm
1-12.	Requirement for External Reference [Frequency] [Input Power] [Phase Noise]	10 MHz (sine-wave) -5 to +5 dBm @ Input port -120 dBc/Hz max. @ 100 Hz -130 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 @ Pout = +33.0 dBm <Full C-band>*Note	
	[in band] [in receive band] [Out-of-band]	-50 dBc max. @ 5.85 to 6.725. GHz -70 dBm max. @ 3.40 to 4.20 GHz -50 dBc max.
	<Standard C-band>	[in band] [in receive band] [Out-of-band]
		-50 dBc max. @ 5.85 to 6.425 GHz -70 dBm max. @ 3.625 to 4.20 GHz -50 dBc max.
1-15.	Receive Band Noise Density	
	<Full C-band>	-87 dBm/4kHz max. @ 3.40 to 4.20 GHz
	<Standard C-band>	-87 dBm/4kHz max. @ 3.625 to 4.20 GHz
1-16.	Noise Figure	20 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.

*Note: The 2nd harmonics level of IF signal should be lower than -60dBc at the IDU and IF signal source output

* Above Specifications are subject to change without notice.



#	Items	Specifications
1-19.	Output V.S.W.R.	2 : 1 max.
1-20.	Output Load V.S.W.R. [Recommendation] [Non Damage]	1.3 : 1 max. Infinite : 1
1-21.	DC Power Requirement [Voltage Range] [Power Consumption]	+24 VDC (+12 to +30 VDC) 18 W typ., 22 W max. @ Pout = +33.0 dBm 15 W typ. @ No IF signal 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.

2. Mechanical Specifications

#	Items	Specifications
2-1.	Input Interface	IF / Ref. / DC Input
	<N-type Model>	N-type female connector, 50 ohms
	<F-type Model>	F-type female connector, 75 ohms
2-2.	Output Interface	Waveguide, CPR-137 with Groove
2-3.	Dimension & Housing	135.4 (L) × 85 (W) × 56 (H) mm [5.33" (L) × 3.35" (W) × 2.20" (H)] without interface connectors and screws
2-4.	Weight	800 g [1.8 lbs]

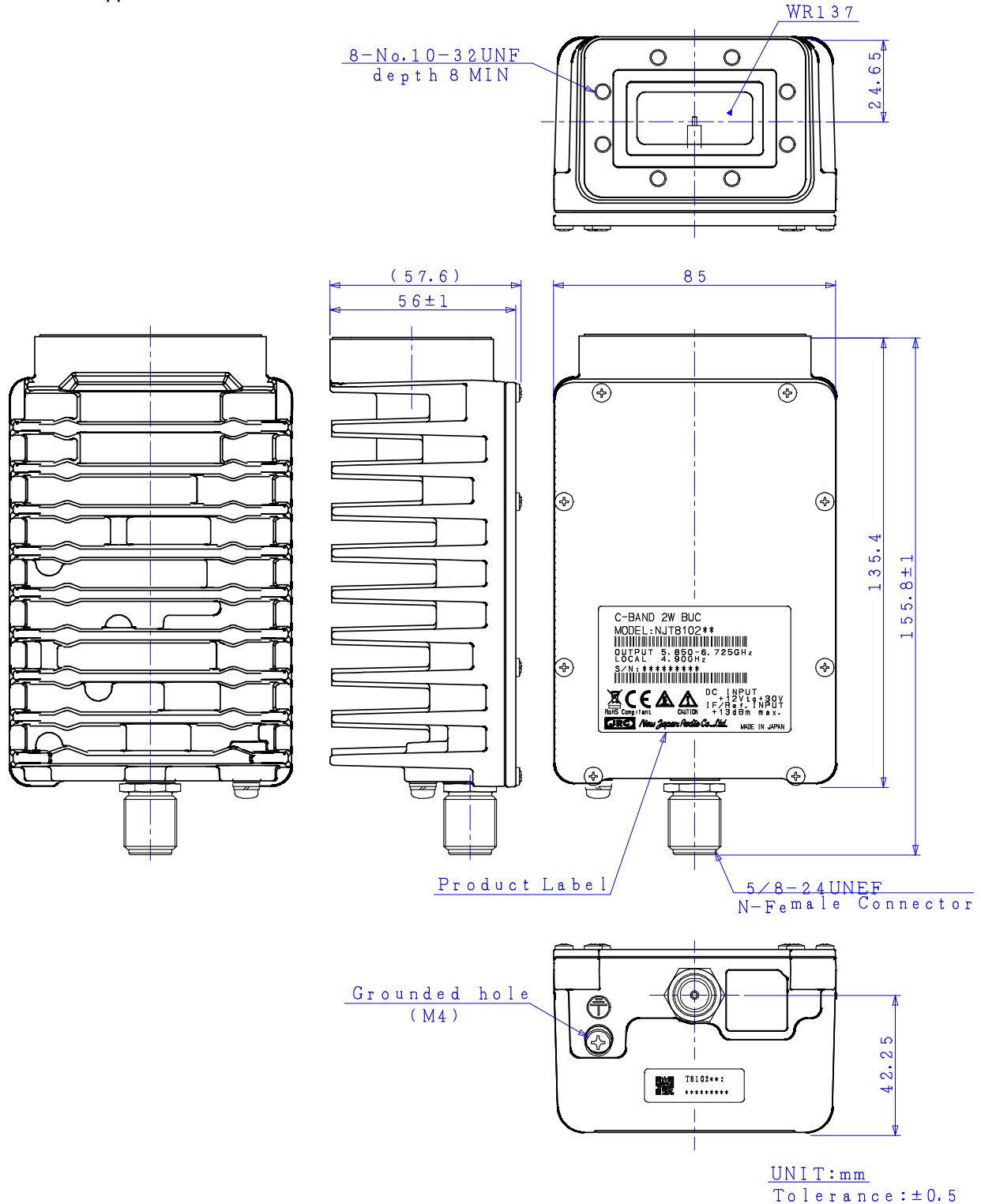
3. Environmental Specifications

#	Items	Specifications
3-1.	Temperature Range (ambient)	
	[Operating] [Storage]	-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
3-7.	Regulations	EU Directive (CE Marking) EMC (2014/30/EC) RoHS (2011/65/EU) Safety: EN60950-1
3-8.	Comply with RoHS (Restricting the use of Hazardous Substances) directives	

* Above Specifications are subject to change without notice.

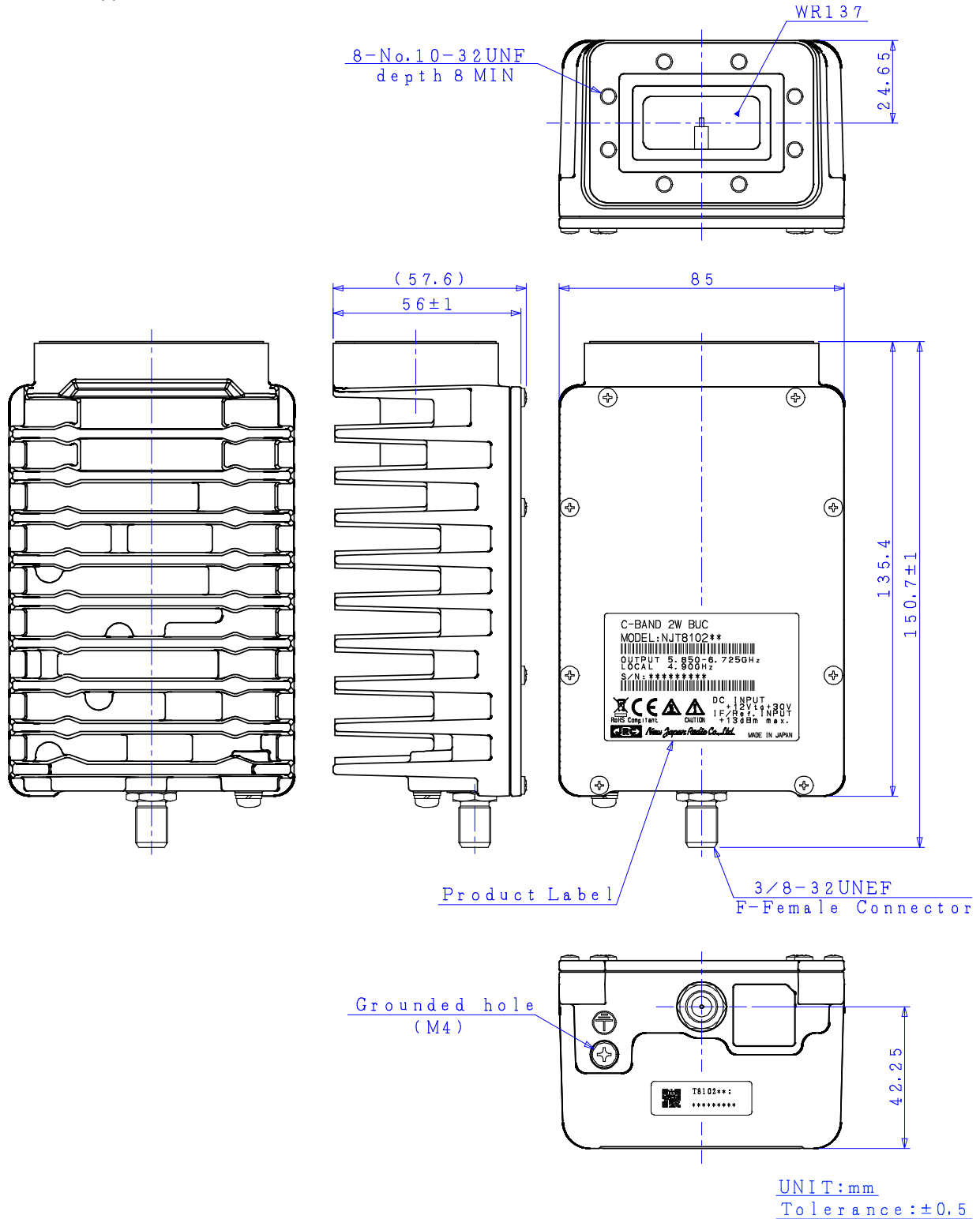
4. Outline Drawing

- N-type Model



* Above Specifications are subject to change without notice.

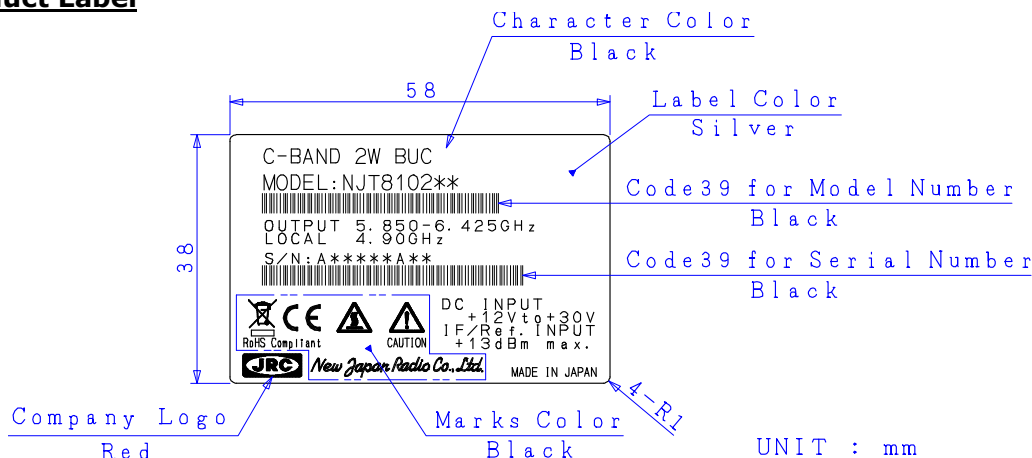
● F-type Model



* Above Specifications are subject to change without notice.

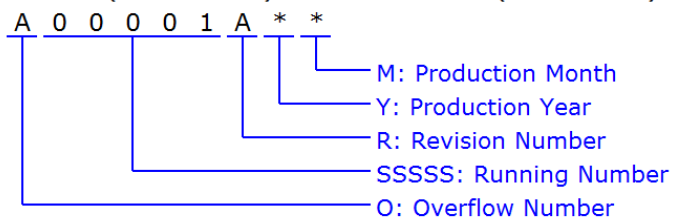


5. Label Product Label



Definition of Serial Number

Serial Number (OSSSSSRYM) - ALPHANUMERIC (9 characters)



O: Overflow Number - ALPHABET (1 character)

"A" to "Z", e.g.: A99999 ⇒ B00001

SSSS: Running Number - NUMBER (5 digits)

"00001" to "99999"

R: Revision Number - ALPHABET (1 character)

"A" to "Z"

Y: Production Year - NUMBER (1 digit)

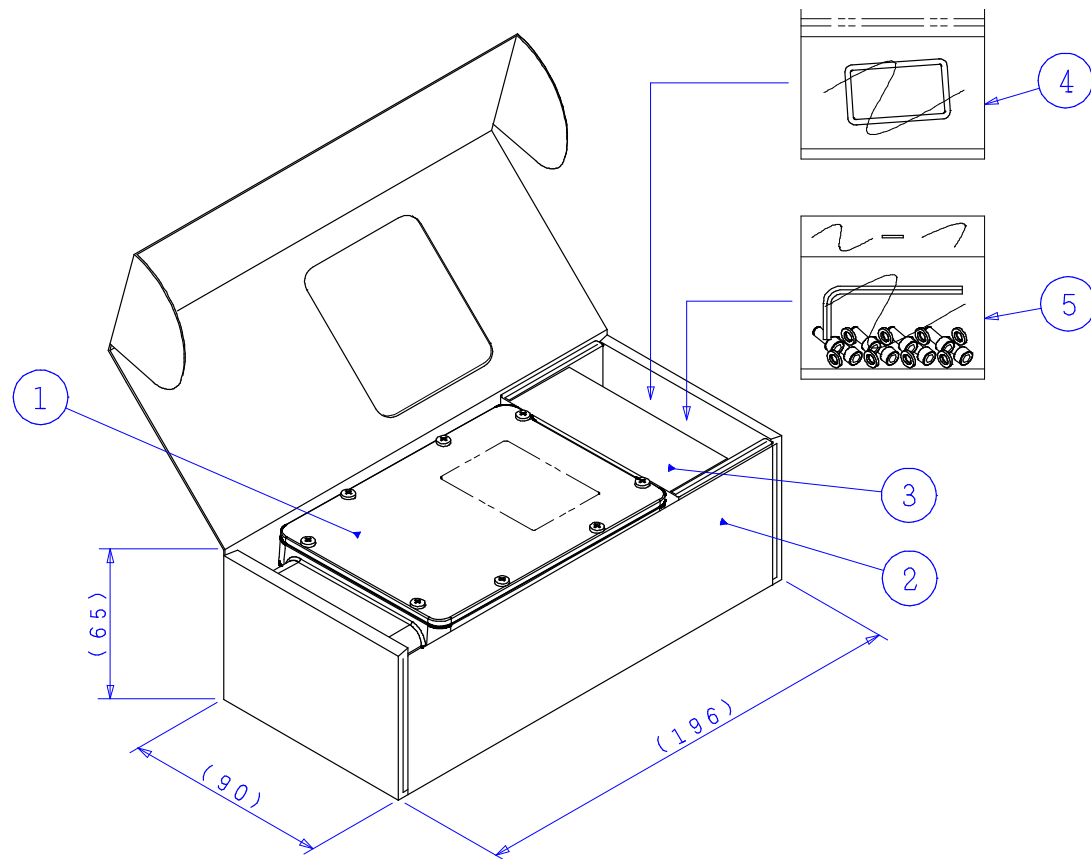
Calendar Number, e.g.: 2009:9, 2010:0, 2011:1, 2012:2 ····

M: Production Month - ALPHANUMERIC (1 character)

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

* Above Specifications are subject to change without notice.

6. Package Individual Package



UNIT : mm

①: BUC

②: Single Wall Corrugated Fiberboard

③: Single Wall Corrugated Fiberboard

④: Accessories

- O-RING

⑤: Accessories

- Hexagon Socket Head Bolts

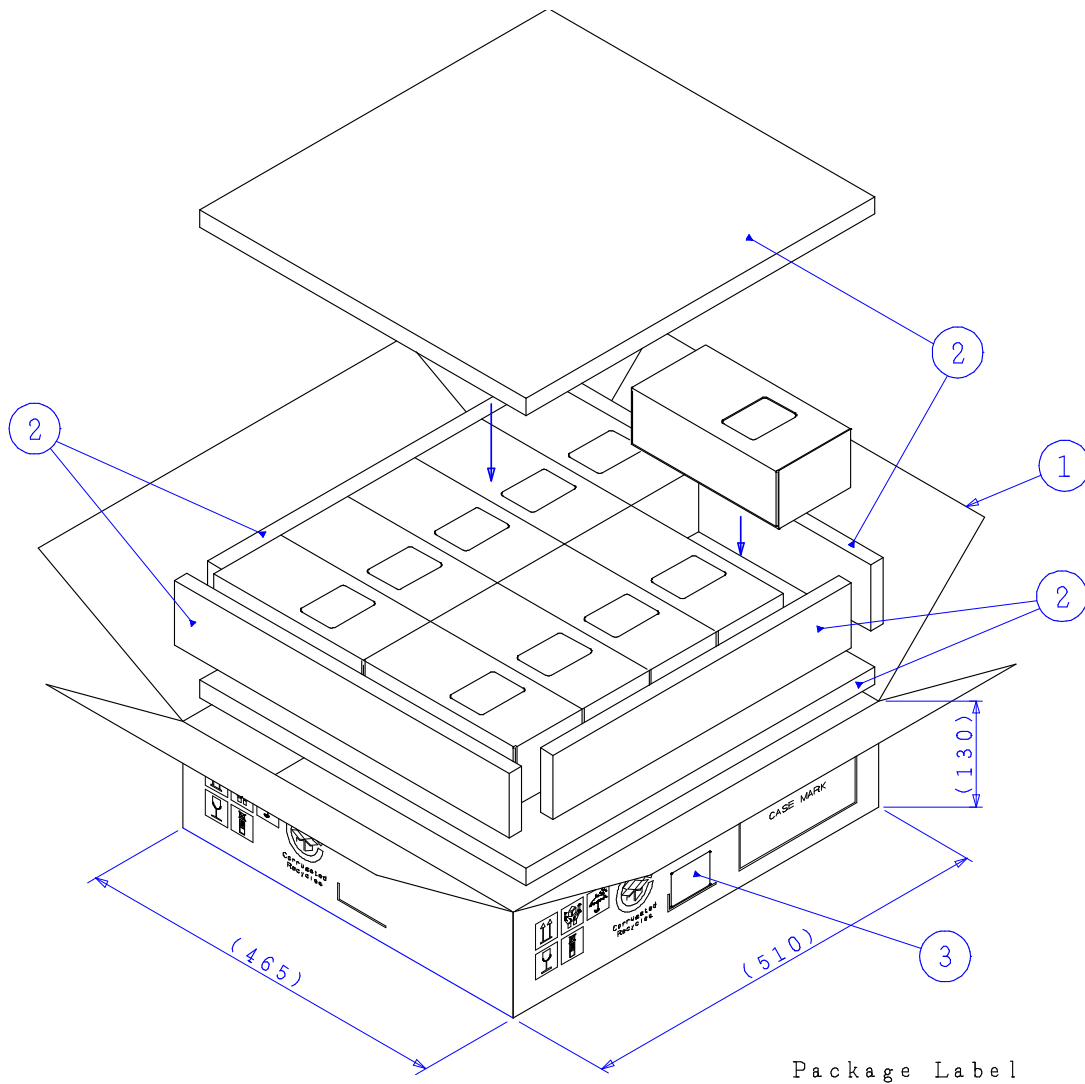
- #10-32UNF×1/2 8pieces(SUS) for Waveguide Flange Holes

- Spring Washers 8pieces(SUS)

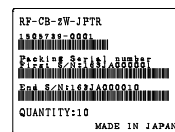
- Hexagon Wrench Key

* Above Specifications are subject to change without notice.

Shipping Package (10 pieces standard)



Package Label



UNIT:mm

Pictorial Marking for Handling of Goods



THIS WAY UP



HANDLE WITH CARE



KEEP DRY



FRAGILE



LAYERS LIMIT:8

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

* Above Specifications are subject to change without notice.