

# **Universal Ku-band 8W BUC**

RF Frequency: 13.75.0 to 14.5 GHz

## **Model No. NJT5218N**

IF / Ref. (10MHz) / DC Power Input: N-type Female Connector

## **Model No. NJT5218F**

IF / Ref. (10MHz) / DC Power Input: F-type Female Connector

## **Model No. NJT5218NM**

IF / Ref. (10MHz) Input: N-type Female Connector  
DC Power Input: MS Connector

## **Model No. NJT5218FM**

IF / Ref. (10MHz) Input: F-type Female Connector  
DC Power Input: MS Connector

## **Specifications**

**Rev.06 March 15, 2012**

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Microwave Components Division**

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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.
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  - \* 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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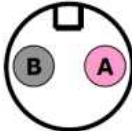


## 1. Electrical Specifications

1-1.	Output Frequency Range	13.75 to 14.5 GHz
1-2.	Input Frequency Range	950 to 1,700 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	12.80 GHz
1-6.	Frequency Sense	Positive
1-7.	Output Power @ 1dB G.C.P.	+39 dBm min. over temperature
1-8.	Linear Gain	65 dB nom., 59 dB min.
1-9.	Gain Variation over frequency @ fixed temperature	5 dBp-p max. over 750 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.	IM3	-28 dBc typ., -24 dBc max. @ total power ≤ +39 dBm - 3 dB
1-12.	ACPR	-28 dBc typ. @ Pout = +38 dBm
1-13.	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
1-14.	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
1-15.	Spurious [in band] [in receive and] [Out-of-band]	-50 dBc max. @ 13.75 to 14.5 GHz -70 dBm max. @ 10.95 to 12.75 GHz -50 dBc max. @ Pout = +39 dBm
1-16.	Receive Band Noise Density	-156 dBm/Hz max. @ 10.95 to 12.75 GHz
1-17.	Noise Figure	13 dB nom., 20 dB max.
1-18.	Group Delay over any 54MHz	2.5 nS p-p max.
1-19.	Input Impedance <NJT5218N / NJT5218NM> <NJT5218F / NJT5218FM>	50 ohms nom. 75 ohms nom.
1-20.	Input V.S.W.R.	2 : 1 max
1-21.	Output V.S.W.R.	2 : 1 max.
1-22.	Output Load VSWR for Non Damage	Infinite : 1
1-23.	DC Power Requirement [Voltage Range] [Power Consumption]	+24 / +48 VDC (+18 to +60 VDC) 75 W typ. @ No IF signal 79 W typ., 93 W max. @ Pout = +39 dBm
1-24.	Mute	Shut off the HPA in case of L.O. unlocked or no 10 MHz reference signal.
1-25.	LED Indicator	GREEN: L.O. locked RED: L.O. unlocked (or no 10 MHz reference signal)

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## 2. Mechanical Specifications

2-1.	Input Interface  <NJT5218N> <NJT5218F> <NJT5218NM>  <NJT5218FM>	IF / Ref. / DC Power: N-type, female IF / Ref. / DC Power: F-type, female IF / Ref.: N-type, female DC Power: MS connector IF / Ref.: F-type, female DC Power: MS connector  - MS connector - Model: MS3102E 12S-3P Mating connector: MS3106E 12S-3S Assignment:  <b>Pin A: Prime (+24/+48VDC)</b> <b>Pin B: Prime Return</b>
2-2.	Output Interface	Waveguide, WR-75 (with Groove)
2-3.	Dimension & Housing	219.5 (L) x 175 (W) x 99 (H) mm [8.64" (L) x 6.89" (W) x 3.90" (H)]
2-4.	Weight	3.2 kg typ., 3.3 kg max. [7.0 lbs typ., 7.3 lbs max.]

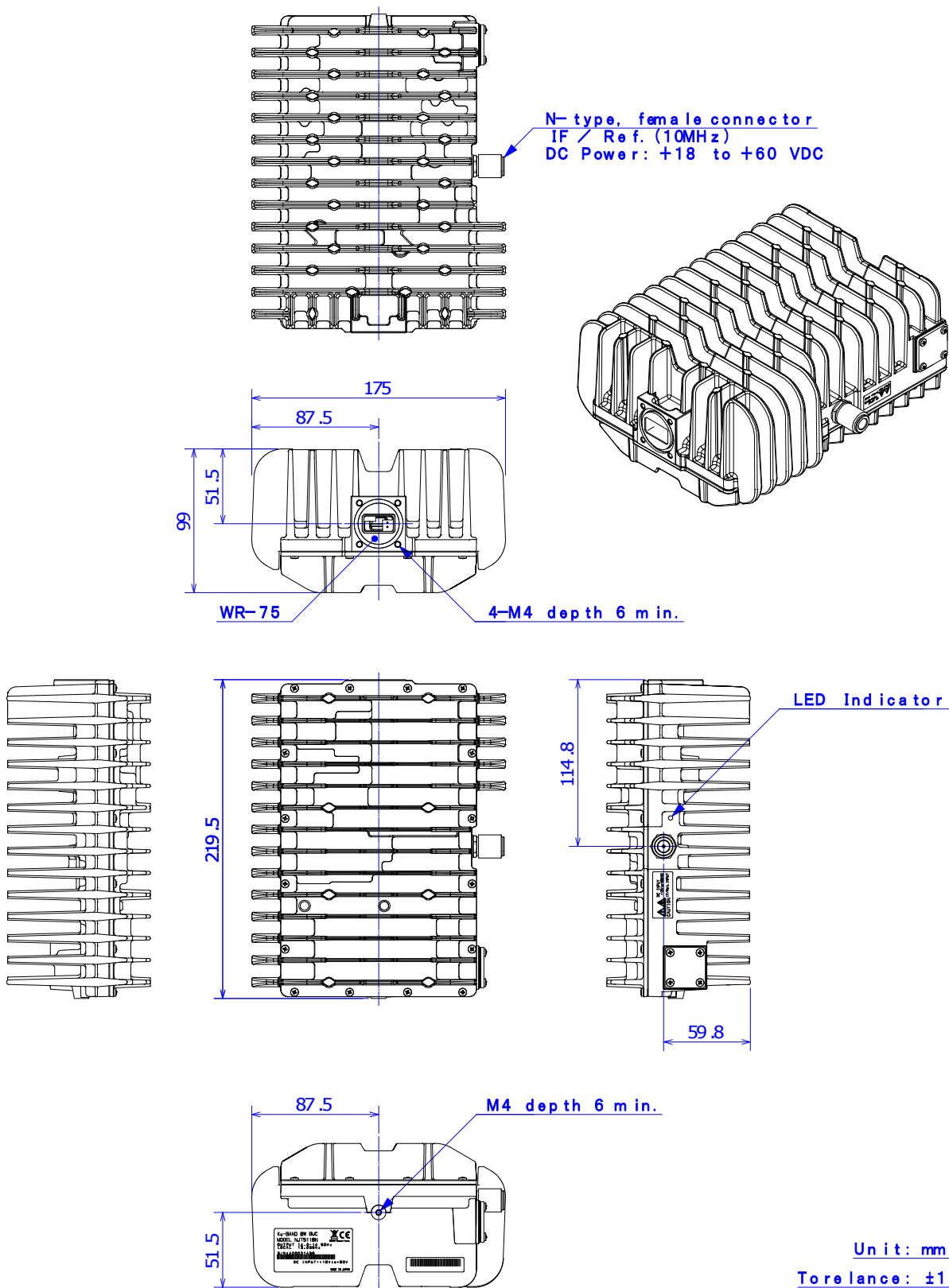
## 3. Environmental Specifications

3-1.	Temperature Range (ambient)	-40 to +55 C (operating) -40 to +75 C (storage)
3-2.	Humidity	0 to 100 %
3-3.	Altitude	15,000 feet
3-4.	Vibration	5 G [49.03 m/s <sup>2</sup> ] (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 <sup>2</sup> ] (3 axis)
3-6.	Comply with RoHS (Restricting the use of Hazardous Substances) directives	

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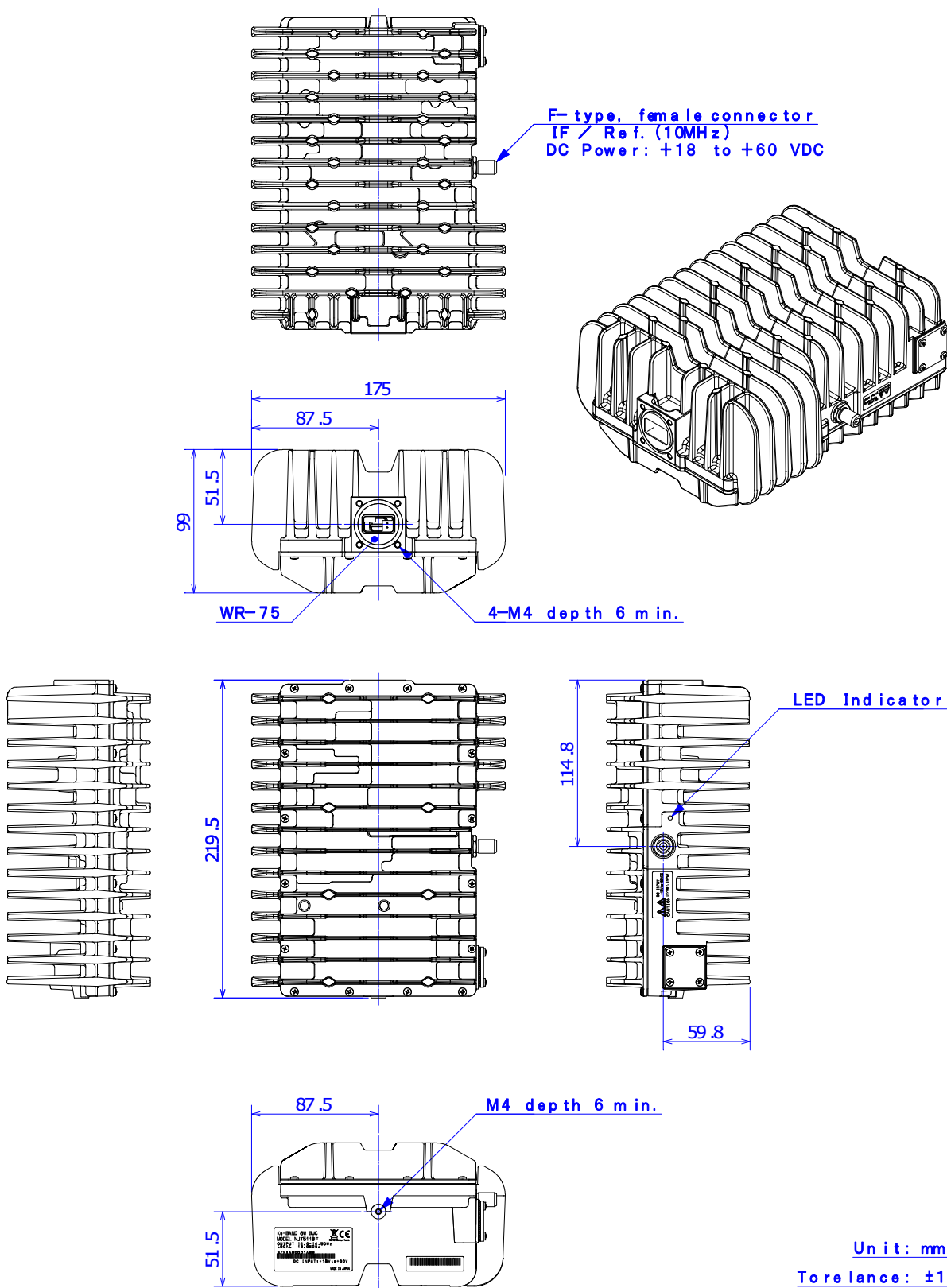
#### 4. Outline Drawing

- NJT5218N: IF / Ref. / DC Power Input: N-type Female Connector



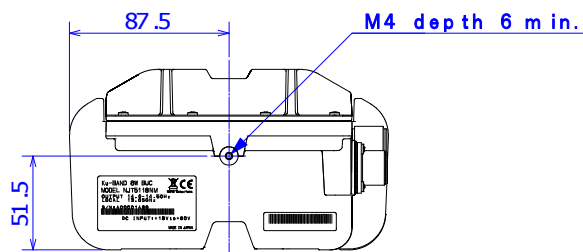
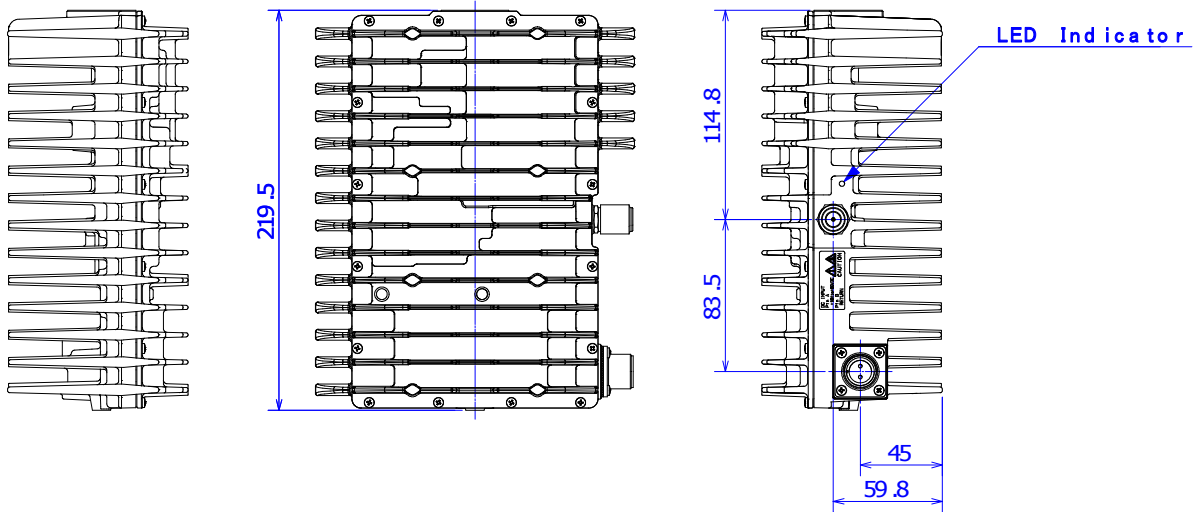
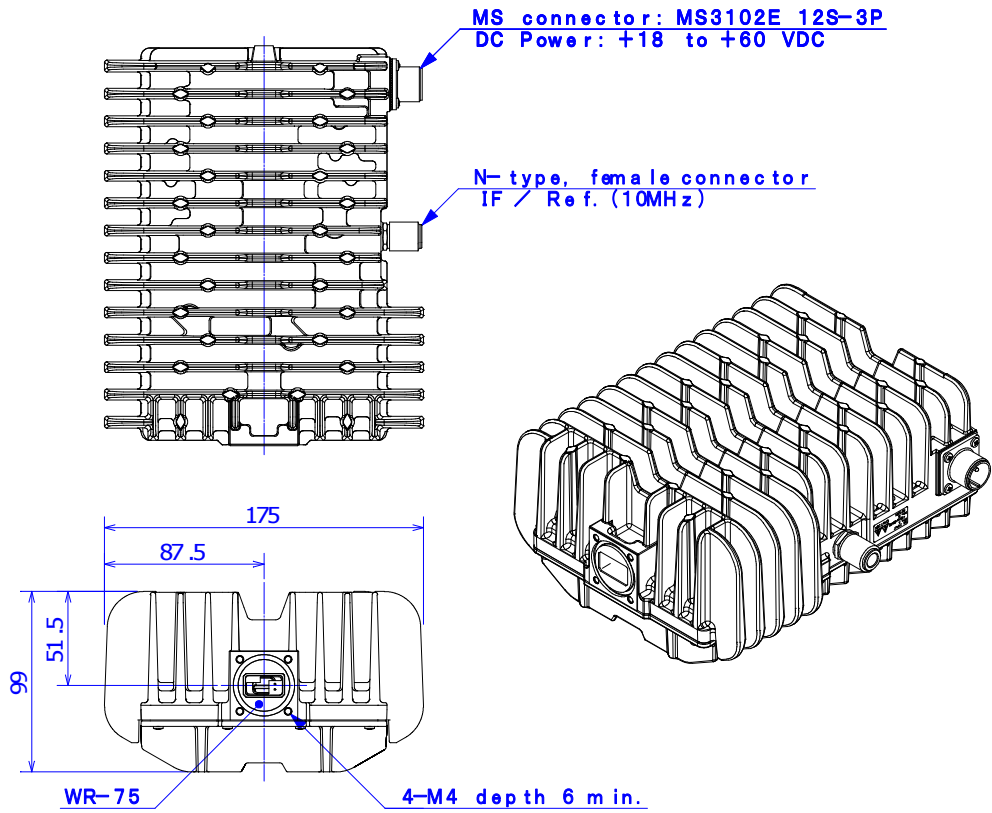
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- NJT5218F: IF / Ref. / DC Power Input: F-type Female Connector



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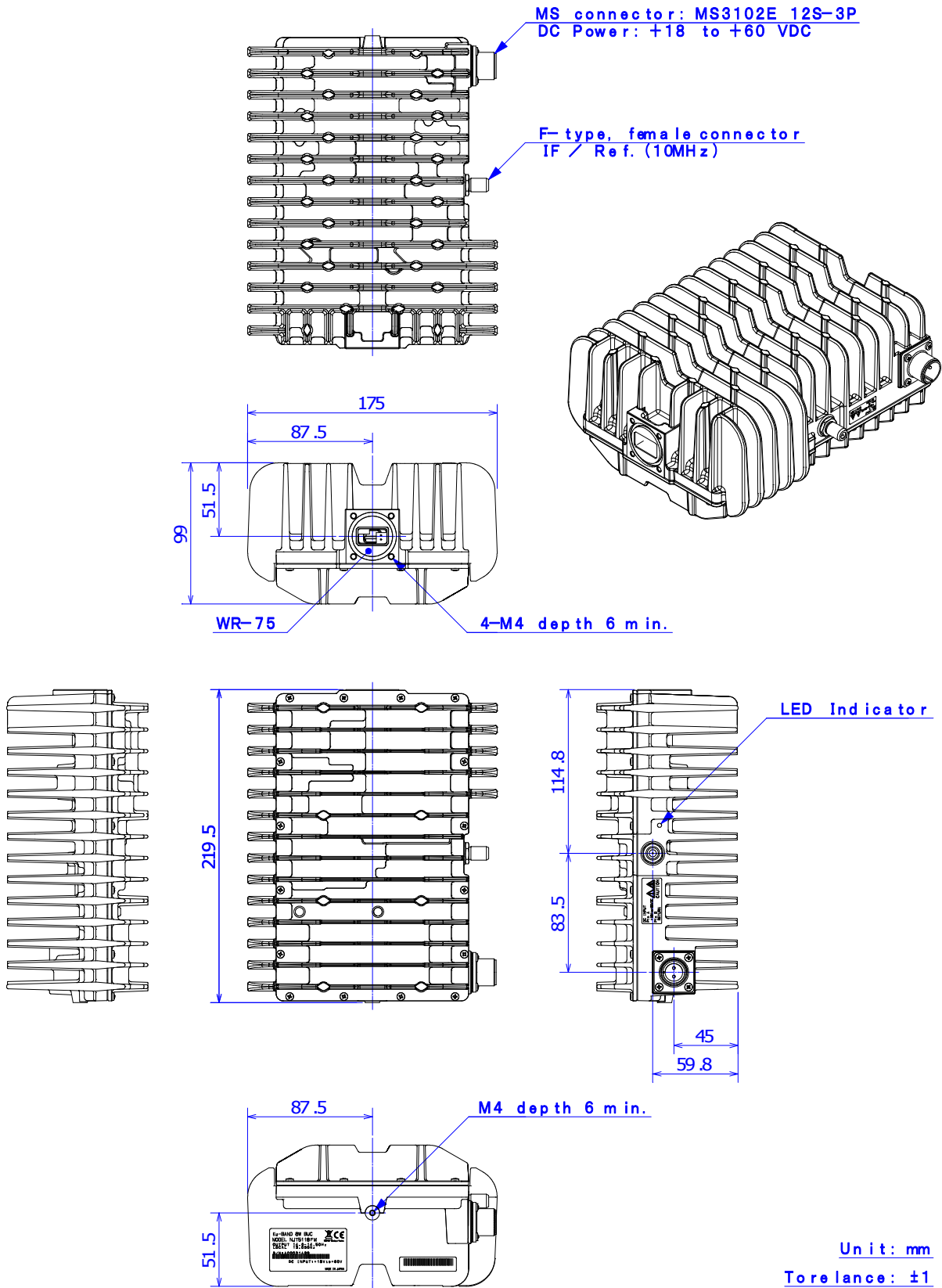
- NJT5218NM: IF / Ref. Input: N-type Female Connector  
DC Power Input: MS Connector



Unit: mm  
Tolerance: ±1

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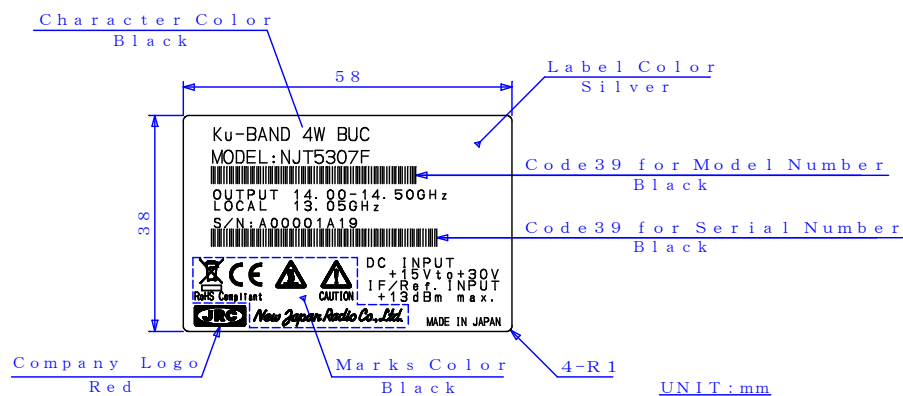
- NJT5218FM: IF / Ref. Input: F-type Female Connector  
DC Power Input: MS Connector



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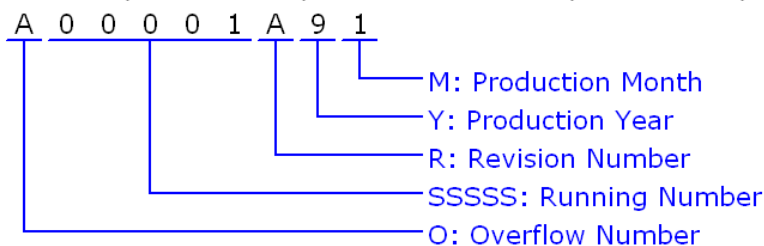


## 5. Label Product Label



### 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 ····

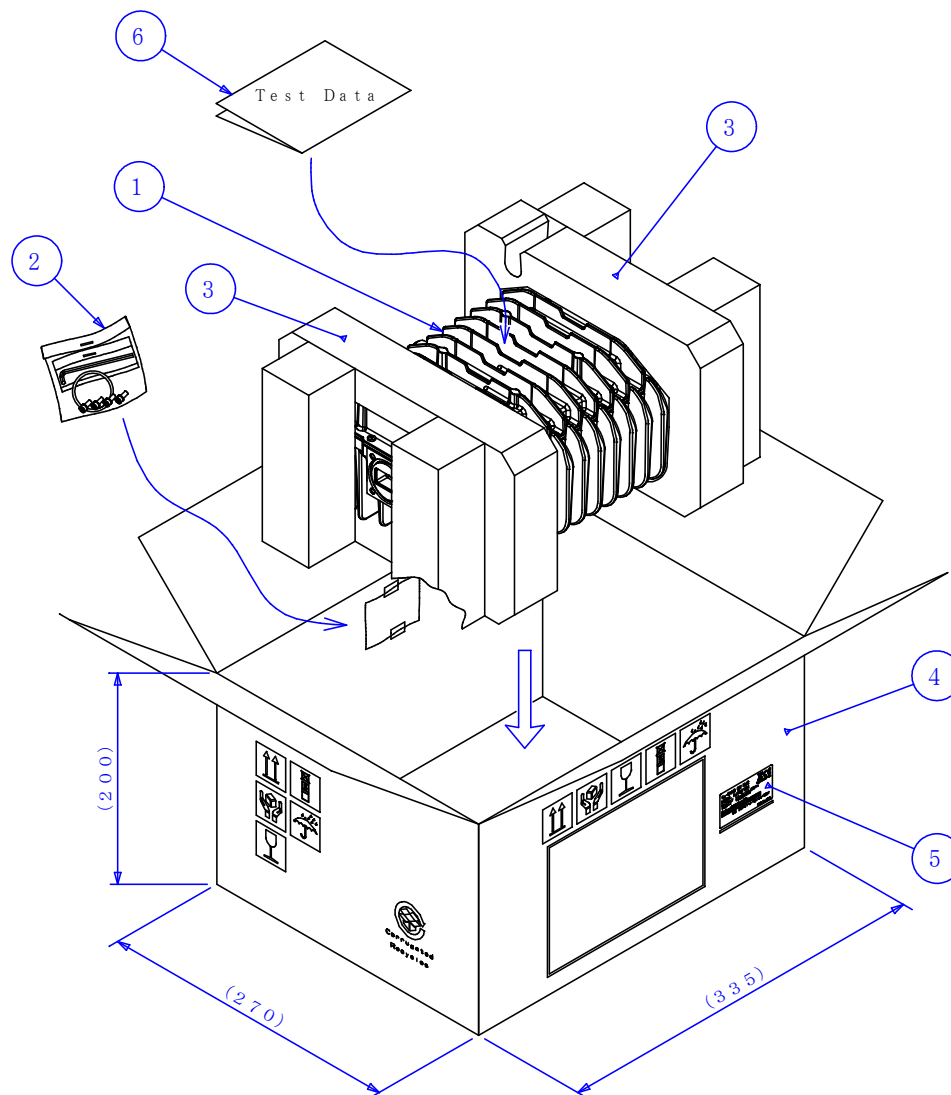
M: Production Month - ALPHANUMERIC (1 character)

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

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## 6. Package

- NJT5218N: IF / Ref. / DC Power Input: N-type Female Connector
- NJT5218F: IF / Ref. / DC Power Input: F-type Female Connector

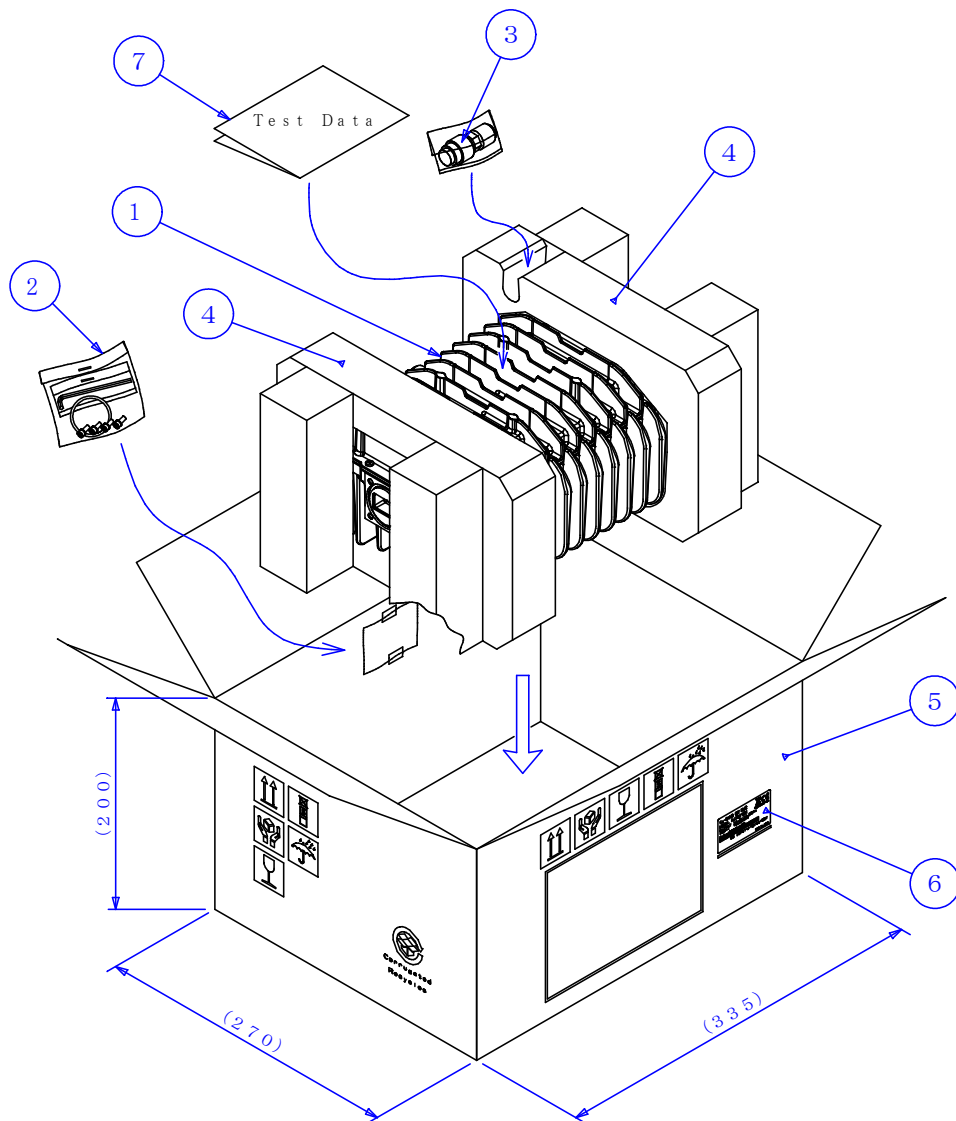


UNIT : mm

- ① : BUC
- ② : Accessories
  - O-RING
  - Hexagon Socket Head Bolts  
M4×10 4pieces (SUS, SW and W)
  - Hexagon Wrench Keys (M4 Type)
- ③ : Polyethylene Foam For Package Cushioning
- ④ : Corrugated Fibreboard (Double Wall)
- ⑤ : Label
- ⑥ : Test Data

\* Above Specifications are subject to change without notice.

- NJT5218NM: NJT5218FM: IF / Ref. Input: N-type Female Connector  
DC Power Input: MS Connector
- NJT5218FM: NJT5218FM: IF / Ref. Input: F-type Female Connector  
DC Power Input: MS Connector



UNIT : mm

- ① : BUC
- ② : Accessories
  - O-RING
  - Hexagon Socket Head Bolts  
M4×10 4 pieces (SUS, SW and W)
  - Hexagon Wrench Keys (M4 Type)
- ③ : Accessory
  - MS mating connector
- ④ : Polyethylene Foam For Package Cushioning
- ⑤ : Corrugated Fibreboard (Double Wall)
- ⑥ : Label
- ⑦ : Test Data

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