

APPROVAL SHEET

CrossAir™ SMD Antenna series
RoHS Compliance

PN: CA-C03

2.4 GHz ISM band antenna

Approval sheet

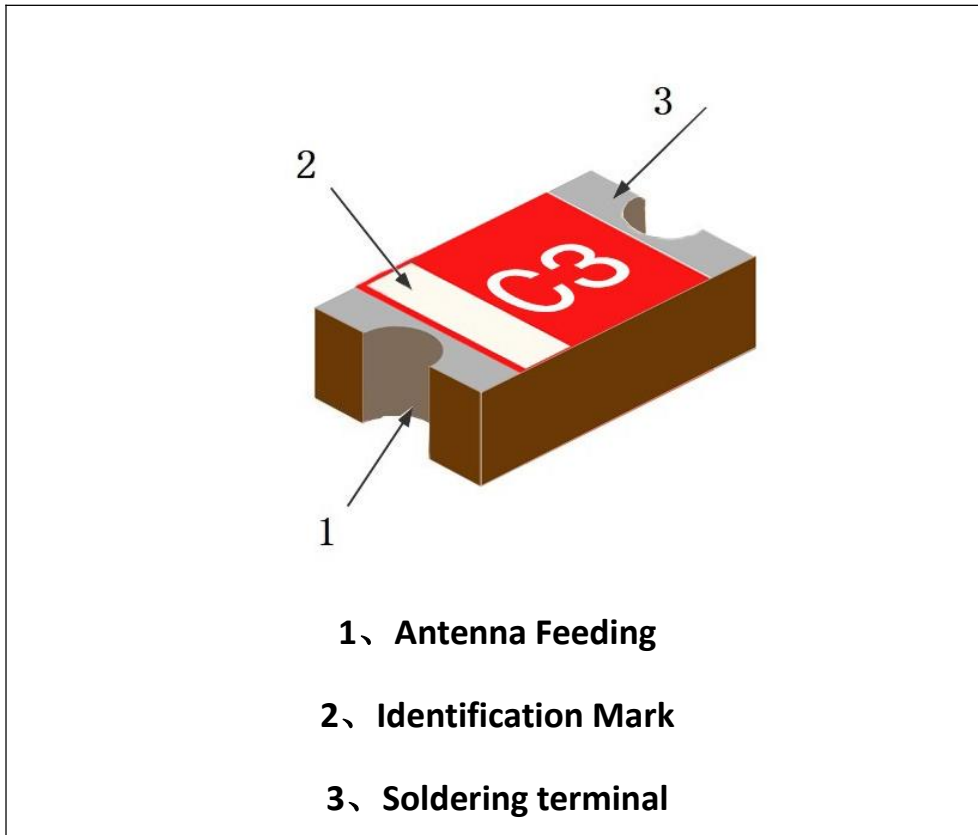
FEATURES

1. Surface Mounted Devices (SMD) with a small dimension of 5.5 X 2.0 X 1.0 mm³ meet miniaturization trend.
2. Low power loss and high antenna efficiency.
3. High stability in Temperature and Humidity Change.

APPLICATIONS

1. 2.4GHz ISM band RF applications
2. Bluetooth, ZigBee, Wireless, HomeRF
3. WIFI (2.4G only)

CONSTRUCTION



DIMENSIONS

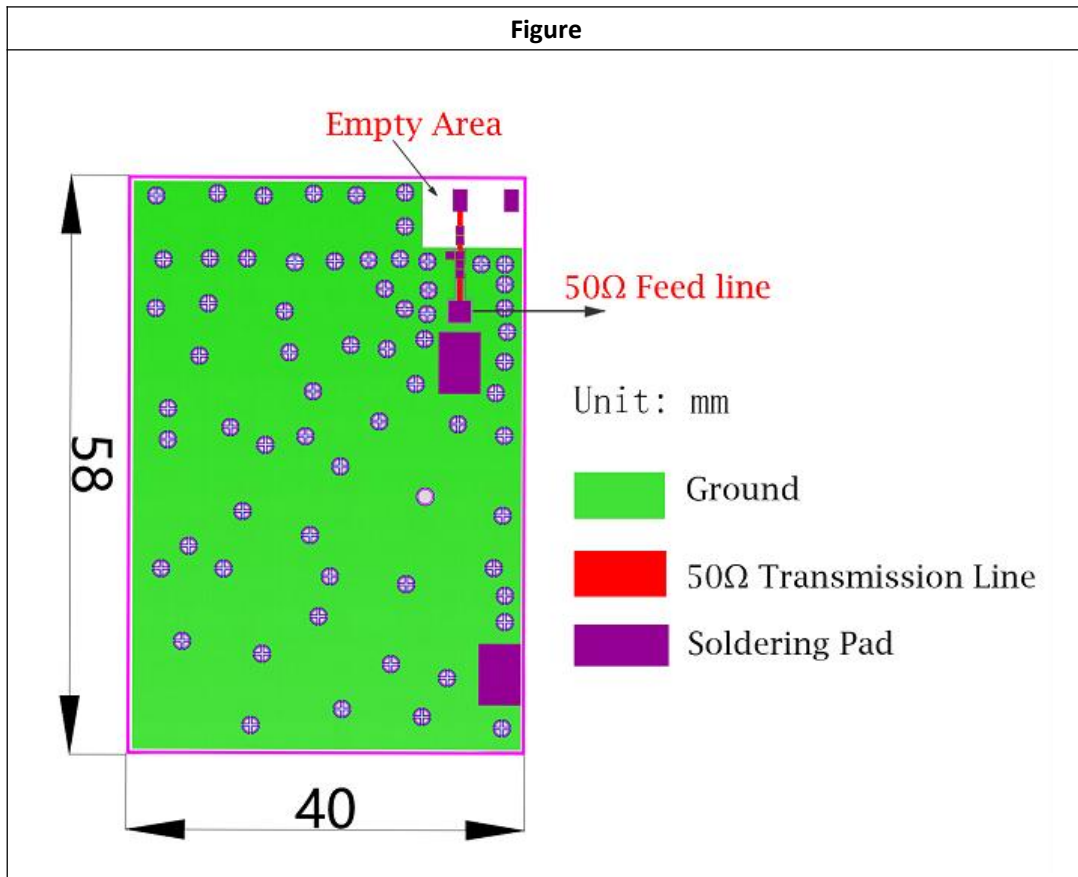
Figure	Symbol	Dimension(mm)
<p>Technical drawing of the CA-C03 antenna component showing dimensions. The drawing includes a top view with dimensions L=5.5 (mm), W=2.0 (mm), and a=0.5 (mm). A side view shows the thickness T=1.0 (mm). The component is labeled 'C3'.</p>	L	5.5±0.1
	w	2.0±0.1
	T	1.0±0.1
	a	0.5±0.1

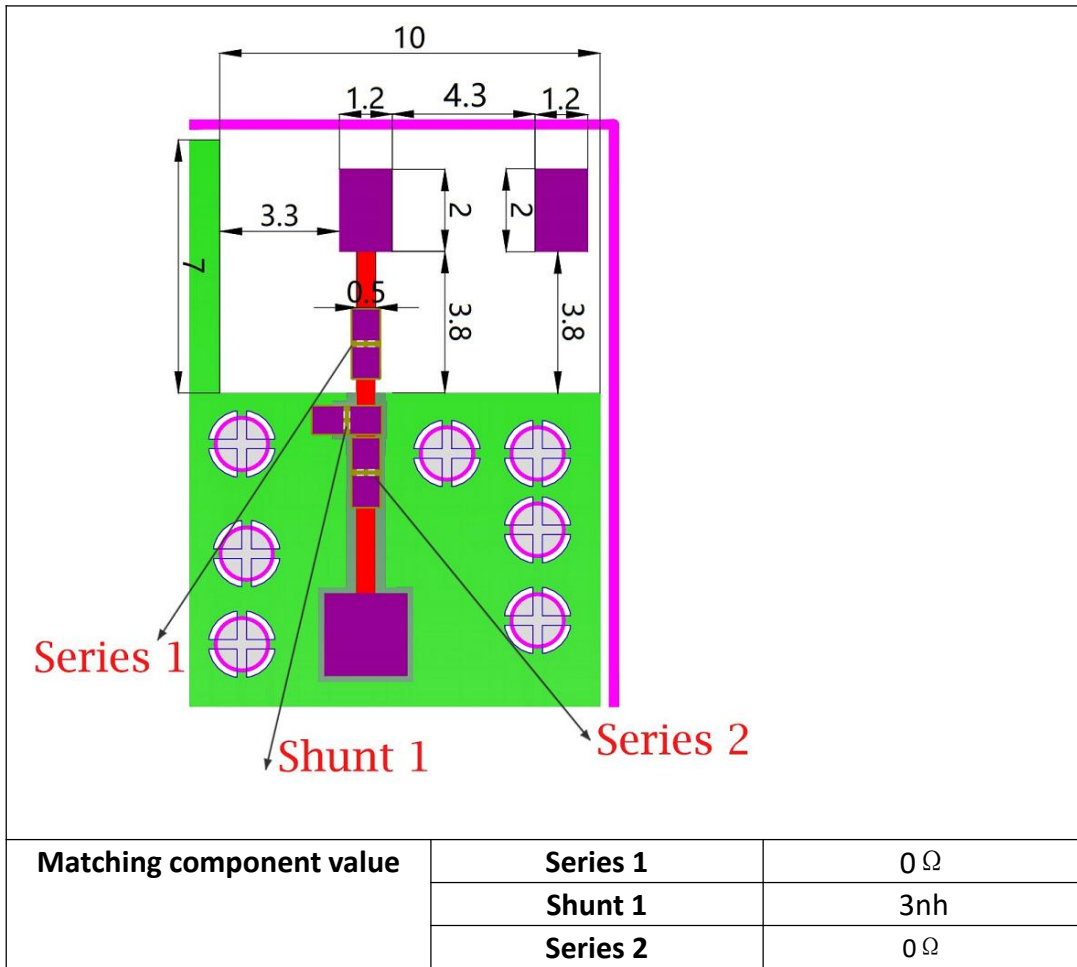
ELECTRICAL CHARACTERISTICS

CA-C03	Specification
Working Frequency Range	2450 ± 50MHz
Fc(GHz)	2.7GHz
Band Width	>100MHz
Impedance	50 Ω
Gain(dBi)	4.3 (peak)
VSWR	<2
Operation Temperature	-40°C~+95°C
Power Capacity	3W

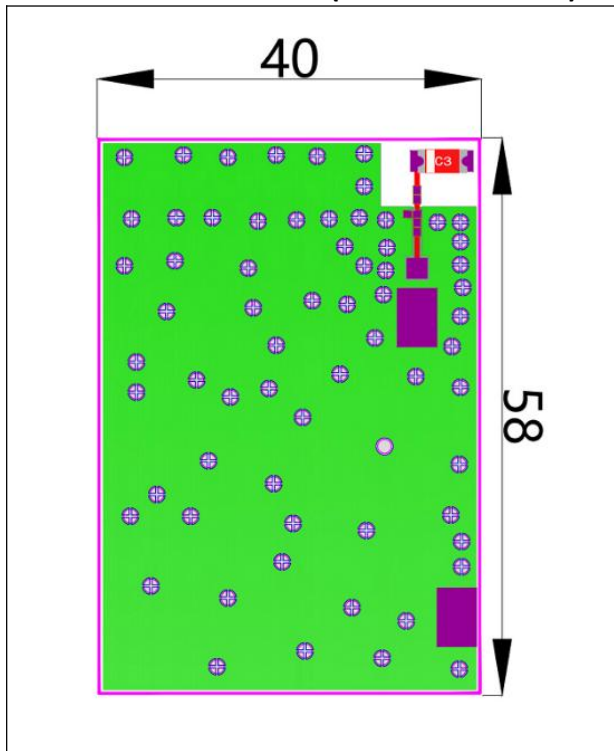
The working frequency need be adjusted to 2.45GHz with matching circuit.

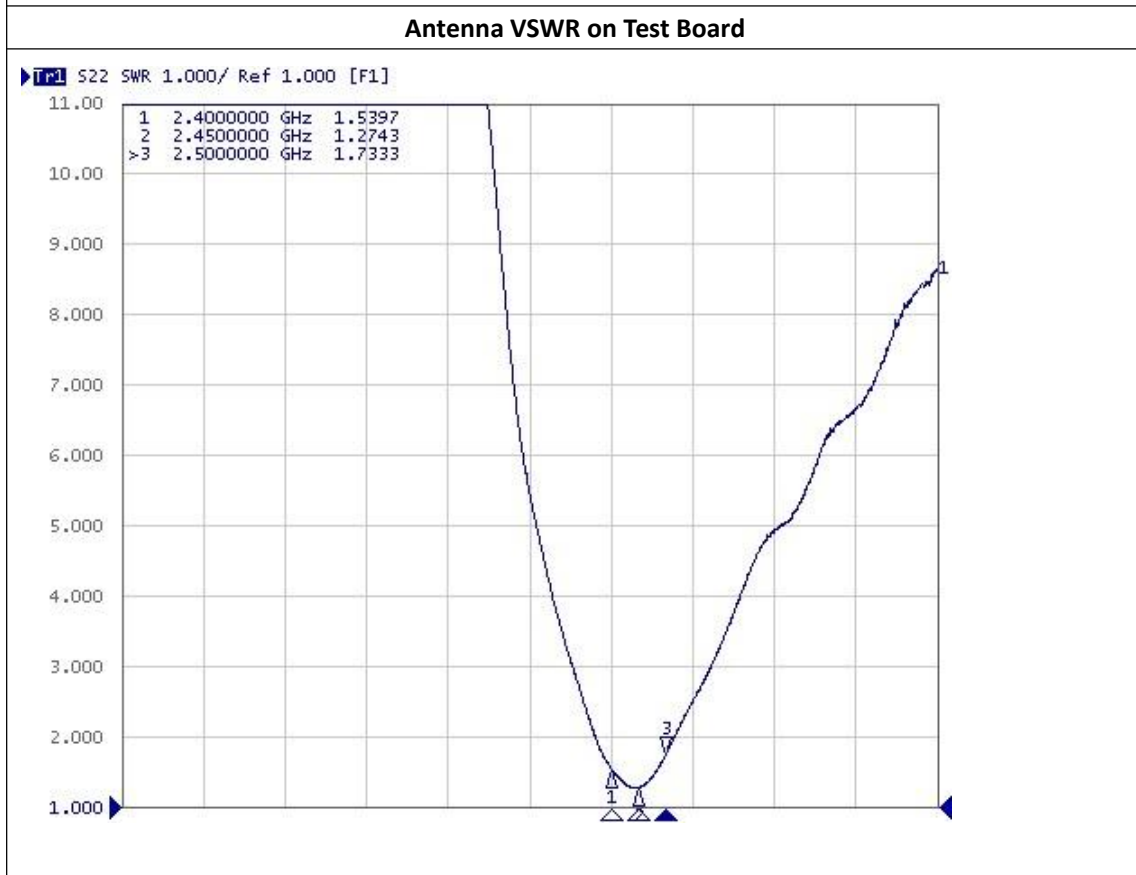
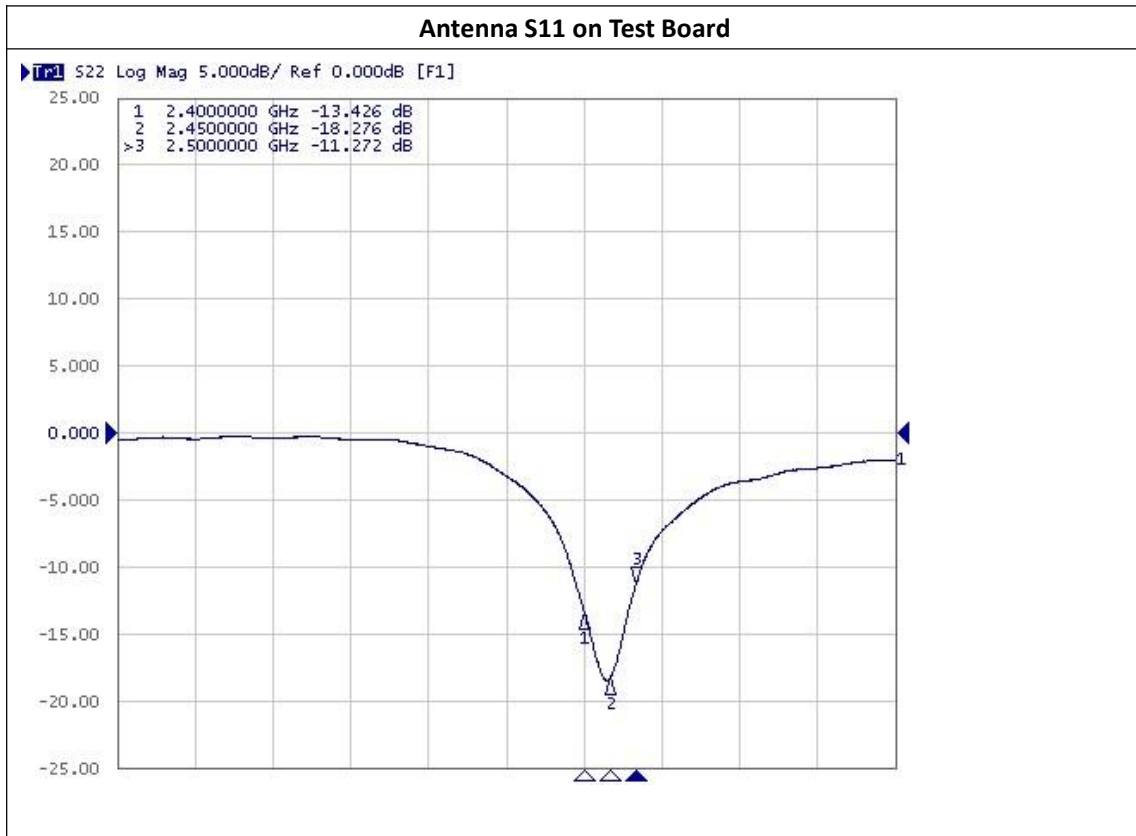
SOLDER LAND PATTERN DESIGN





Antenna on Test Board (Thickness 1.0mm)



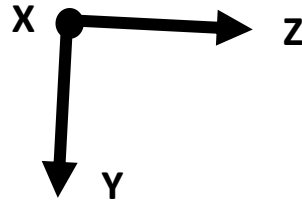
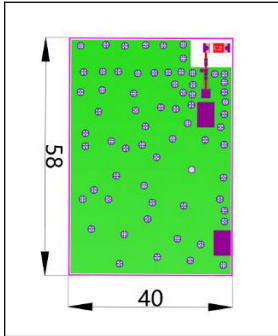


Efficiency and RADIATION PATTERN

Efficiency , Radiation Pattern and Gain were dependent on measurement board design. The

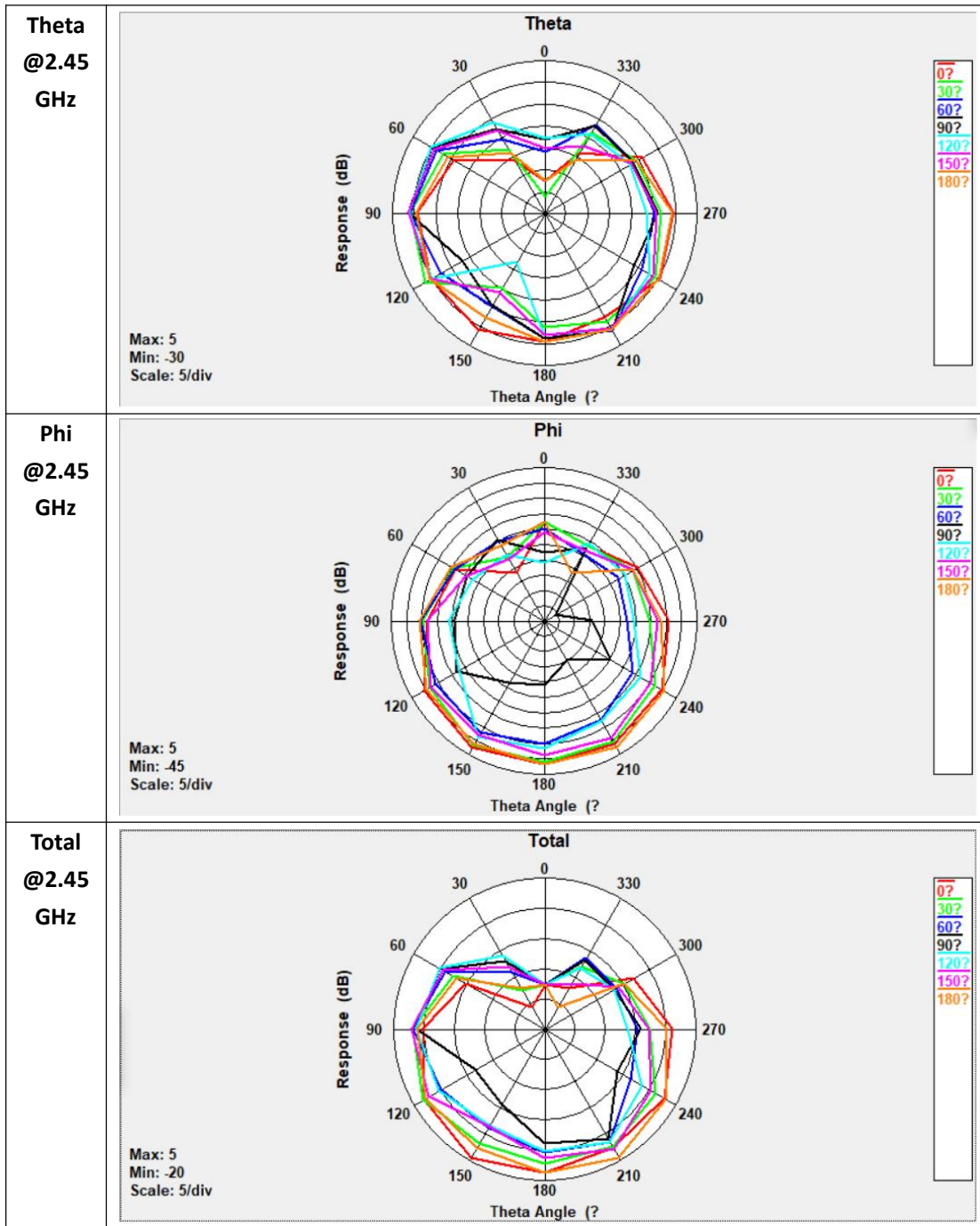
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specification of CA-C03 antenna was measured based on the PCB size and installation position as shown in the below figure test board. The test results were tested in ETS 3D Chamber.



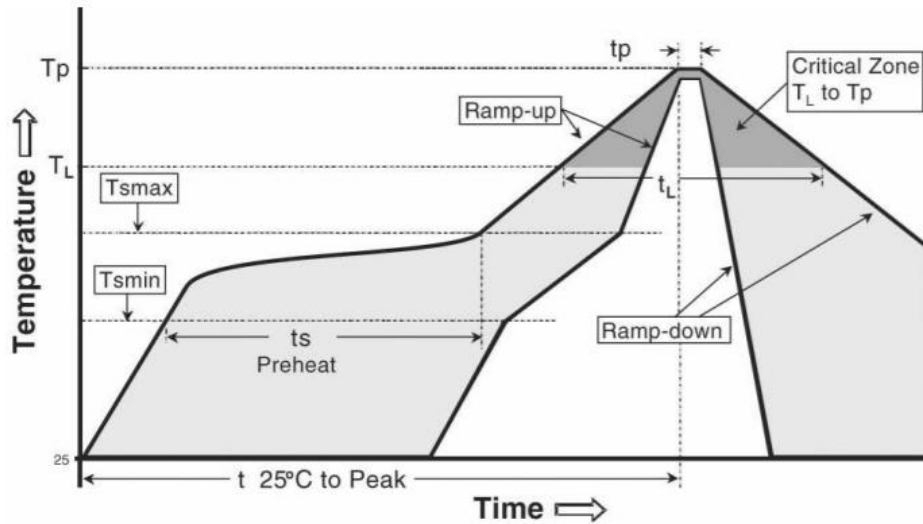
Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400	80.2947	4.0346
2405	80.2901	4.05434
2410	80.5903	4.19987
2415	80.8102	4.23279
2420	81.1217	4.28042
2425	79.9923	4.29276
2430	79.4037	4.19761
2435	79.4401	4.23143
2440	79.3141	4.3
2445	80.3508	4.24991
2450	79.7922	4.22966
2455	78.6807	4.14246
2460	78.7062	4.1128
2465	79.544	4.19369
2470	80.1818	4.15204
2475	80.9995	4.23026
2480	80.1269	4.09942
2485	80.0068	3.93892
2490	81.1456	4.07293
2495	81.2518	4.01499
2500	81.7871	4.00109

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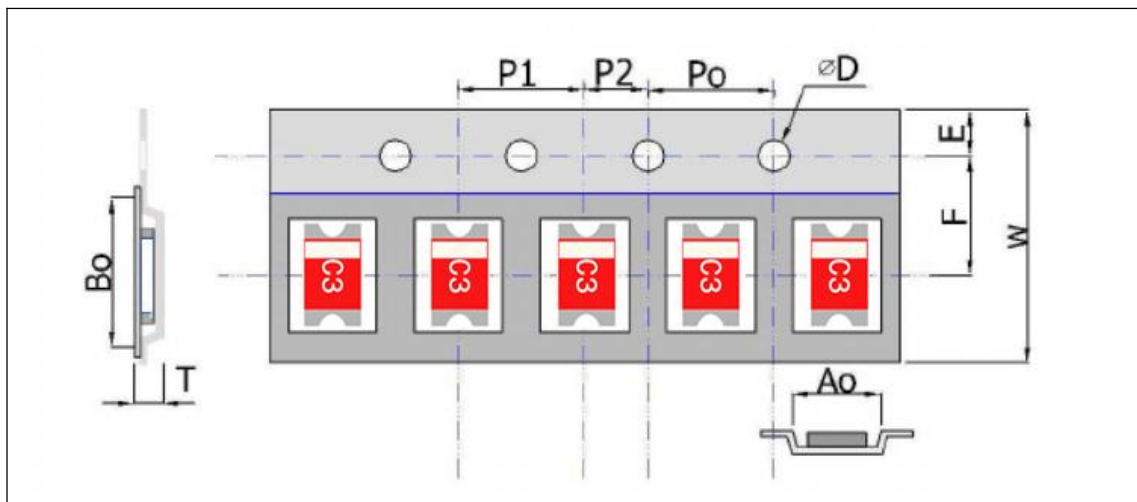
SOLDERING CONDITION

Typical examples of soldering processes that provide reliable joints without any damage is as follows:



Phase	Profile features	Pb-Free assembly (SnAgCu)
RAMP-UP	Avg. Ramp-up Rate (Tsmmax to Tp)	3 °C / second (max.)
PREHEAT	- Temperature Min (Tsmmin) - Temperature Max (Tsmmax) - Time (tsmin to tsmax)	150 °C 200 °C 60-180 seconds
REFLOW	- Temperature (Tl) - Total Time above Tl (tl)	217 °C 60-150 seconds
PEAK	- Temperature (Tp) - Time (tp)	260 °C 20-40 seconds
RAMP-DOWN	Rate	6 °C/second max
Time from 25 °C to Peak Temperature		8 minutes max

PACKAGING

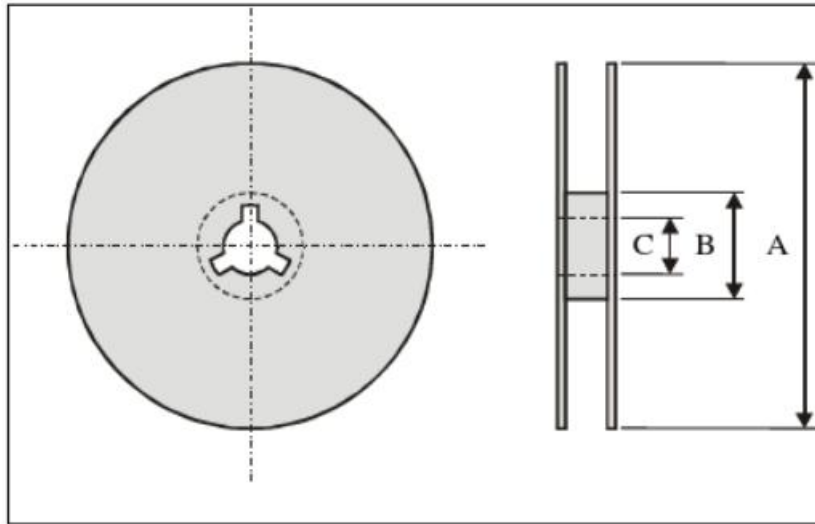


Plastic Tape specification (unit:mm)

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Index	Ao	Bo	ΦD	T	W
Dimension (mm)	3.0±0.1	6.0±0.1	1.55±0.05	1.2±0.1	11.8±0.1
Index	E	F	Po	P1	P2
Dimension (mm)	1.75±0.1	4.6±0.1	4.0±0.1	4.0±0.1	2.0±0.1

Reel dimensions



Index	A	B	C
Dimension(mm)	178	60	13.5

Typing Quantity: 3000 pieces per reel.

CAUTION OF HANDLING

Storage environment condition

Products should be storage in the warehouse on the following conditions:

Temperature : -10℃~+40℃

Humidity : 30% to 70% relative humidity

Don't keep products in corrosive gases such as sulfur. Chlorine gas or acid or it may cause oxidization of electrode, resulting in poor solderability.

Products should be storage on the palette for the prevention of the influence from humidity, dust and so on.

Products should be storage in the warehouse without heat shock, vibration, direct sunlight and so on.

Products should be storage under the airtight packaged condition.