

2JE49a

868/915 MHz ISM Surface Mount

Key Features

868/915 MHz ISM

- 863-870 MHz

- 902-928 MHz

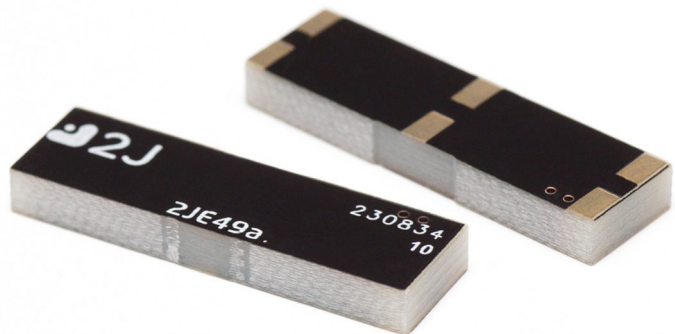
Surface Mount

High Performance

Fiberglass Material

Ground Plane Dependent

Dimensions 26 × 7.6 × 3 mm



1. Antenna and electrical specifications

Parameters	868/915 MHz ISM Antenna	
Standards	ZigBee, ISM, SigFox, LoRa	
Band (MHz)	868	915
Frequency (MHz)	863-870	902-928
Return Loss (dB)	~-10.6	~-14.1
VSWR	~1.8:1	~1.5:1
Efficiency (%)	~66.7	~81.7
Peak Gain (dBi)	~5.0	~5.8
Average Gain (dB)	~-1.8	~-0.9
Impedance (Ohm)	50	
Polarisation	Linear	
Radiation Pattern	Omni-Directional	
Max. Input Power (W)	25	

Antenna Measurement Conditions:

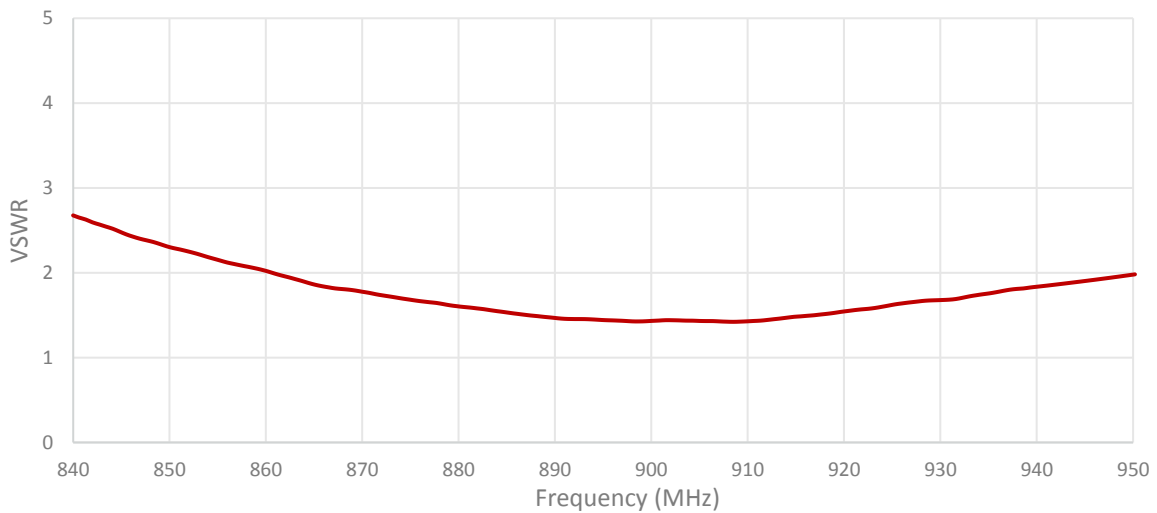
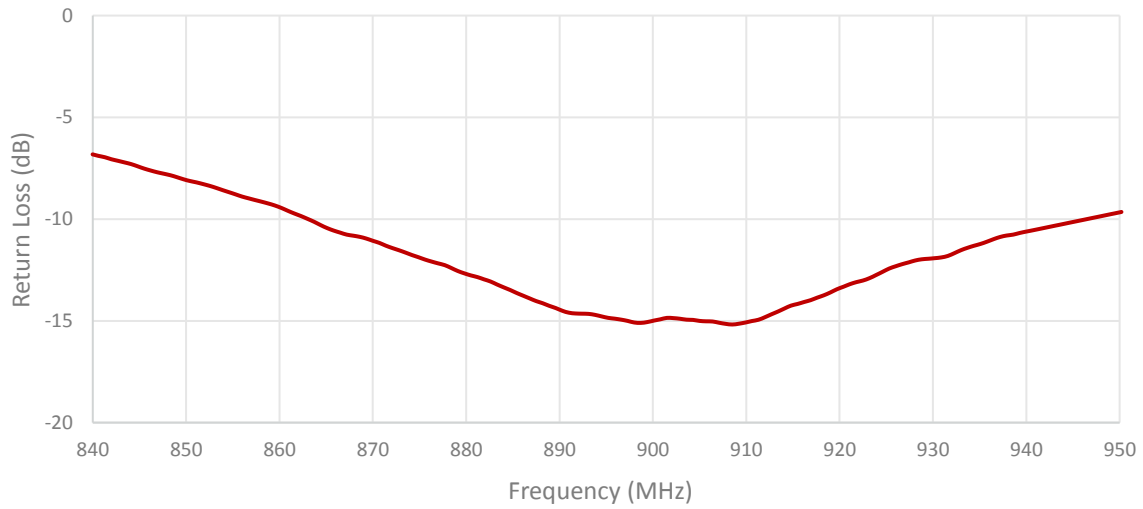
Mounted on ground plane of 113 x 40.5 mm

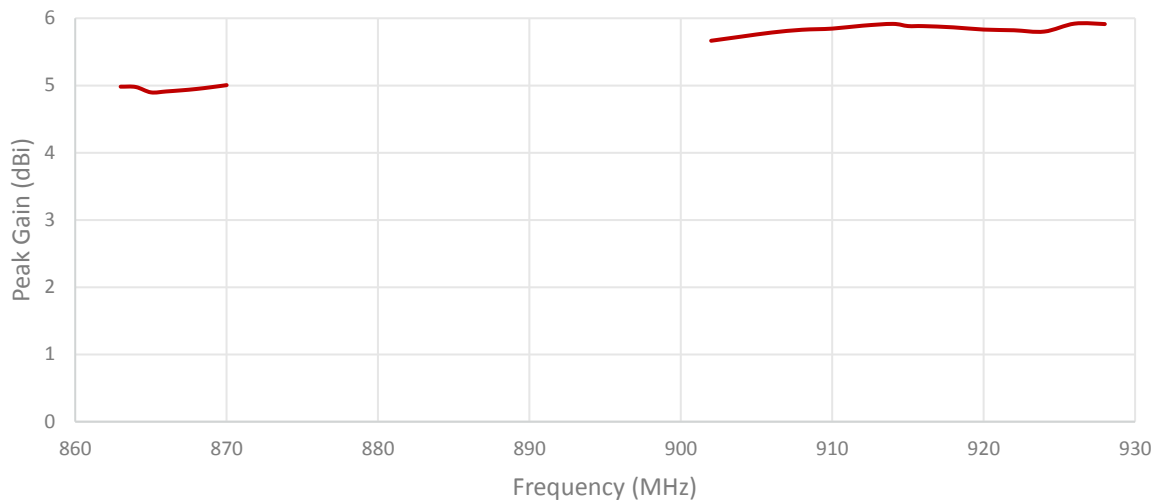
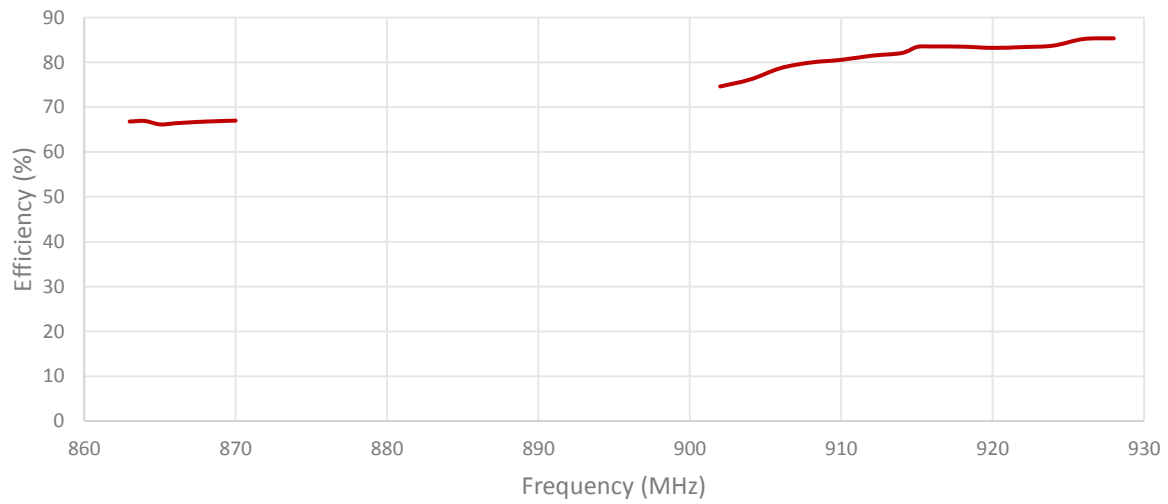
Measured in Certified CTIA 3D Anechoic Chamber

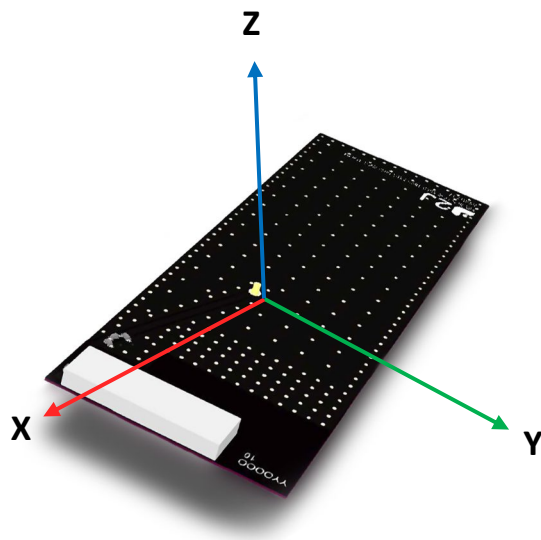
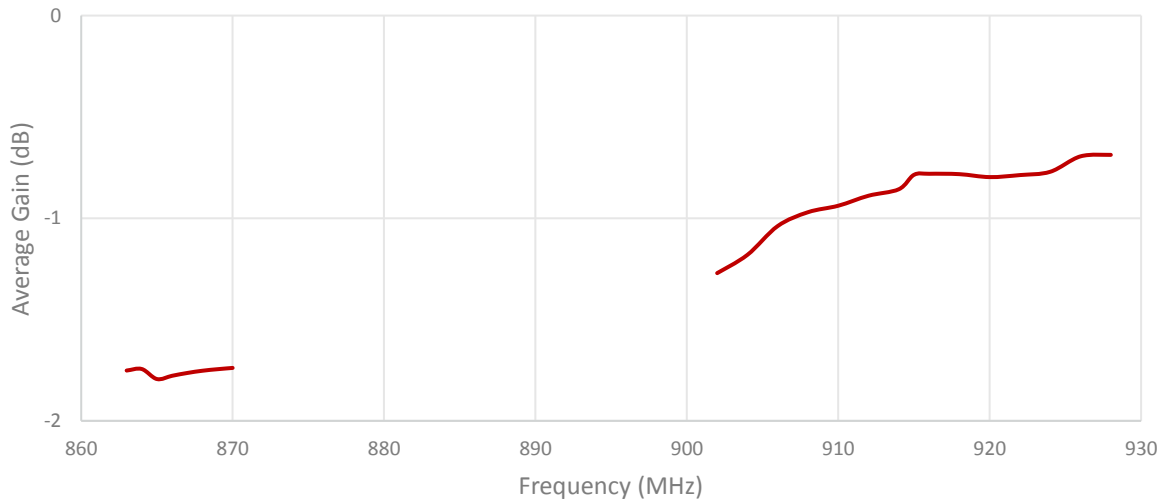
2. Mechanical and environmental specifications

Specifications	2JE49a
Mounting Type	Surface Mount
Dimensions (mm)	26 × 7.6 × 3
Material	Fiberglass
Operating Temperature (C)	-40 to +105
Storage Temperature (C)	-40 to +85
Storage Relative Humidity (%)	Up to 93% at 30 C
Substance Compliance	RoHS
Typical Shear Force Test	50 kgf according to IEC62137-1-2:2007 Test Report No.: TRSF-2JSI113100002-01

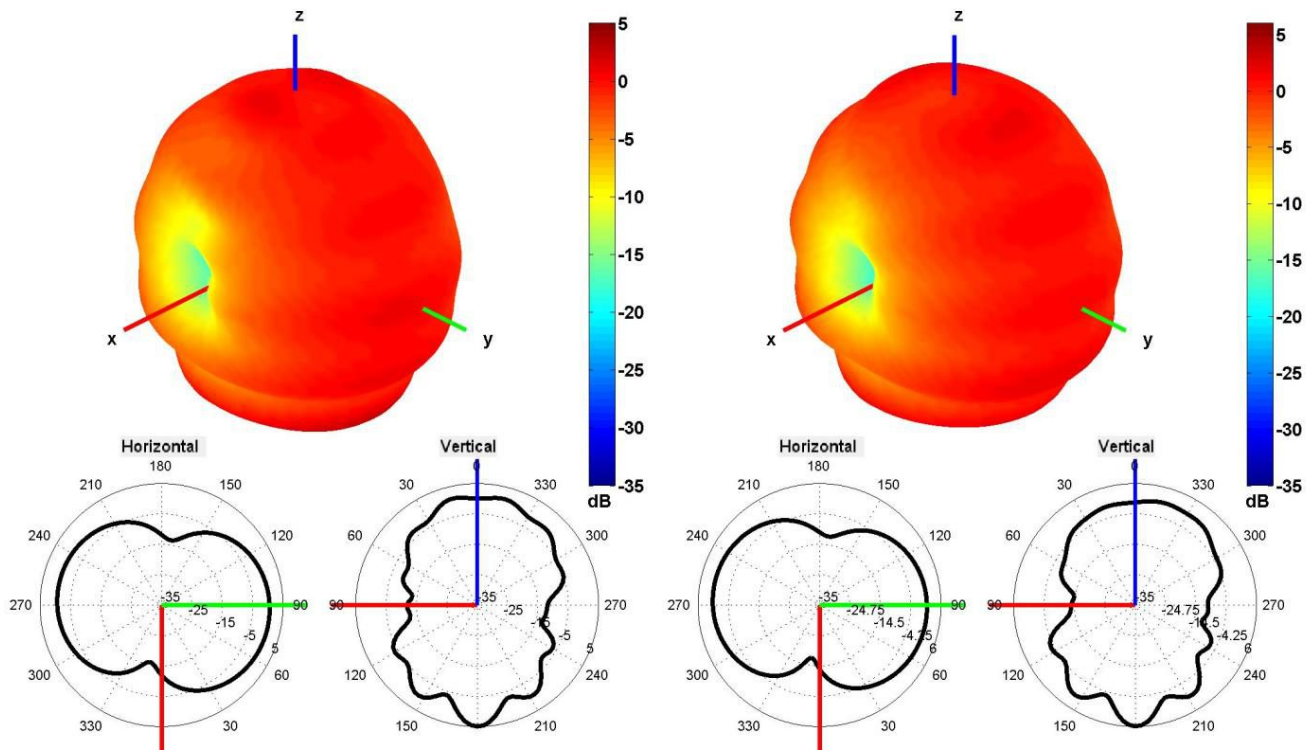
3. Antenna parameters





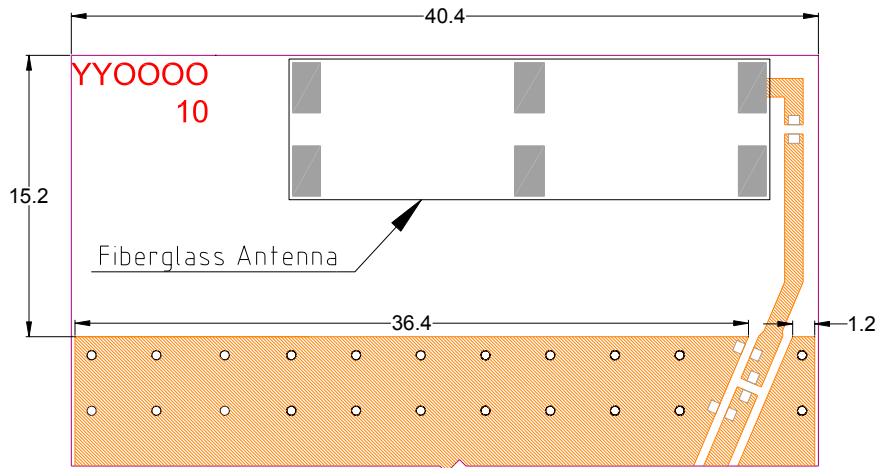


Radiation pattern reference



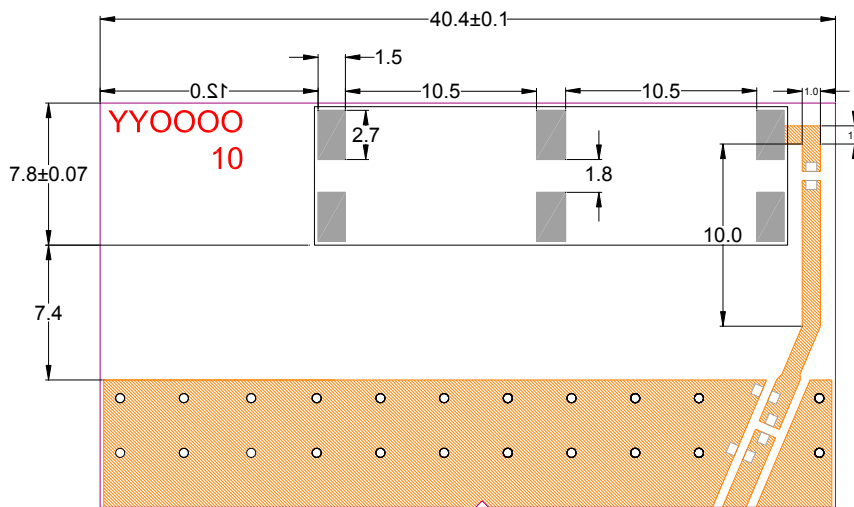
868 and 915 MHz Radiation pattern

4. PCB Layout



Minimum area required for antenna integration (40.4mm × 15.2mm)

- Solder Region
- Copper Region
- Copper-Free Region



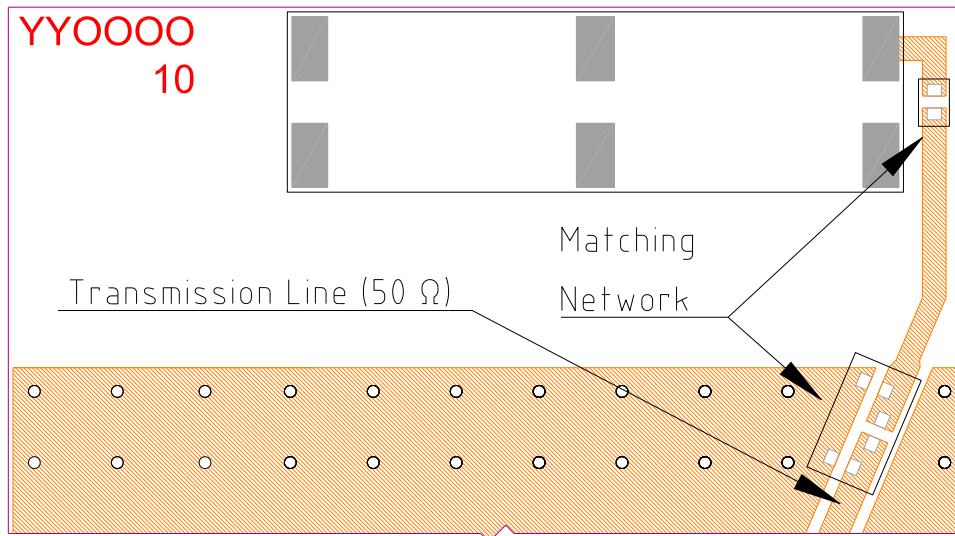
Layout dimensions for antenna integration (mm)

Tolerance of Linear Dimensions
(unless otherwise indicated):

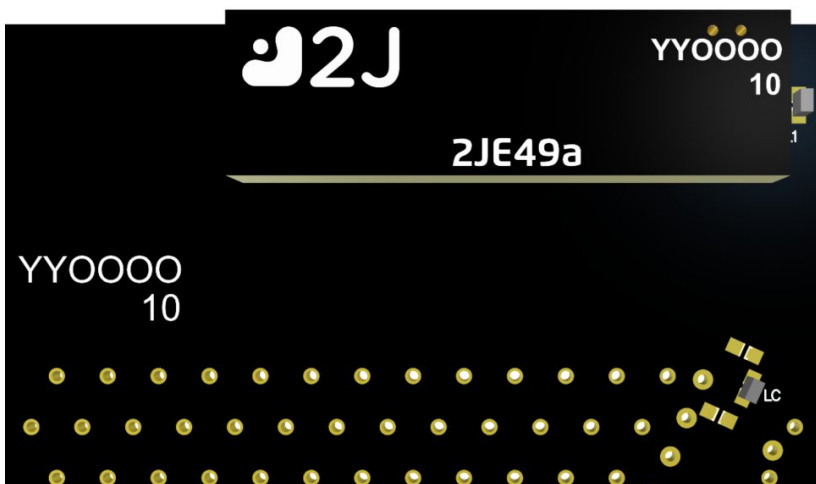
Dimension (mm)	Tolerance
0.5-6	+/-0.05
6-30	+/-0.07
30-50	+/-0.1

- Solder Region
- Copper Region
- Copper-Free Region

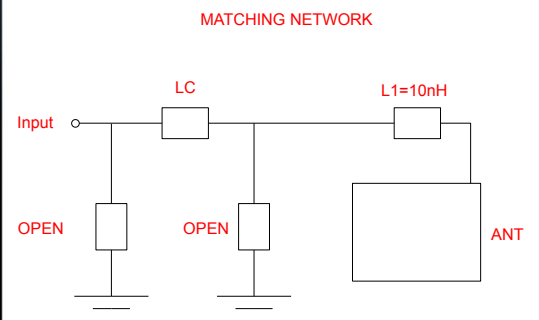
5. Matching Network



Matching network drawing

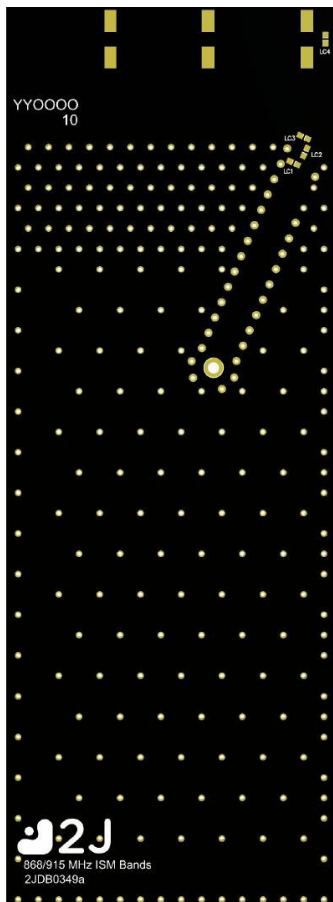


3D View of matching components and recommended values (LC = 00Ohm resistor)



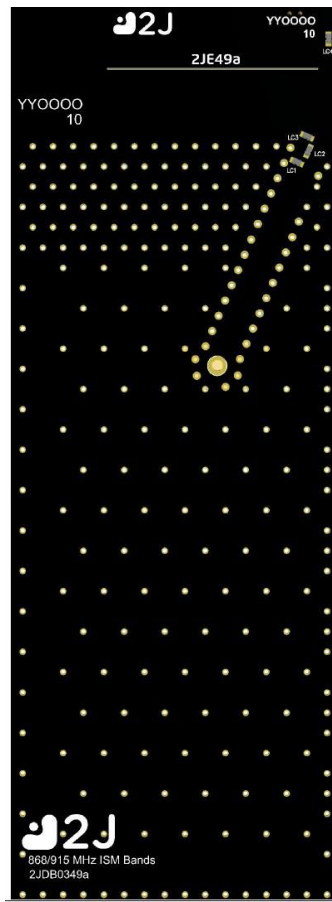
6. Evaluation Board

110.4mm x 40.4mm



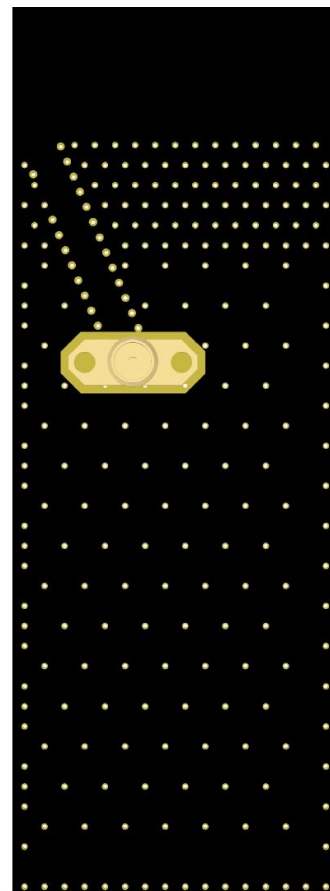
Front View without Antenna

110.4mm x 40.4mm



Front View with Antenna

110.4mm x 40.4mm



Back View

110.4mm x 40.4mm
(PCB: 0.8mm, Antenna: 3mm,
Connector: 9.5mm)



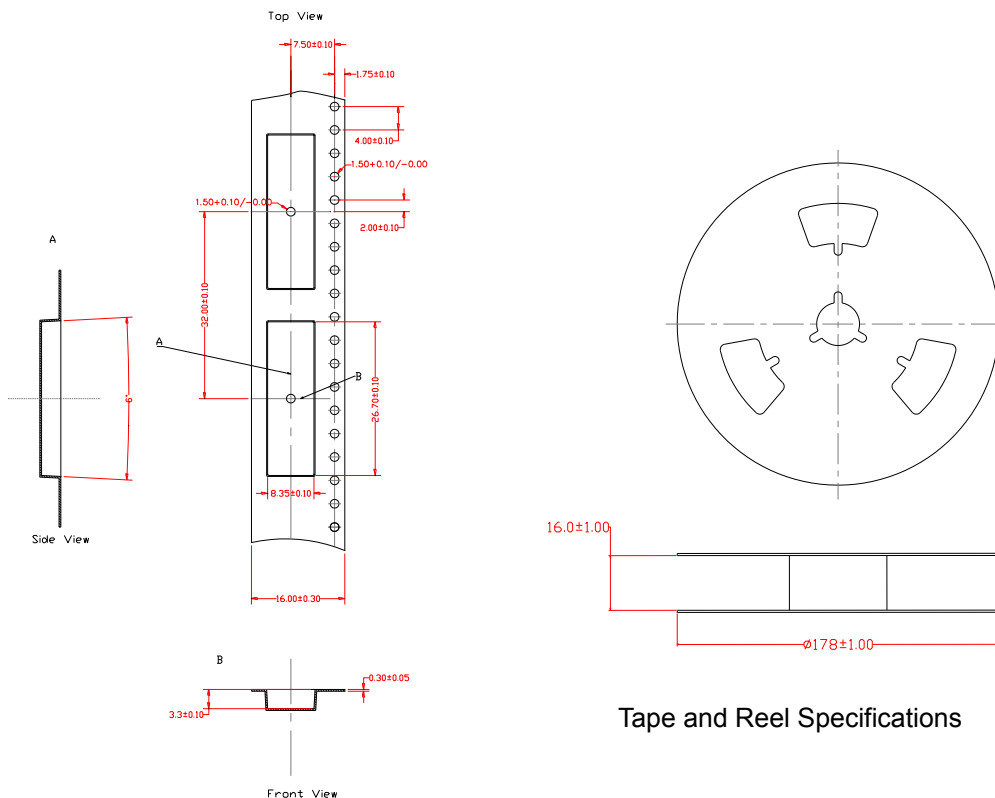
Side View

7. Packaging

PACKAGING SPECIFICATION

Antenna	2JE49a
REEL	
Max Quantity per Reel	140
REEL CARTON	
Reels per Carton	10
Max Quantity per Carton	1400
Reel Carton Dimensions (cm)	40.5 x 23 x 16.5
Reel Carton Weight (Kg)	3.3
PALLET	
Max Cartons per Pallet	70
Cartons per Layer	10
Number of Layers	7
Max Quantities per Pallet	98,000
Total Cartons Dimensions (cm)	115 x 81 x 115.5
Total Cartons Weight (Kg)	231
Pallet size and weight not included above	
Typical Pallet Size (cm)	120 x 100 x 14.4
Typical Pallet Weight (Kg)	5-25

8. Tape and Reel Information

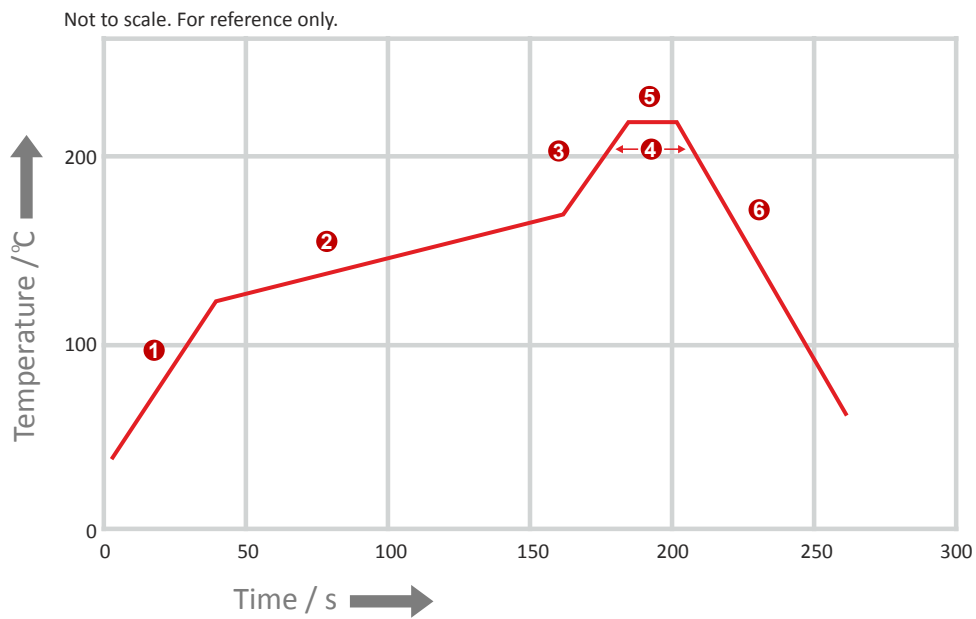


Tape and Reel Specifications

REFLOW TEMPERATURE PROFILE

Minimum Recommended Reflow Profile

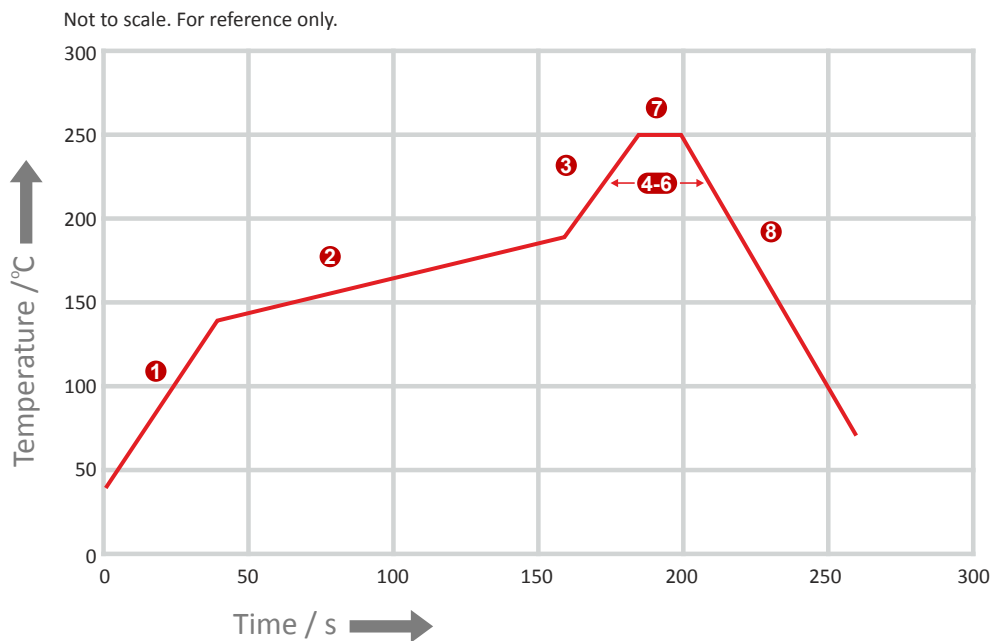
	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	2.5 °C/s
2	Soak time	2-3 minutes
3	Max temperature gradient in reflow	3 °C/s
4	Time above 217 °C	Max 30 sec
5	Peak temperature in reflow	230 °C for 10 seconds
6	Temperature gradient in cooling	Max -5 °C/s



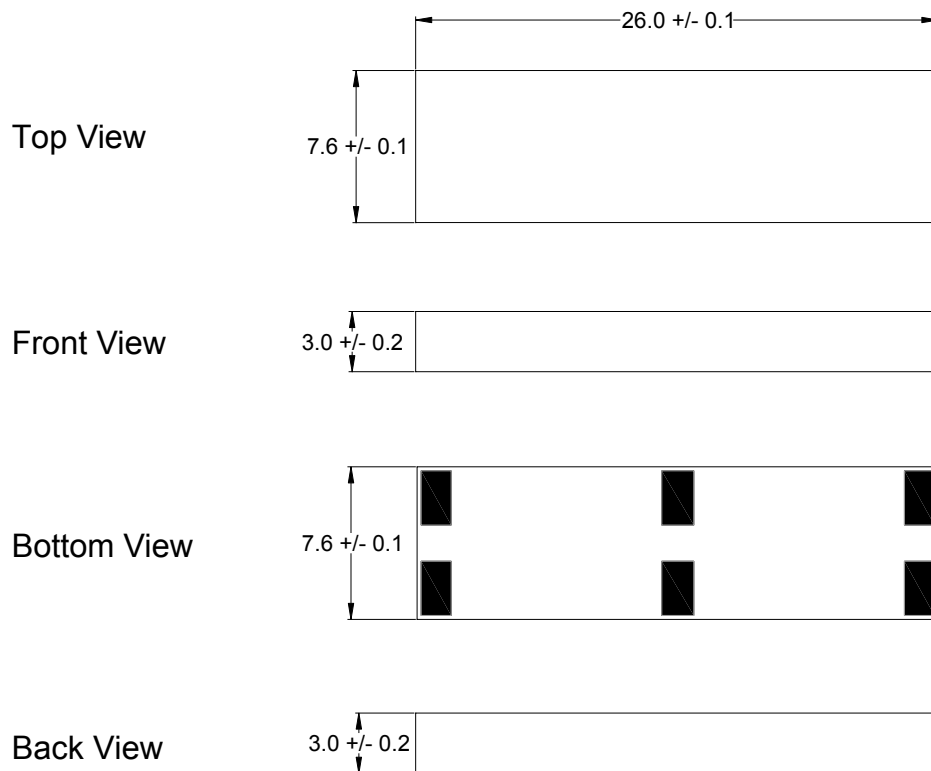
REFLOW TEMPERATURE PROFILE

Maximum Recommended Reflow Profile

	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	2.5 °C/s
2	Soak time	2-3 minutes
3	Max temperature gradient in reflow	3 °C/s
4	Time above 217 °C	Max 60 sec
5	Time above 230 °C	Max 50 sec
6	Time above 250 °C	Max 10 sec
7	Peak temperature in reflow	260 °C for 5 seconds
8	Temperature gradient in cooling	Max -5 °C/s



9. Antenna drawings



Dimensions for fiberglass antenna 26 x 7.6 x 3 mm ± 0.2 mm

10. Antenna Images

