

Customer: ? ?

Issue/date: 2005.06.24

PRODUCT SPECIFICATION FOR APPROVAL

Customer P/N	SNEC P/N
	SLDA52-2R540G-S1

Customer Approval:

Eng. Dept.	Tech. Dept.	Elect. Dept

Manufacturer Information:

Approved/Date	Checked/Date	Prepared/Date

Manufacturer: Shenzhen CSG Electronics Co.,LTD.

Native Habitat: CSG Electronics Building No.3 Road,North Zone,Hi-Tech Industrial Park, Shenzhen, China.

Tel: 86-755-26030968, Fax: 86- 755-26030268 Zip Code:518057

Http: //www.snec.com.cn, E-mail: sales@snec.com.cn

Environment Protection Statement

There are not the prohibited chemical substances specified as below to be contained or used in our product or process.

1. Ozone-depleting substances. Such as CFC, Halon etc.
2. Flame Retardants. Such as PBBs, PBBEs.
3. Toxic and Dangerous, chemical substances.

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1? PART NUMBER

SL	DA	52	-	2R540G	-	S1
1	2	3		4		5

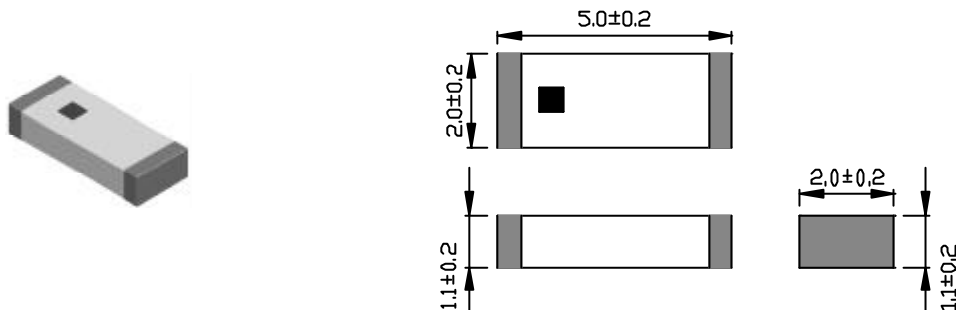
- 1? Product ID
- 2? Function Code
- 3? Dimensions
- 4? Frequency
- 5? Serial Code

2? SHAPES, DIMENSIONS AND ELECTRICAL CHARACTERISTICS

APPLICATIONS AND FEATURES

- Monolithic SMD with small, low-profile and light-weight type.
- High gain, wide bandwidth ,and low cost .
- Center frequency of antenna on PCB can be changed by adjusting pad extent.

APPEARANCE AND DIMENSIONS



CHIP ANTENNA SPECIFICATIONS

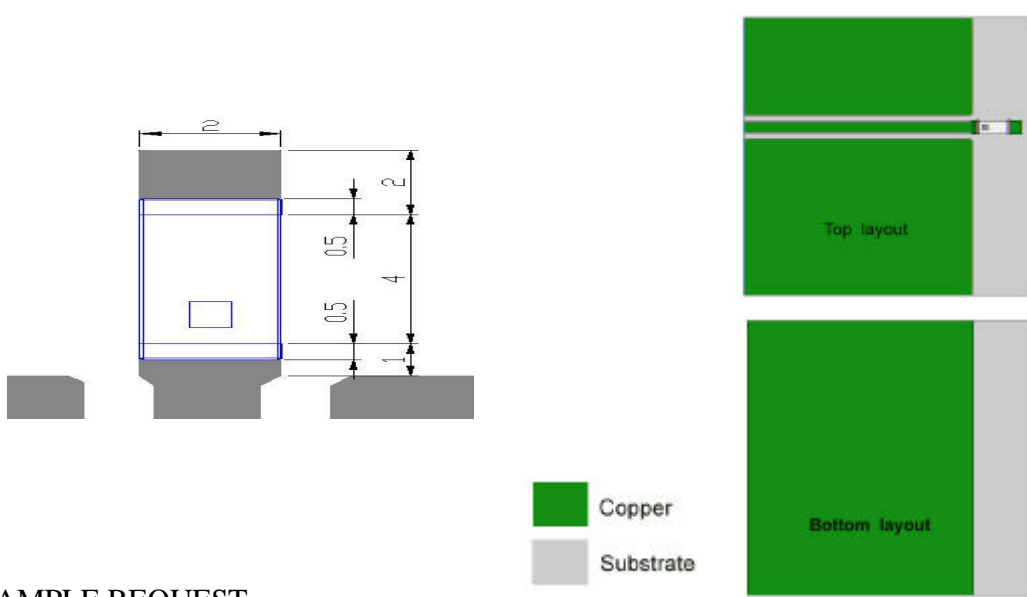
Part Number	Band Width (MHz)	Peak Gain (V-XZ)	Average Gain (V-XZ)	VSWR (In BW)	Impedance (Ohm)
SLDA52-2R540G-S1	2490-2590	2.5 dBi typ.	0.5 dBi typ	< 2.0	50
	Operating Temperature Range : - 55? ~ + 125 ?				
	Storage Temperature Range : - 40? ~ + 85 ?				
	Power Capacity : 3 W max				

? TERMINAL CONFIGURATION



No.	Terminal Name	No.	Terminal Name
(1)	Feeding Point	(2)	NC

? EVALUATION BOARD AND LAND PATTERN



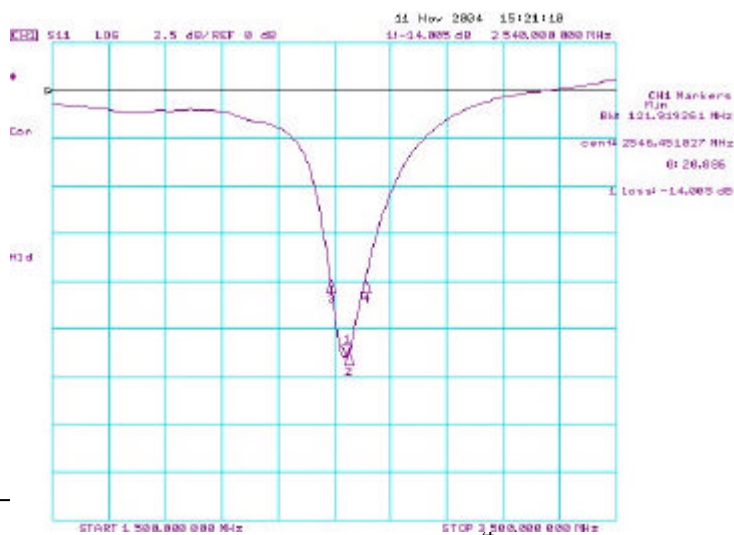
? SAMPLE REQUEST

Frequency is changed with layout patterning of PCB.

Please consult with us for appropriate design.

? RETURN LOSS

SLDA52-2R540G-S1



3. STANDARD CONDITIONS

3.1 Standard Atmospheric Conditions

Unless otherwise specified, the standard range of atmospheric conditions for making measurements and tests is as follows:

Ambient temperature: $20 \pm 15^{\circ}$

Relative humidity: $65 \pm 20\%$

Air pressure: 86kpa to 106kpa

If there may be any doubt on the results, measurements shall be made within the following limit:

Ambient temperature: $20 \pm 2^{\circ}$

Relative humidity: $65 \pm 5\%$

Air pressure: 86kpa to 106kpa

3.2 Operating temperature range: -55° ~ $+125^{\circ}$

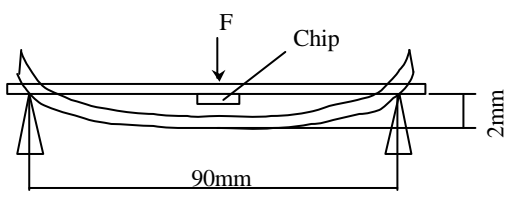
3.3 Storage temperature and humidity range: -40° ~ $+85^{\circ}$, 0~90%RH

3.4 Test equipment: Network Analyzer – HP8753E, HP8719ES

3.5

4. RELIABILITY CHARACTERISTICS

4.1	Item	Specification	Test Condition and Method
	Solderability	a. The chip shall not crack. b. More than 90% of the terminal electrode shall be covered with new solder.	Test condition Preheat 120° to 150° [248 to 302° F] for 60 sec. Solder: H63A (eutectic solder) Solder temperature: $230 \pm 5^{\circ}$ [$446 \pm 9^{\circ}$ F] Flux: Rosin Dip time: (4 ± 1) sec.

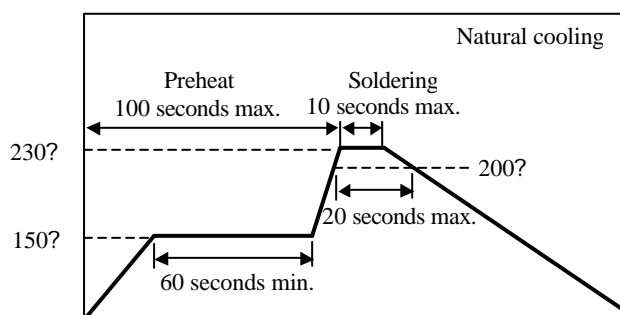
Solderability	Solderability	a. The chip shall not crack. b. More than 90% of the terminal electrode shall be covered with new solder.	Test condition Preheat 120? to 150? [248 to 302° F] for 60 sec. Solder: H63A (eutectic solder) Solder temperature: 230± 5? [446± 9° F] Flux: Rosin Dip time: (4± 1) sec.
	4.2	Item	Specification
Strength	Terminal strength (Push test)	a. The chip shall not crack. b. More than 75% of the terminal electrode shall be covered with new solder. c. Satisfy Electrical Characteristic	a. Test condition and Method Applied for 10? to 150? [248 to 302° F] for 60 sec. Solder: H63A (eutectic solder) Solder temperature: 260± 5? [500± 9° F] Flux: Rosin Dip time: (10± 1) sec. b. Measurement method: The component should be stabilized at normal condition for (24± 2) hours after the board is bent 2mm. Applied speed: 0.5mm/s Keep time: 30 sec.
	Flexure strength	No mechanical damage shall be noticed.	
Others	4.3	Item	Specification
	Drop	a. No mechanical damage shall be noticed. b. Satisfy Electrical Characteristic	Test condition Drop 10 times on a concrete floor from a height of 1m.
	Vibration		Test condition Frequency: 10 to 55Hz Amplitude: 1.52mm Direction and time: X, Y and Z directions for 2 hours each.

	Solvent resistance	No mechanical damage shall be noticed.	Dip in solvent: 10 min.
4.4	Item	Specification	Test Condition and Method
Environment characteristics	Temperature characteristics	a. No mechanical damage shall be noticed. b. Satisfy Electrical Characteristic	a. Temperature range - 40? ~+85? b. The corresponding value 20? is defined as the initial value.
	Humidity resistance		a. Test condition Temp.: 60± 2? Humidity: 90%~95% Test time: 500+24/-0 hrs b. Measurement method: The component should be stabilized at normal condition for (24± 2) hours after test.
	High temperature resistance		a. Test condition Temp.: 125± 2? Test time: 500+24/-0 hrs b. Measurement method: The component should be stabilized at normal condition for (24± 2) hours after test.
	Low temperature resistance		a. Test condition Temp.: -55± 2? Test time: 500+24/-0 hrs b. Measurement method: The component should be stabilized at normal condition for (24± 2) hours after test.

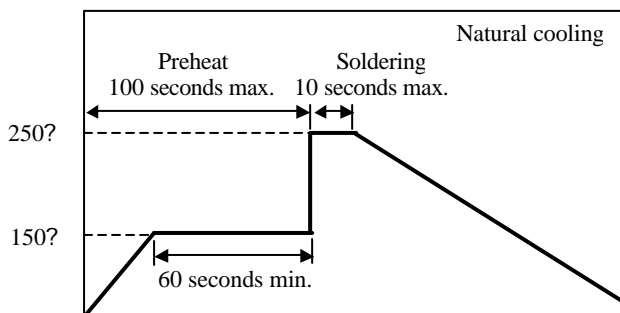
	Thermal shock (Temperature cycle)	<p>a. Test condition</p> <ol style="list-style-type: none"> 1) Temp.: -40? , time: 30± 3min 2) Temp.: +85? , time: 30± 3min 3) Transition time: within 20sec. <p>100 cycles</p> <p>b. Measurement method:</p> <p>The component should be stabilized at normal condition for (24± 2) hours after test.</p>
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5.RECOMMENDED SOLDERING CONDITIONS

Reflow soldering



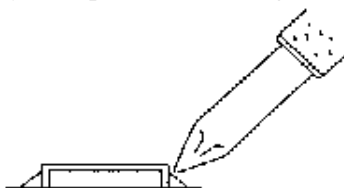
Flow soldering



Touch up soldering: Perform soldering at 280? on 30W max.

Time: <5 sec.

Take care not to apply the tip of the soldering iron to the terminal electrodes.



Flux and cleaning: Rosin-based flux is recommended.

Cleaning conditions:

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents)
Time	1 minute min.
Ultrasonic output power	200W/t max.

6. PACKAGING, STORAGE AND TRANSPORT

6.1 Packaging

- Tape & reel packaging specified in attached figure.
- Reel shall be packed in vinyl bag.

6.2 Storage

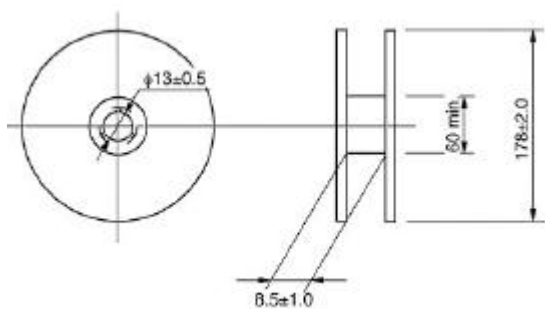
- 6.2.1 The solderability of the external electrode may be deteriorated if packages are stored where they are exposed to high humidity. Packages must be stored at -40? ~+85? and 0~90%RH..
- 6.2.2 The solderability of the external electrode may be deteriorated if packages are stored where they are exposed to dust or harmful gas (hydrogen chloride, sulfurous acid gas or hydrogen sulfide).
- 6.2.3 Packaging material may be deformed if packages are stored where they are exposed to heat or direct sunlight.
- 6.2.4 Minimum packages, such as polyvinyl packages shall not be opened until just before they are used. If opened, use the reels as soon as possible.
- 6.2.5 Solderability specified in clause 4.1 shall be guaranteed for 12 months from the date of delivery on condition that they are stored at the environment specified in clause 6.2.1 & 6.2.2. For those parts which passed more than 12 months shall be checked solderability before it is used.

6.3 Transport

The cases shall not be damaged and rained on.

Reel dimensions

Dimensions: mm



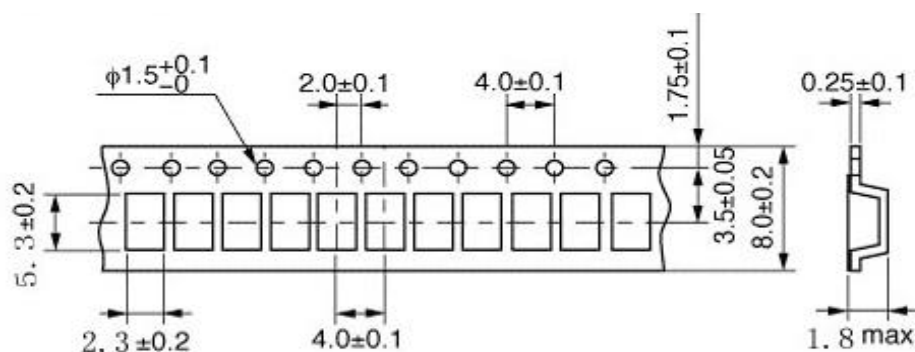
Reel material: PS (Polystyrene)

Packaging:

Packaging quantities:

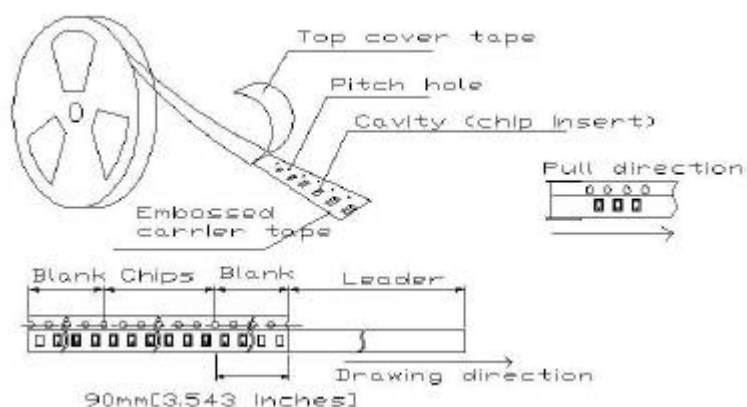
Type	Chip thickness mm [inches]	Quantity pcs/reel
Chip Antenna	1.1	4000

Embossed carrier tape:



Dimensions: mm [inch]

Taping figure and drawing direction:

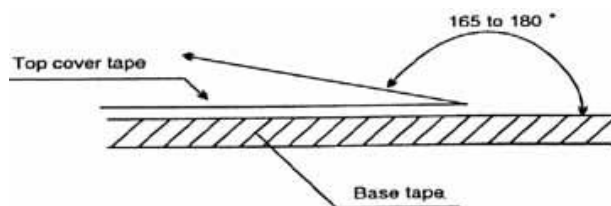


Pulling strength of tapes:

Carrier tape	10N or more (1kgf or more)
Cover tape	5N or more (0.5kgf or more)

Peeling strength of cover tape:

Cover tape	20gf~60gf
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Test condition: 1) peel angle: 165° ~180° vs. carrier tape.

2) peel speed: 300mm/min± 10%.

7. PACKING DOCUMENTS AND MARKING

7.1 Packing documents

Packing include the following:

- Packing list.
- Certificate of compliance.

7.2 Marking

7.2.1 Marking on reels:

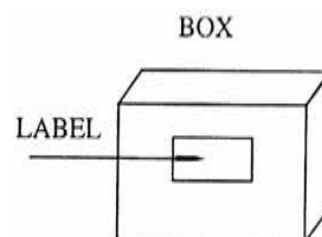
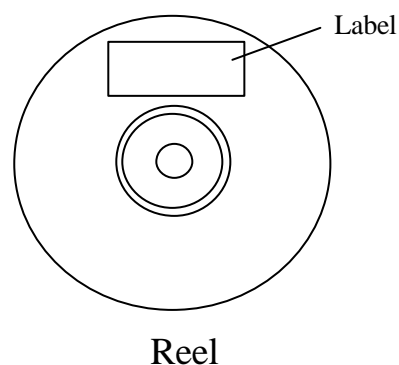
- SNEC part No.
- Lot number
- Quantity per reel
- Inspector No.

Shall be shown on marking label.

7.2.2 Marking on inner box:

- SNEC part No.
- Quantity per box
- Inspector No.

Shall be shown on marking label.



7.2.3 Marking on outer case:

1) Manufacturer: “SG”– – CSG HOLDING ?

SHENZHEN CSG Electronics CO., LTD. ?

2) Ship marking: “UP”, “HAND CARE”, “MOISTURE-PROOF”.

Shall be marked on the case.

3) Packing label include the following:

- a. Description;
- b. Total number of reels;
- c. Packing date;
- d. Weight;
- e. Size.

