

High Frequency Ceramic Solutions

2.45 GHz SMD Antenna, EIA 1206, Detuning resilient, Edge Mount Design

P/N 2450AT18D0100

Detail Specification: 2/11/2021

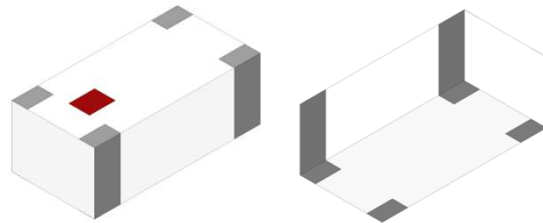
Page 1 of 7

Let us help you with the antenna design, optimization, and tuning!

<https://www.johansontechnology.com/ask-a-question>

General Specifications

Part Number	2450AT18D0100
Frequency (GHz)	2.4 - 2.5
Peak Gain (dBi)	1.5 typ. (XZ-total)
Average Gain (dBi)	-1.0 typ. (XZ-total)
Radiated Efficiency ¹	72%
Return Loss (dB)	10 min.
Impedance (Ω)	50
Input Power (W)	3 max. (CW)
Operating Temperature	-40 to +125°C



Recommended Storage Conditions and Period for unused Product on T&R	+5 to +35°C Humidity 45 - 75% RH 18 months max.
Quantity/Reel (pcs.)	3,000

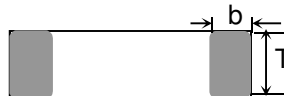
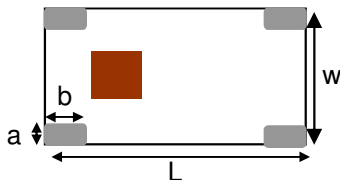
¹Efficiency measured on Johanson's evaluation board PN 2450AT18D0100-EB1SMA

Part Number Explanation

P/N Suffix	Packing Style	Bulk (loose pcs.)	Suffix = S	e.g. 2450AT18D0100S
		T & R	Suffix = E	e.g. 2450AT18D0100E
		100% Tin	Suffix = None	e.g. 2450AT18D0100(E or S)
	Evaluation Board	2450AT18D0100-EB1SMA		

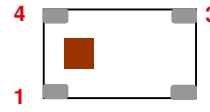
Mechanical Dimensions

	in	mm
L	0.126 ± 0.008	3.20 ± 0.2
W	0.063 ± 0.008	1.60 ± 0.2
T	0.047 ± 0.004	1.20 ± 0.1
a	0.012 +0.004 / -0.008	0.30 +0.1 / -0.2
b	0.020 ± 0.008	0.50 ± 0.2



Terminal Configuration

No.	Function 1	Function 2
1	FEED	GND
2	GND	GND
3	GND	GND
4	GND	FEED



Function 1: Antenna fed from left
Function 2: Antenna fed from right

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver. 4.3

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

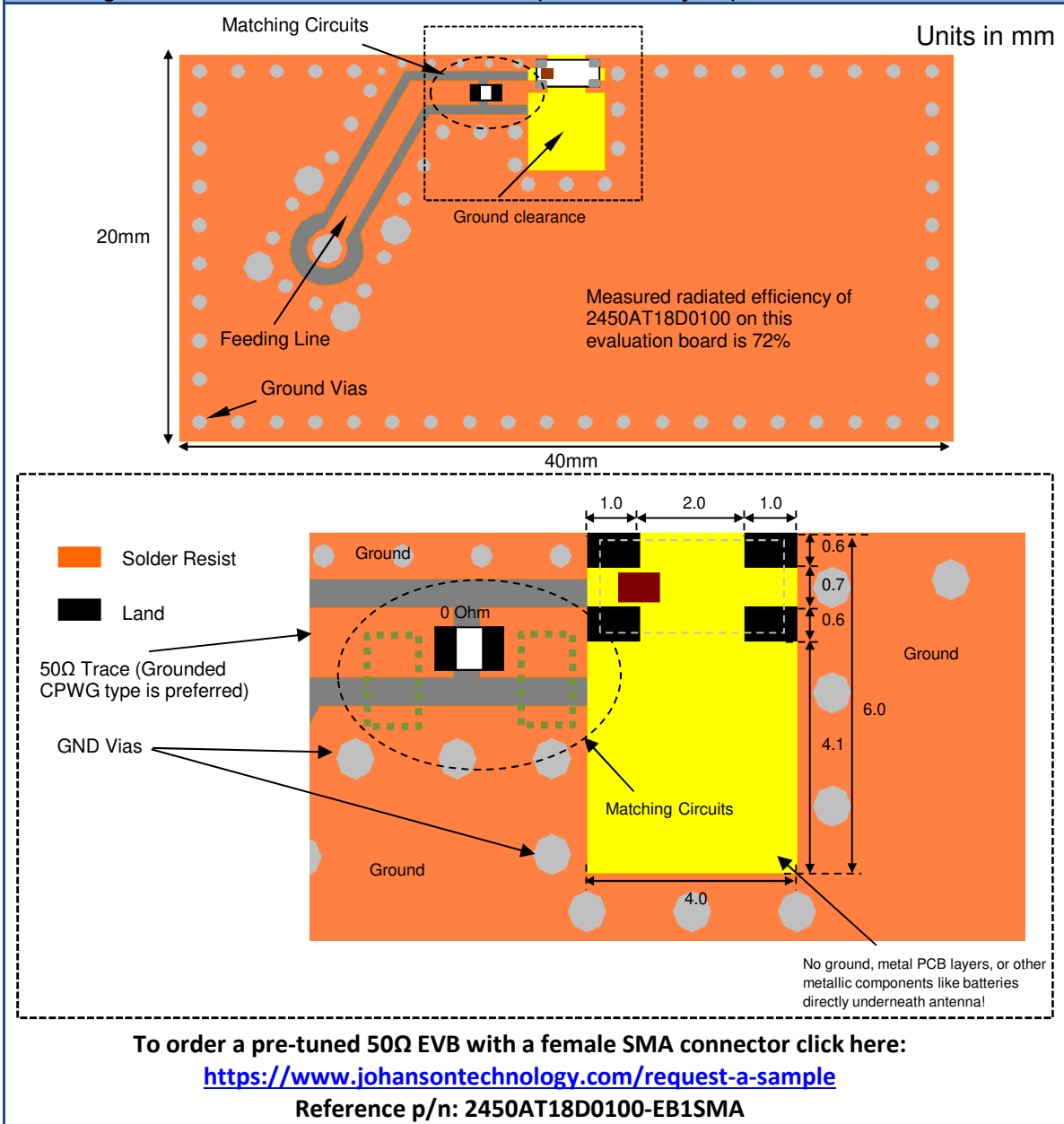
2.45 GHz SMD Antenna, EIA 1206, Detuning resilient,
Edge Mount Design

P/N 2450AT18D0100

Detail Specification: 2/11/2021

Page 2 of 7

Mounting Considerations 1: Evaluation Board (Standard Layout)



Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver. 4.3

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

2.45 GHz SMD Antenna, EIA 1206, Detuning resilient,
Edge Mount Design

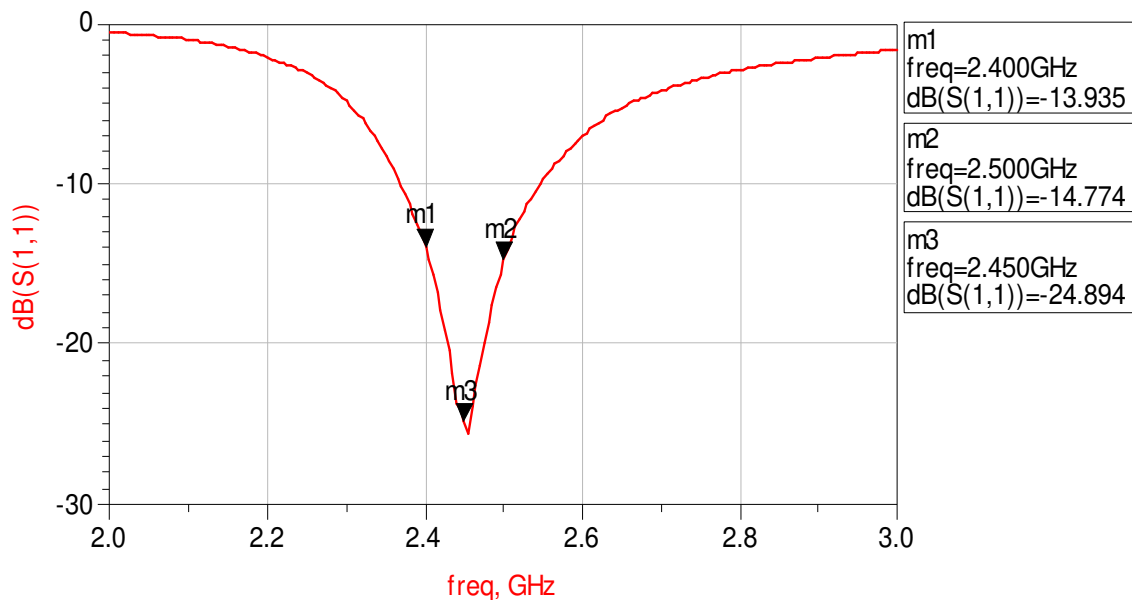
P/N 2450AT18D0100

Detail Specification: 2/11/2021

Page 3 of 7

Mounting Considerations 1: Electrical Performance @25°C

Measured Return Loss



Would you like the antenna layout? Have antenna tuning issues?
Please contact us if you have any questions regarding the implementation of this antenna in your PCB's layout. We'll be happy to guide you to maximize the antenna's performance.

Contact our applications engineers at:

<https://www.johansontechnology.com/ask-a-question>

Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver. 4.3

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

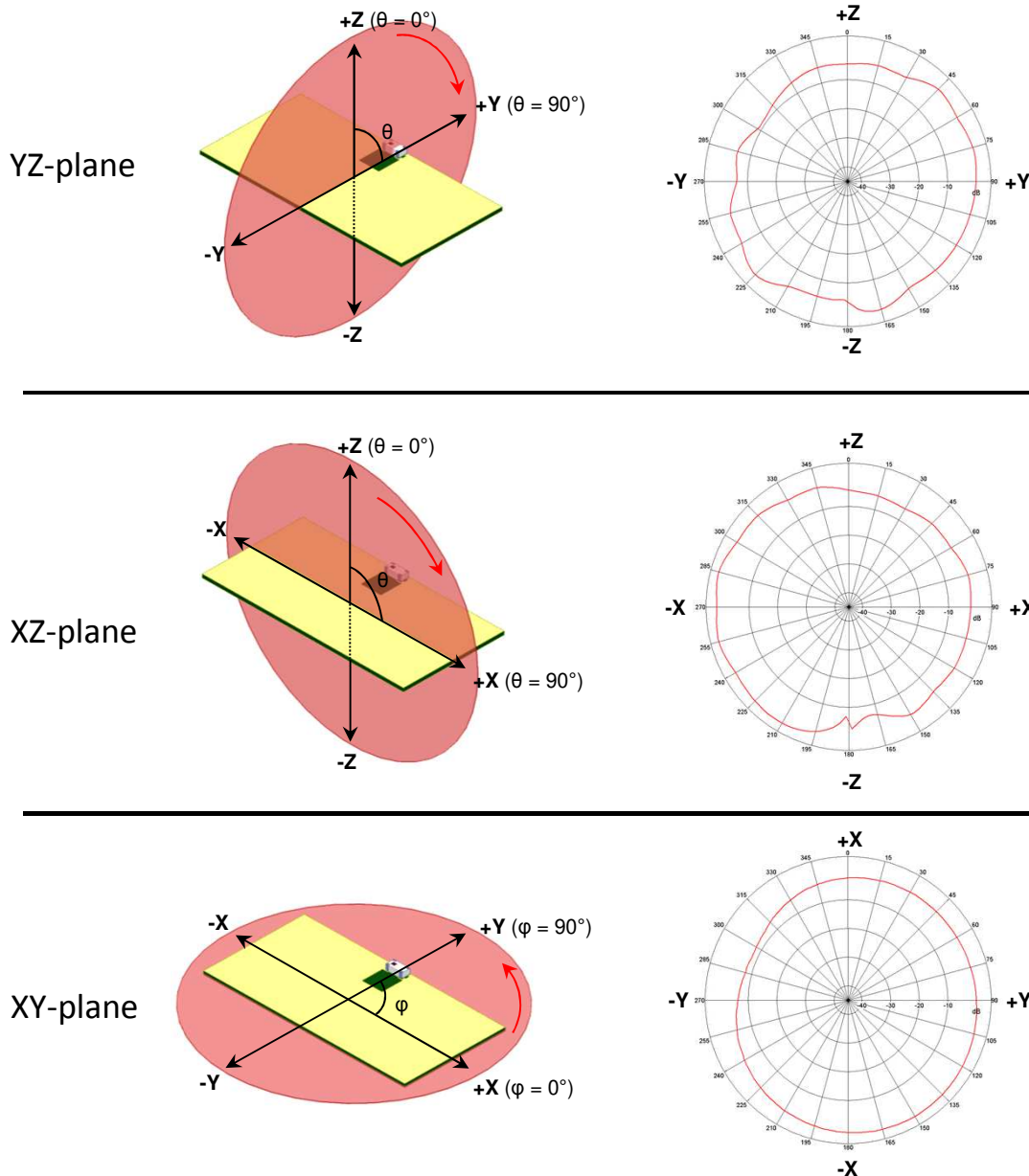
2.45 GHz SMD Antenna, EIA 1206, Detuning resilient,
Edge Mount Design

P/N 2450AT18D0100

Detail Specification: 2/11/2021

Page 4 of 7

Mounting Considerations 1: Typical 2D radiation patterns @ 2.44GHz



Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



Ver. 4.3

<https://www.johansontechnology.com>

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

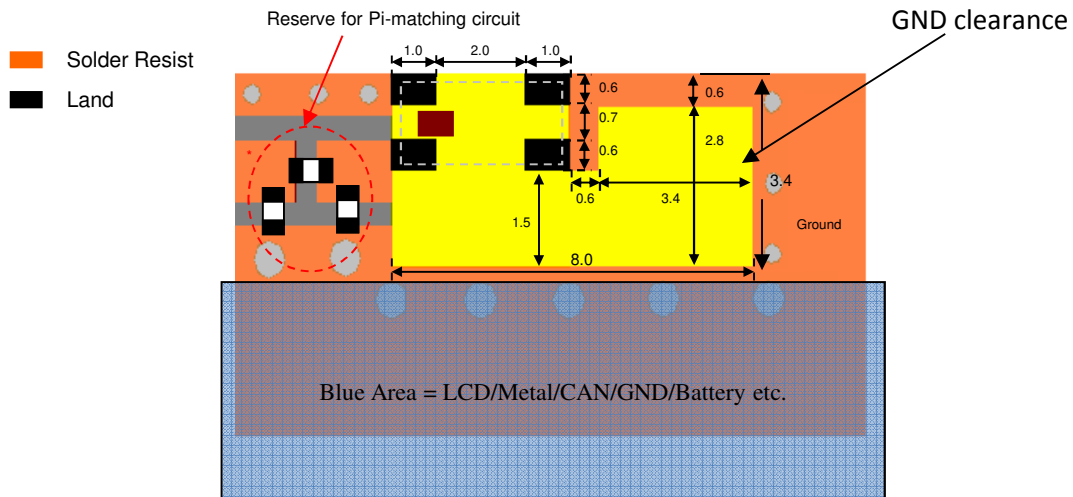
2.45 GHz SMD Antenna, EIA 1206, Detuning resilient,
Edge Mount Design

P/N 2450AT18D0100

Detail Specification: 2/11/2021

Page 5 of 7

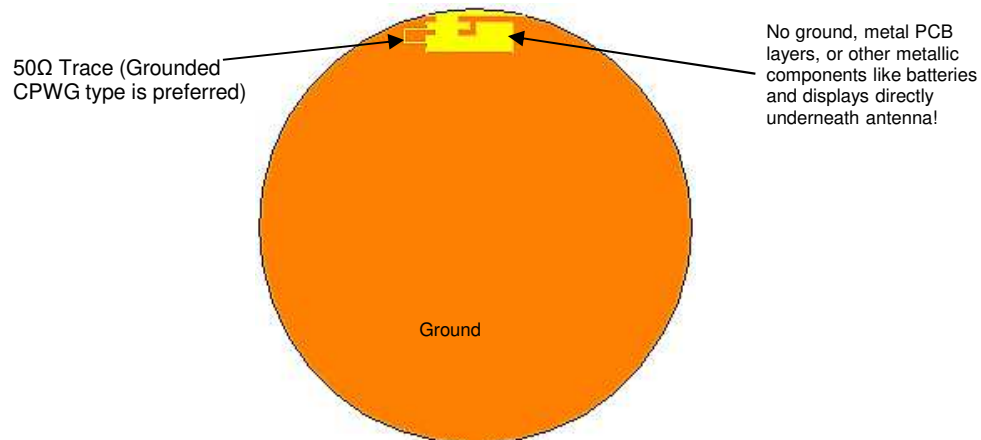
Mounting Considerations 2: Small Clearance or "Thin edge" Applications*



*Evaluation board not available

Units in mm

Mounting Considerations 3: "Thin edge" application on circular PCB



Want the layout file of this example? Send us a message at:

<https://www.johansontechnology.com/ask-a-question>

*Evaluation board not available

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver. 4.3 2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

2.45 GHz SMD Antenna, EIA 1206, Detuning resilient,
Edge Mount Design

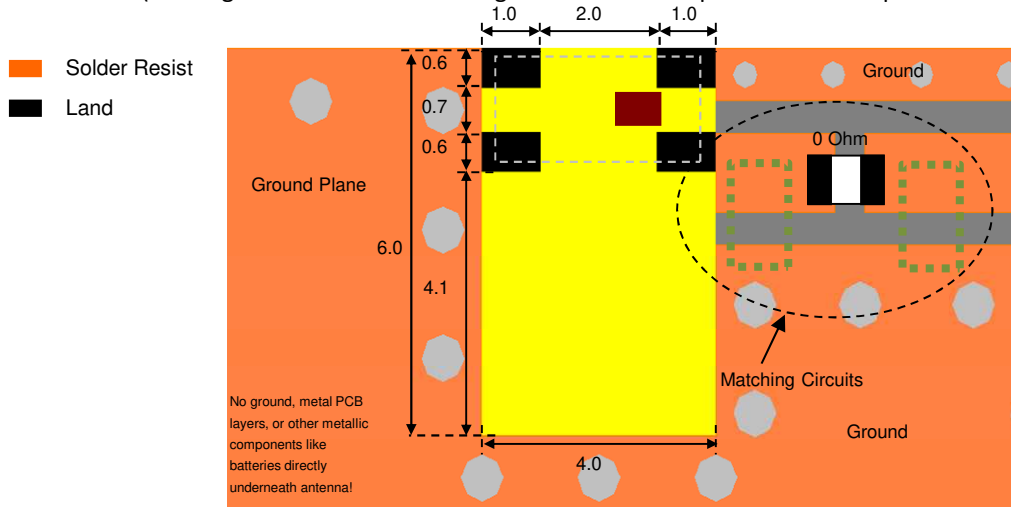
P/N 2450AT18D0100

Detail Specification: 2/11/2021

Page 6 of 7

Mounting Considerations 4: Fed from Right Side*

(Feeding the antenna from the right will have no impact on antenna performance)



Units in mm

*Evaluation board not available

Would you like the layout file of the above? Have antenna tuning issues?
Please contact us if you have any questions regarding the implementation of this antenna in your PCB's layout. We'll be happy to guide you to maximize the antenna's performance.

Contact our applications engineers at:

<https://www.johansontechnology.com/ask-a-question>

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver. 4.3 2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

**2.45 GHz SMD Antenna, EIA 1206, Detuning resilient,
Edge Mount Design**

P/N 2450AT18D0100

Detail Specification: 2/11/2021

Page 7 of 7

Antenna tuning, optimization, and validation services:

<https://www.johansontechnology.com/ipc-antenna-services>

For more antennas and to download measured S-parameters, go to:

<https://www.johansontechnology.com/antennas>

Soldering Information

<https://www.johansontechnology.com/ipcsoldering-profile>

MSL Info

<https://www.johansontechnology.com/msl-rating>

Packaging Information

<https://www.johansontechnology.com/tape-reel-packaging>

For layout review contact our applications team at:

<https://www.johansontechnology.com/ask-a-question>

RoHS Compliance

<https://www.johansontechnology.com/rohs-compliance>

Recommended Storage Condition and Max Shelf Life

<https://www.johansontechnology.com/recommended-storage-conditions>

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver. 4.3 2021 Johanson Technology, Inc. All Rights Reserved

SEA

SMD Small Emitter Antenna**50.80x10.60x6.80mm (33uH - 470uH)**

EMITTER ANTENNAS & SWITCHES / SHORT RANGE

**FEATURES**

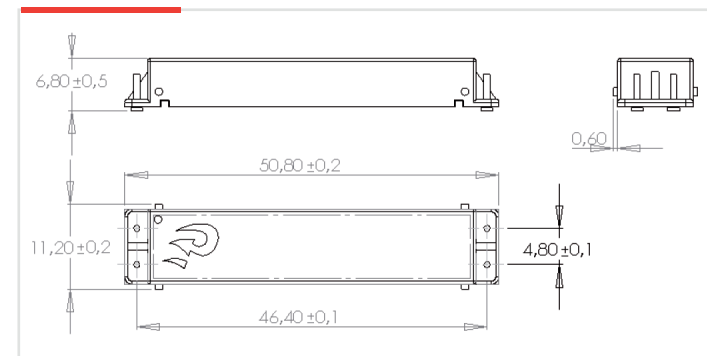
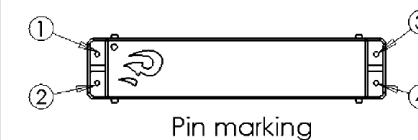
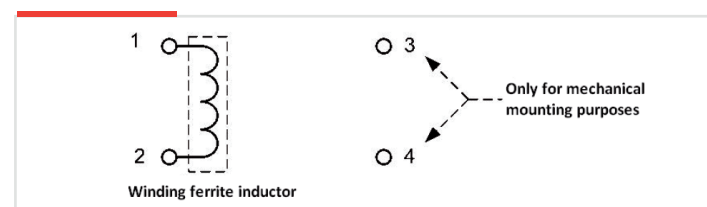
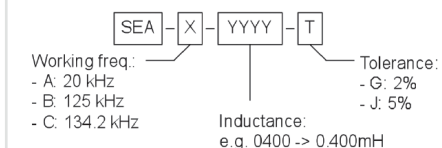
This part can be used as emitter antenna of a RF application in low frequency range and can be mounted like any other SMD component, directly to the PCB. Some use example: telemetric, telecontrol, atomic watch, PKE, etc. Size of this component compared to other existing Emitter Antennas & Switches is very small.

01 CHARACTERISTICS

- › Small size (50.8 x 10.6 x 6.8).
- › High stability in temperature (-40°C up to +85°C).
- › Wide working range (20kHz - 150KHz).
- › SMD mounting.
- › Custom inductance value under demand.

PREMO S.L.

Address: C/ Severo Ochoa 47 PTA 29590 Campanillas, Málaga, Spain

02 SPECIFICATIONS**DIMENSIONS (mm)****RECOMMENDED PAD-LAYOUT****ELECTRICAL DIAGRAM****NOMENCLATURE DESCRIPTION****ELECTRICAL SPECIFICATIONS**

	L (mH)	Tolerance	Cres (nF)	SRF (MHz)	Freq. (kHz)
SEA-A-0192J	0.192	5%	330	>3	20@
SEA-B-0345J	0.345	5%	4.7	>3	125@
SEA-B-0500J	0.500	5%	3.3	>3	125@
SEA-B-0734J	0.734	5%	2.2	>3	125@
SEA-C-0300J	0.300	5%	4.7	>3	134,2@

Add under the chart: This chart is a reference guide for the most common required values at working frequency of 20 kHz, 125 kHz or 134.2 kHz. Any other inductance value at LF or tighter tolerances can be provided. Please contact our sales department for any inquiry.

Sensitivity measured with Helmholtz coils H=8.36 App/m @125 kHz. Contact us for measurement specification

We statement that All measurements were performed radiated and therefore additional antenna gain documentation is not required.