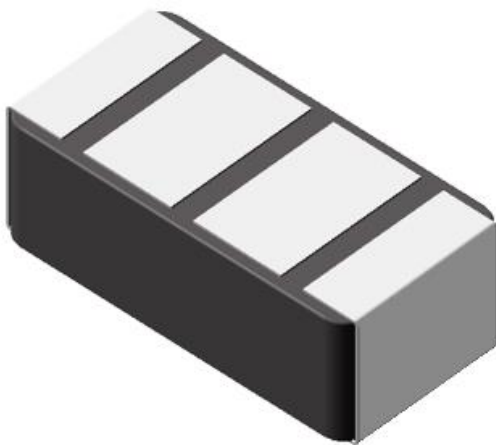


Description: 2.4GHz Ceramic Chip Antenna

Series: Ceramic Chip Antenna

PART NUMBER: W3008G



Features:

- Frequency 2400-2483.5MHz
- Size 3.2 x 1.6 x 1.1mm
- Efficiency >80%
- Gain >1.5dBi
- SMD compatible
- MSL 3

Applications:

- 2.4GHz ISM band radios
- Bluetooth, BLE
- WiFi 2.4GHz
- IoT, M2M devices

All dimensions are in mm / inches

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Pulse (Suzhou) Wireless Products Co, Inc.
99 Huo Ju Road(#29 Bldg,4th Phase
Suzhou New District
Jiangsu Province, Suzhou 215009 PR China
Tel: 86 512 6807 9998



Description: 2.4GHz Ceramic Chip Antenna

Series: Ceramic Chip Antenna

PART NUMBER: W3008G

ELECTRICAL SPECIFICATIONS

Antenna Type	Ceramic Chip
Frequency	2400-2483.5MHz
Nominal Impedance	50 Ω
VSWR	<1.6:1
Radiation Pattern	Omni
Gain	>1.5dBi
Efficiency	>80%
Polarization	Linear
Power Withstanding	2W

MECHANICAL SPECIFICATIONS

Weight	0.03 g
Overall Length	3.2 [0.126] MM [INCHES]
Over all width	1.6 [0.063] MM [INCHES]
Over all thickness	1.1 [0.043] MM [INCHES]
MSL (Moisture Sensitivity Level)	3

ENVIRONMENTAL SPECIFICATIONS

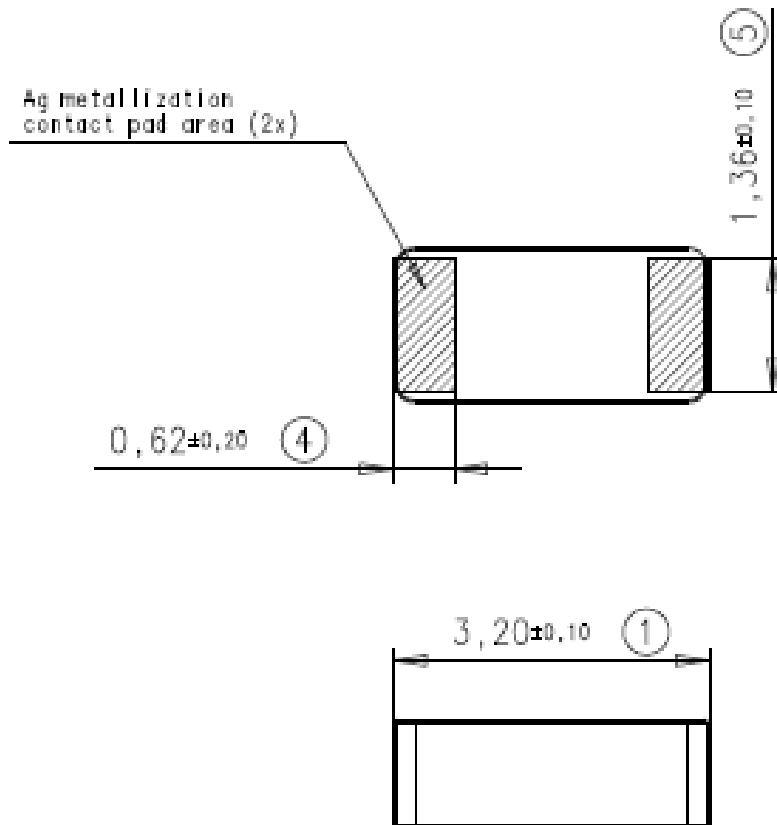
Operating Temperature	-40 / +85 ° C
Storage Temperature	-40 / +85 ° C
RoHS Compliant	Yes

Description: 2.4GHz Ceramic Chip Antenna

Series: Ceramic Chip Antenna

PART NUMBER: W3008G

MECHANICAL DRAWING



Antenna features		
No.	Terminal Name	Terminal Dimensions
1	Feed / GND	0.62 x 1.36 mm
2	Feed / GND	0.62 x 1.36 mm
Antenna is symmetrical. Either of terminals 1 or 2 can be Feed / GND		

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Description: 2.4GHz Ceramic Chip Antenna

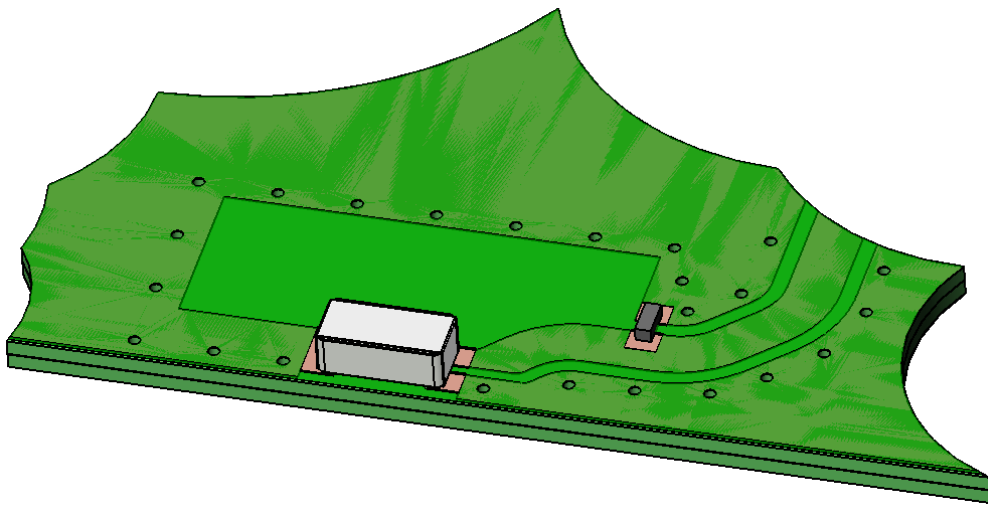
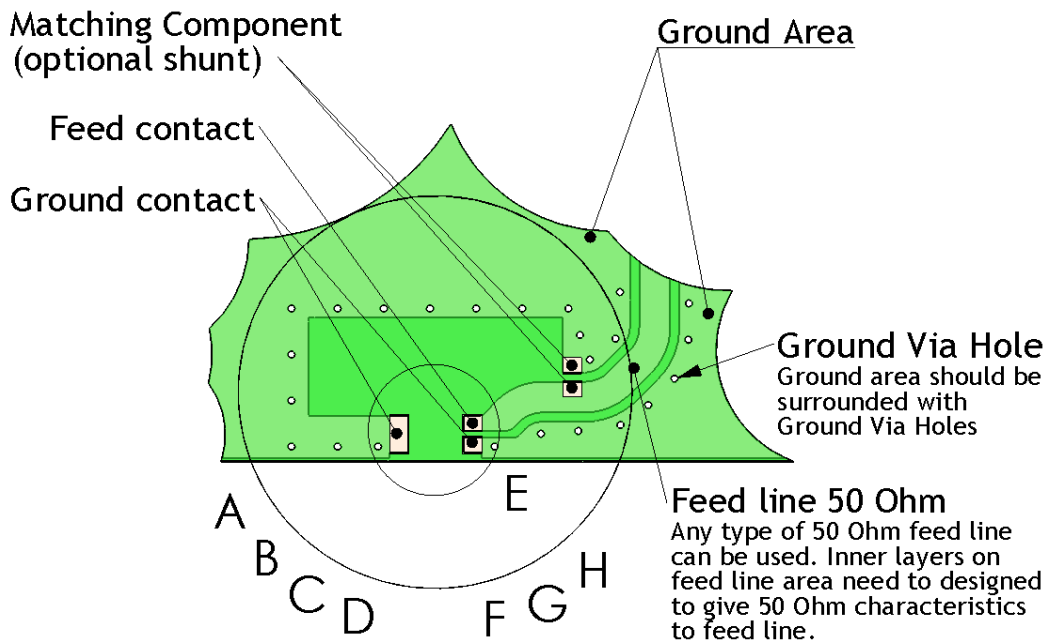
Series: Ceramic Chip Antenna

PART NUMBER: W3008G

OTHER SPECIFICATIONS

PWB Layout

Typical performance (test board size 80x37 mm, PWB ground clearance area 11.00 x 6.25 mm) Antenna placed 80mm edge center position.



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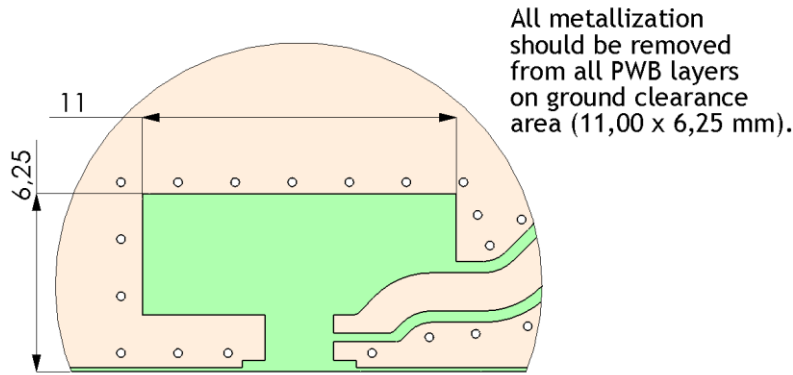
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OTHER SPECIFICATIONS

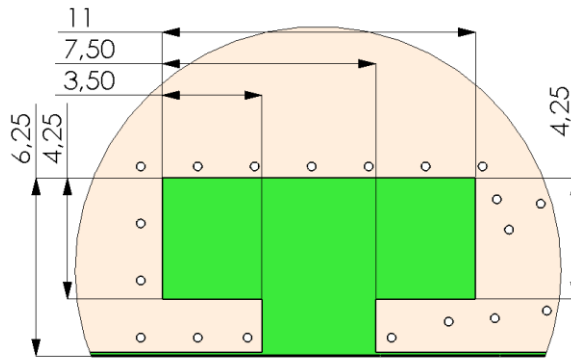
Ground cleared under antenna, clearance area 11.00 x 6.25 mm

Ground clearance area (11,00 x 6,25 mm)



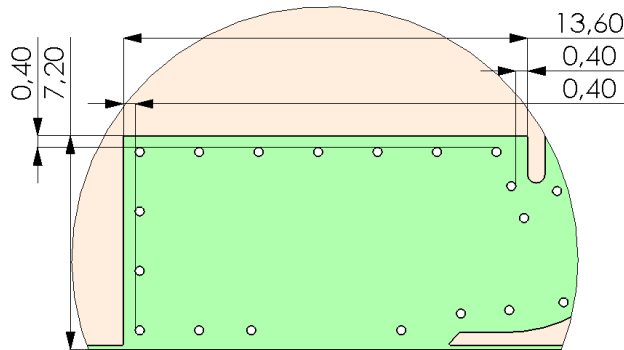
DETAIL A

Opening in bottom/inner ground layers



DETAIL B

Opening in other layers (no ground/ RF)



DETAIL C

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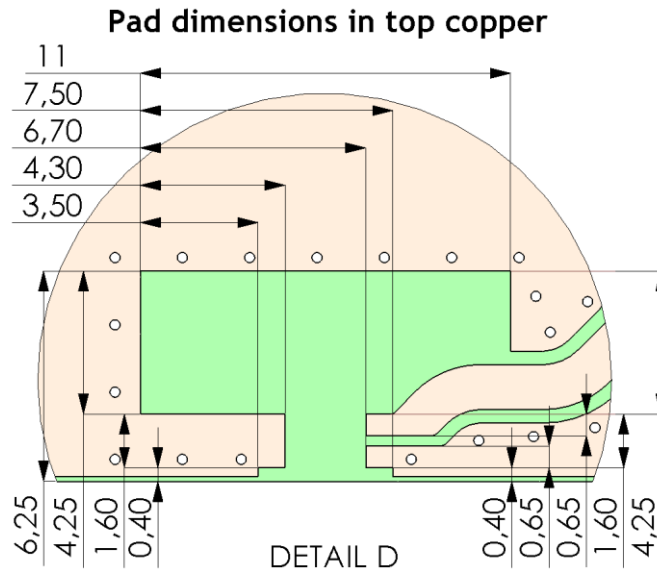
Description: 2.4GHz Ceramic Chip Antenna

Series: Ceramic Chip Antenna

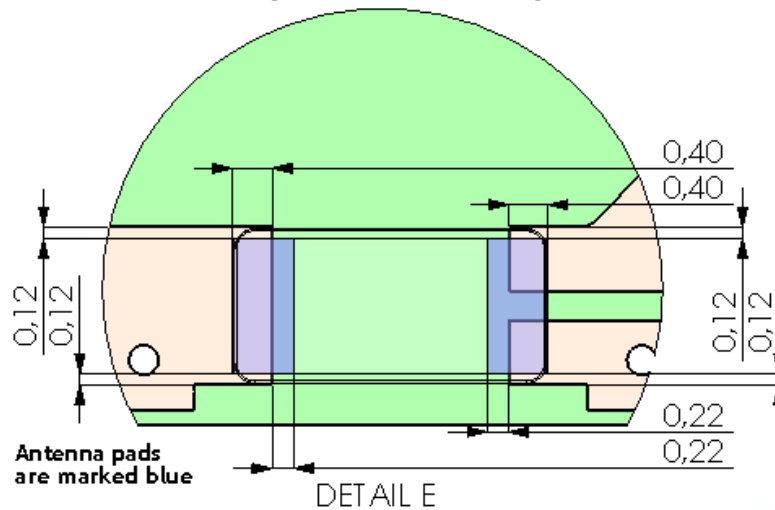
PART NUMBER: W3008G

OTHER SPECIFICATIONS

PWB pad dimensions and antenna position



Antenna position on PWB layout



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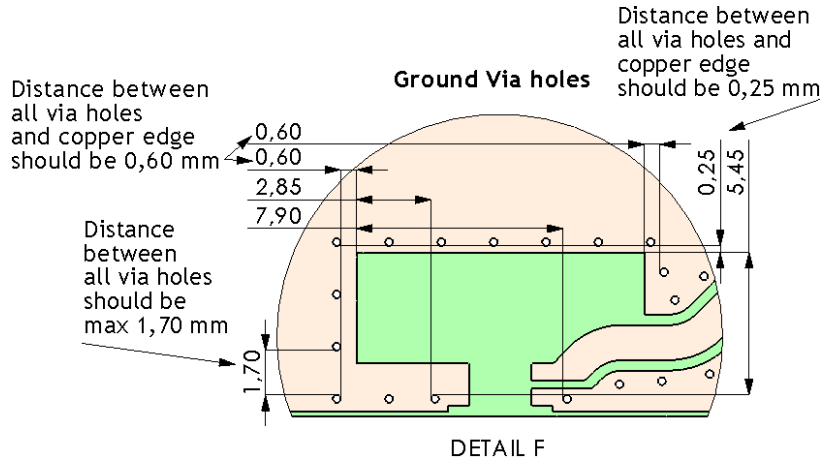
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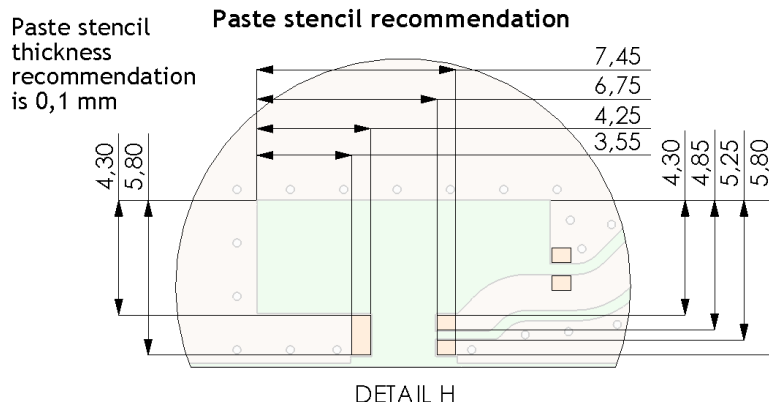
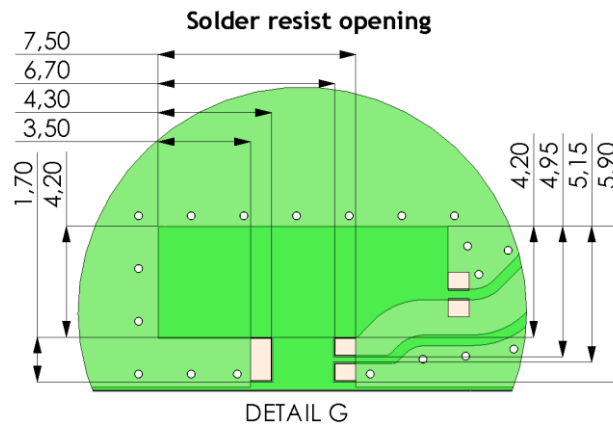
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OTHER SPECIFICATIONS

Typical Ground via hole placement in PWB layout



Solder resist opening and paste stencil recommendations



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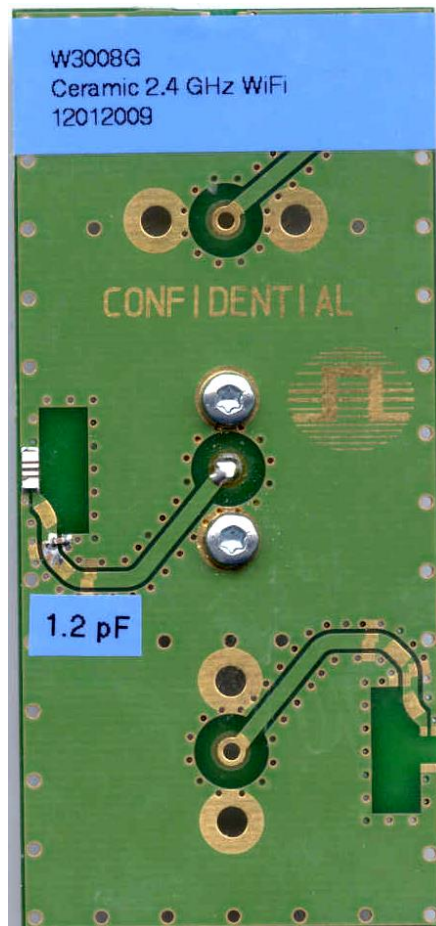
Description: 2.4GHz Ceramic Chip Antenna

Series: Ceramic Chip Antenna

PART NUMBER: W3008G

TEST SETUP

All RF parameters measured on 37x80mm evaluation board.
Antenna placement on side center position of PCB long edge.
Shunt 1.2pF capacitor for matching.



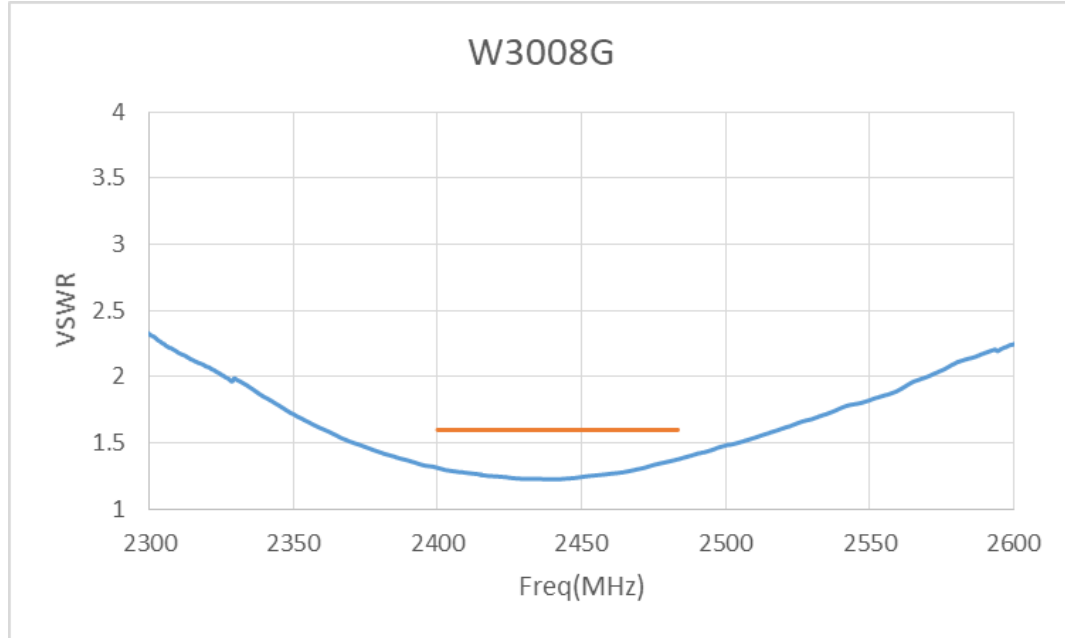
Description: 2.4GHz Ceramic Chip Antenna

Series: Ceramic Chip Antenna

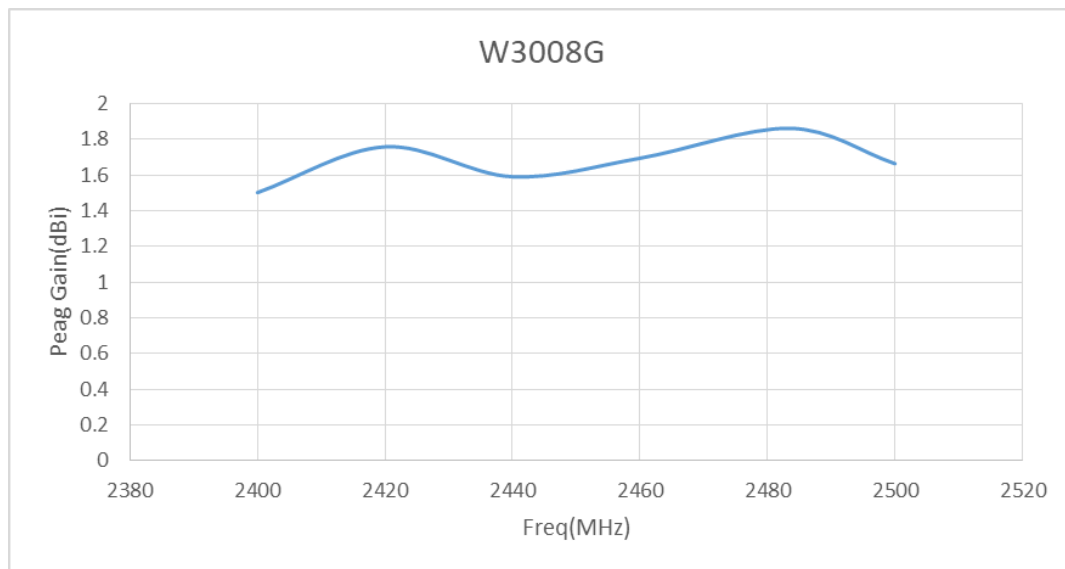
PART NUMBER: W3008G

CHARTS

VSWR



Peak Gain



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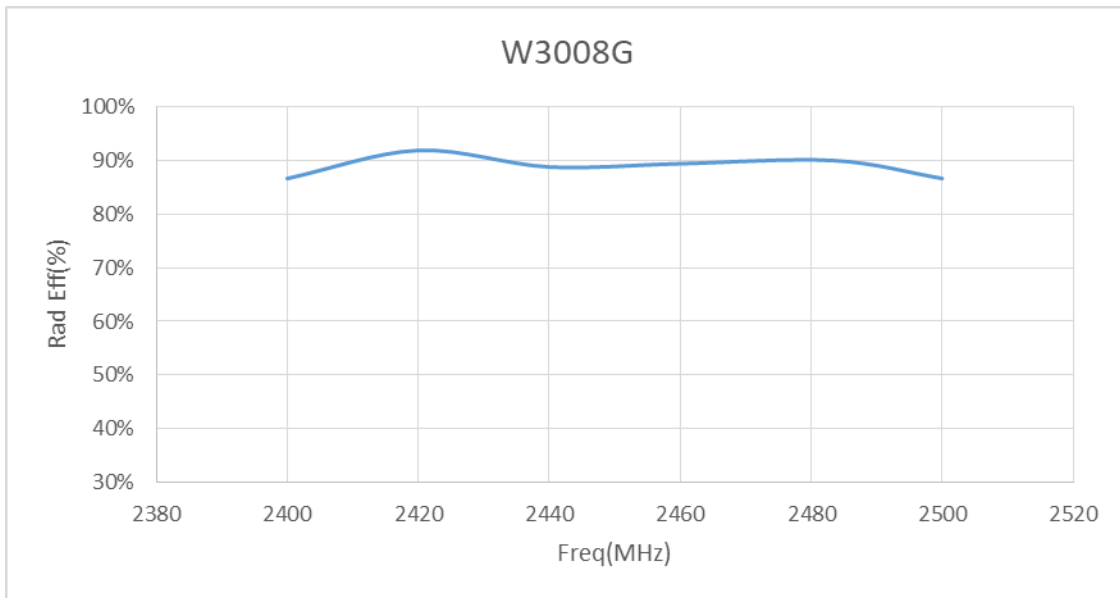
Description: 2.4GHz Ceramic Chip Antenna

Series: Ceramic Chip Antenna

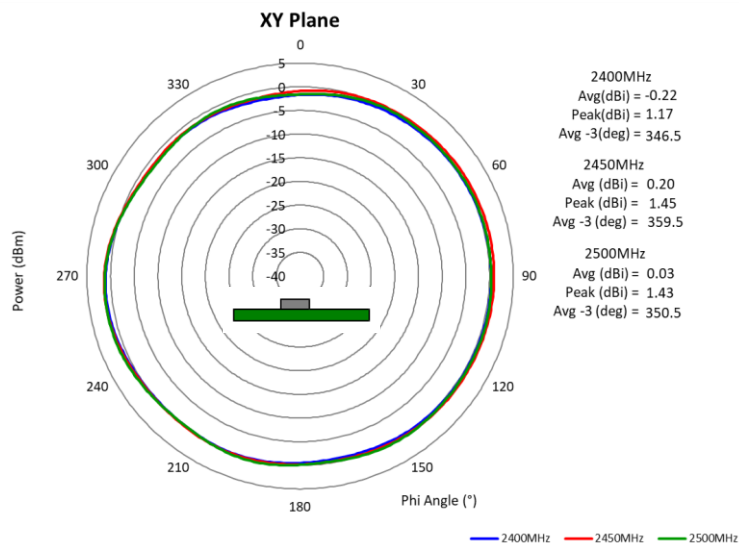
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CHARTS

Radiation Efficiency



Radiation pattern X-Y plane



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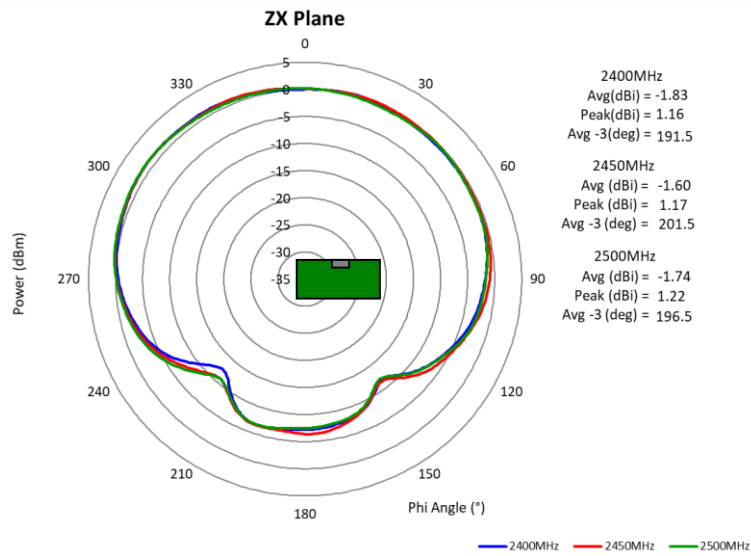
Description: 2.4GHz Ceramic Chip Antenna

Series: Ceramic Chip Antenna

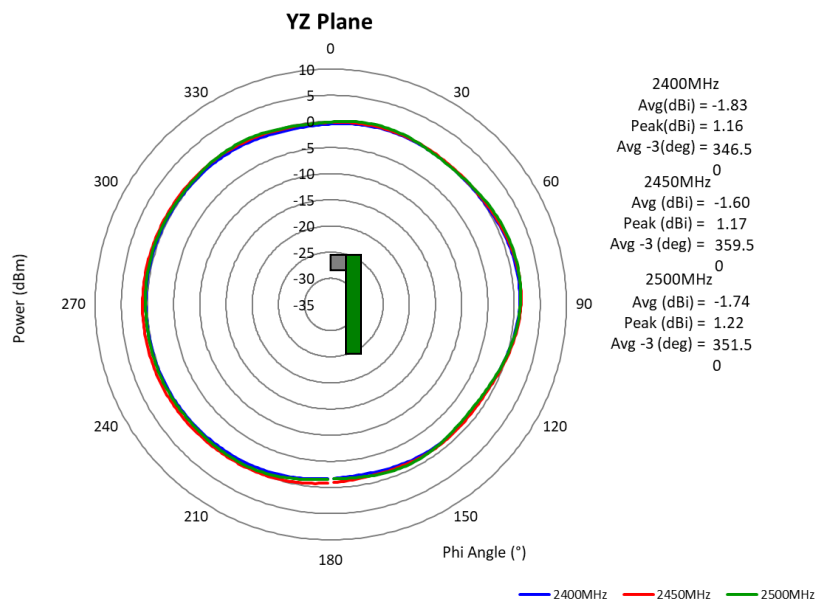
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CHARTS

Radiation pattern Z-X plane



Radiation pattern Y-Z plane



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Recommendation for reflow soldering process

Printing stencil thickness 0,15 - 0,25 mm is recommended for the solder paste. The maximum soldering temperature should not exceed 260°C. The temperature profile recommendations for reflow soldering process is presented in the Figures 1 and 2. The reflow profile

presented in figure 1 describes minimum reflow temperatures. The reflow profile presented in figure 2 describes maximum reflow temperatures. located at the center of the coverage area.

	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

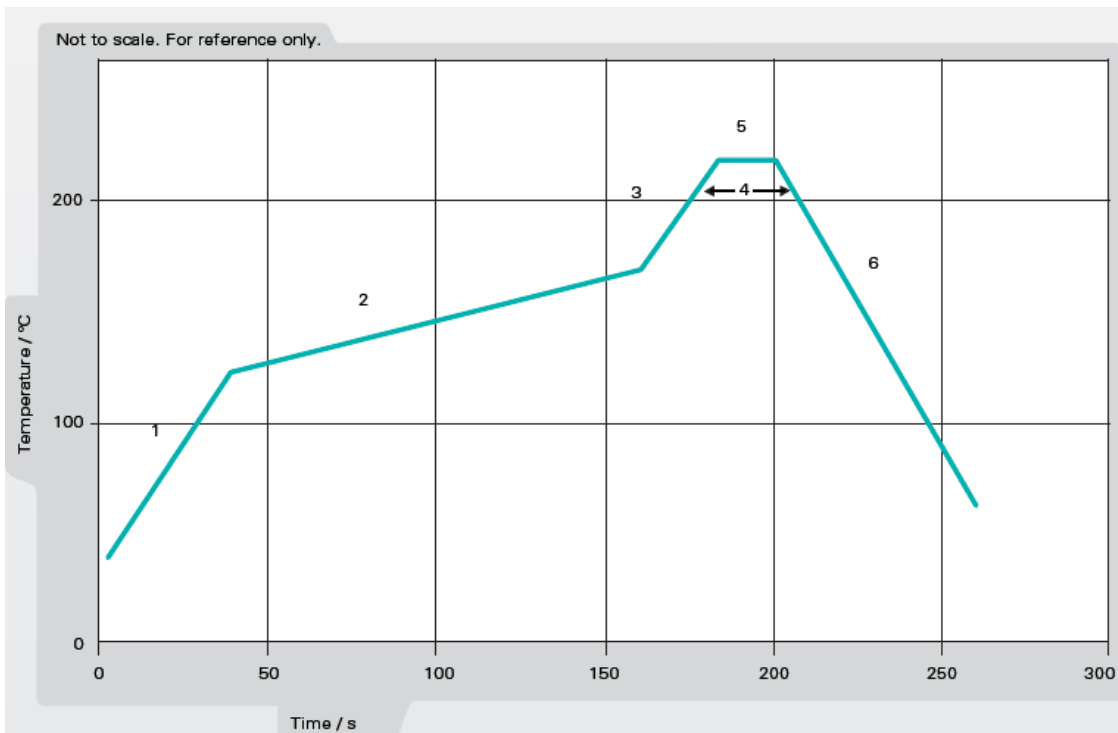


Figure 1. Minimum temperature profile recommendation for reflow soldering process

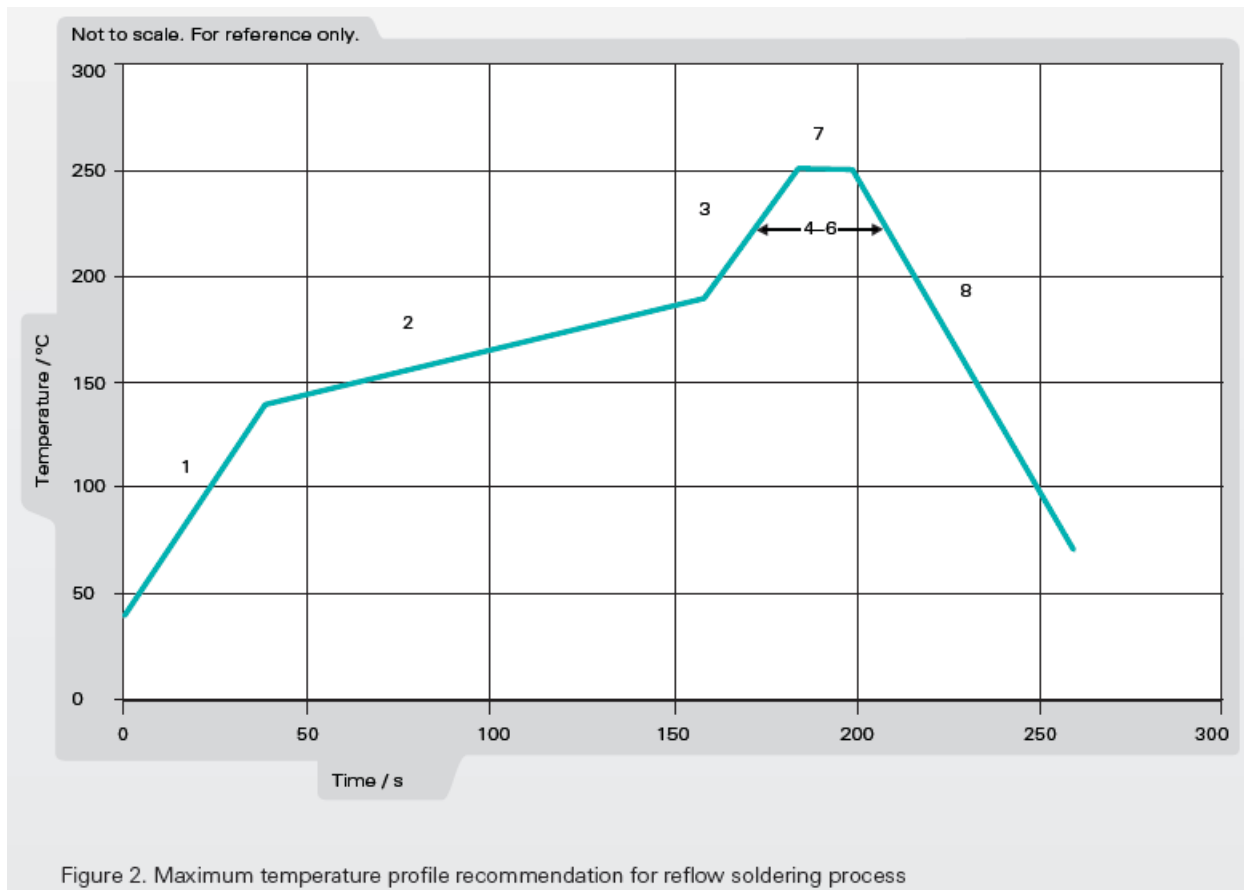
Description: 2.4GHz Ceramic Chip Antenna

Series: Ceramic Chip Antenna

PART NUMBER: W3008G

Recommendation for reflow soldering process

	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



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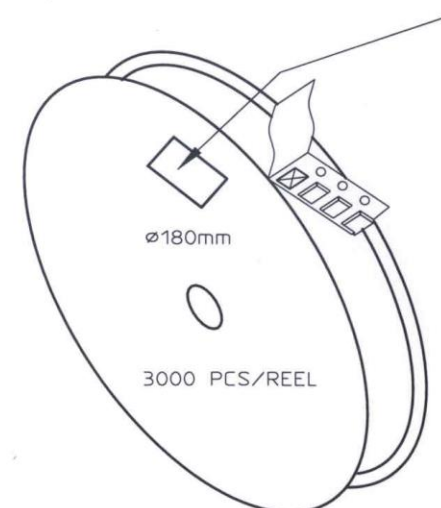
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Description: 2.4GHz Ceramic Chip Antenna

Series: Ceramic Chip Antenna

PART NUMBER: W3008G

PACKAGING

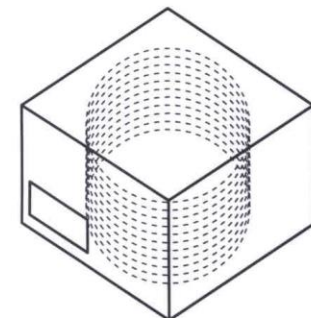


REEL LABEL INFORMATION:
 - TRACEABILITY
 - QUANTITY
 - PRODUCT CODE


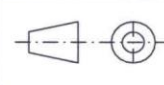
CARRIER TAPE H85-00125
 width=8,00 depth=1,22
 COVER TAPE H85-00126
 width=5,60

LENGTH OF TAPE:
 - Leader section: min 350 mm before component section
 - Trailer section: min 40 mm after component section.

Empty part cavities at leader and trailer section of the tape must be sealed with top cover tape.



BOX H85-00128 (182x182x132)	1 pcs
- LABEL	1 pcs/BOX
REEL H85-00127 (D180, W12)	10 pcs
- REEL LABEL	1 pcs/REEL

MATERIAL				
HANDLINGS				
		RATIO	DRWN 090507 PeHa H	
			DGNER	G
			CHKD	F
			APPRD	E
PRODUCT H90-OY805		APPRD BY	D	
DENOMINATION PACKING FORM			C	
			B	
			A	
		VERSION	MOD/DATE/NAME	

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