Innovative Service Around the Globe YAGEO

DATA SHEET

WIRELESS COMPONENTS

Ceramic Chip Antenna

ANT7020LL05R0870A

870 MHz

7020 Series

YAGEO Phycomp

Product Specification – March 27, 2013 V.0



FEATURES

- Compact size
- Omni-directional radiation
- Tape & reel automatic mounting
- Reflow process compatible
- RoHS compliant

APPLICATIONS

- Smart meter
- Industrial remote control
- ISM band equipment

ORDERING INFORMATION

All part numbers are identified by the series, packing type, material, size, antenna type, working frequency and packing quantity.

PART NUMBER

ANT	7020	L	L05	R	0870A
(1)	(2)	(3)	(4)	(5)	(6)

(1) PRODUCT

ANT = Antenna

(2) SIZE

7020 = 7.0 × 2.0 mm

(3) ANTENNA TYPE

L,F,A = Chip Antenna

(4) SERIAL NO.

L05

(5) PACKING TYPE

R = Tape and Reel

(6) WORKING FREQUENCY

0870 = 0.87GHz

PHYCOMP CTC

CAN431177205087

12NC

431177205087

SPECIFICATION

Table 1

DESCRIPTION	VALUE
Centre Frequency	870M Hz
Bandwidth	37MHz (Typ.)
Return Loss	10 dB min
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Peak Gain	1.83 dBi (Typ.)
Impedance	50 Ω
Operating Temperature	– 40 ~ 105 °C
Maximum Power	1 W
Termination	Ni / Sn (Environmentally-Friendly Leadless)
Resistance to Soldering Heats	260℃ , 10sec.

NOTE

1. The specification is defined on Yageo evaluation board

DIMENSIONS

Table 2 Machinical Dimension

	DIMENSION
L (mm)	7.00 ±0.20
W (mm)	2.05 ±0.20
T (mm)	0.78 ±0.20
A (mm)	0.45 ±0.20

OUTLINES

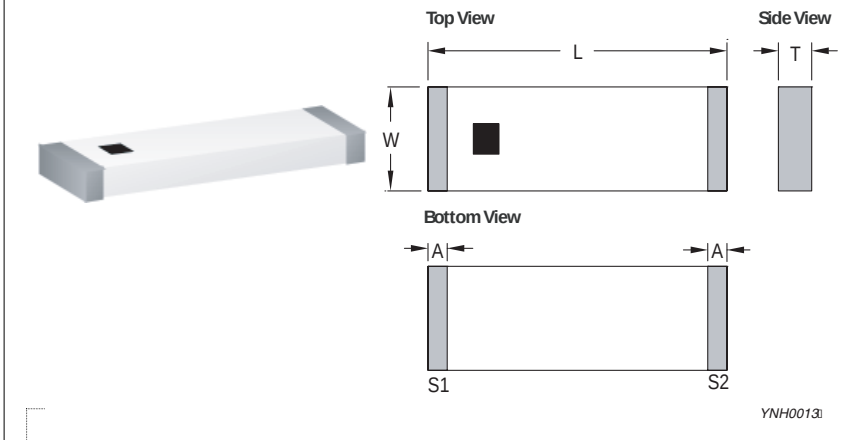
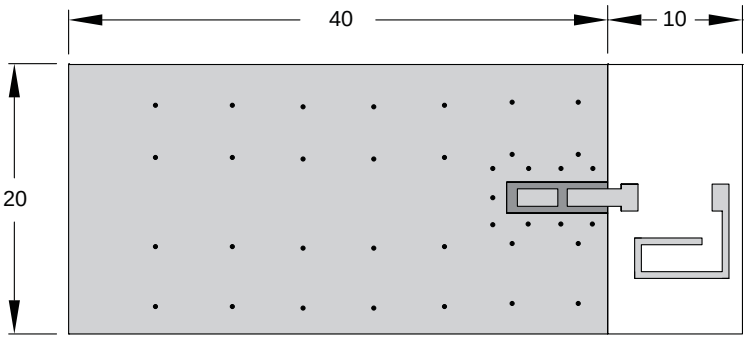


Fig. 1 Antenna outlines

Table 3 Termination configuration

TERMINAL NAME	FUNCTION
S1	Feeding Point
S2	Soldering Point

REFERENCE DESIGN OF EVALUATION BOARD



Unit : mm

Fig. 2 Outlook and dimension of evaluation board

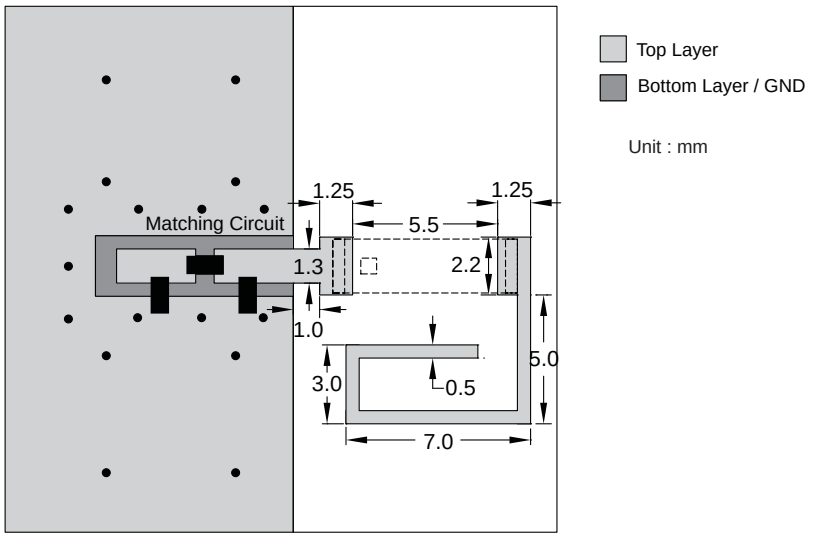
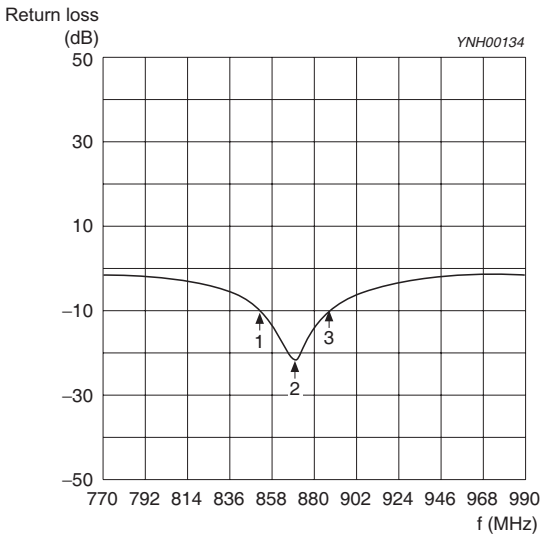


Fig. 3 Details of soldering Pad

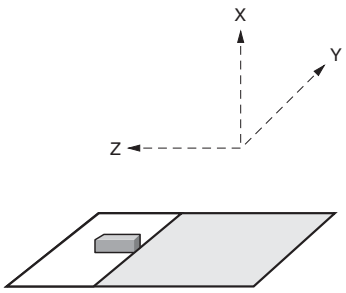
ELECTRICAL PERFORMANCES



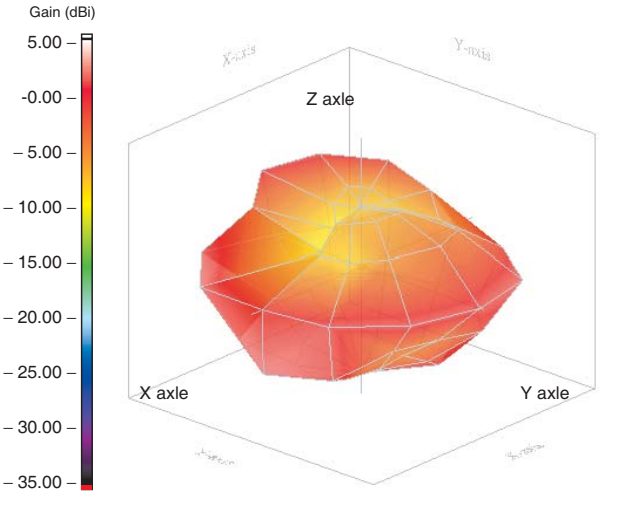
Maker data

1. 852MHz, -10dB
2. 870MHz, -22dB
3. 889MHz, -10dB

Fig. 4 Return loss



Evaluation board and XYZ direction



Frequency= 870 MHz
Max gain = 1.83 dBi, at (90,330)
MEG (mean effective gain)= -2.51dBi
Directivity (dB) = 3.75
Efficiency = -1.92dB, 64.20%

Fig. 5 Radiation pattern

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 0	Mar. 27, 2013	-	- New datasheet for Ceramic Chip Antenna, 870MHz application, 7020 series