

Multiband Chip Antenna

ACA-108-T



RoHS / RoHS II Compliant



4.0 x 2.0 x 1.2 mm

Moisture Sensitivity Level (MSL) – MSL = 1

FEATURES:

- Chip Antenna covering Quad bands from 1550MHz to 2700MHz
- Matching via lumped elements with single footprint
- Constructed from solid dielectric ceramic material
- Suitable for RoHS compliant reflow
- Peak Gain 0.93 ~ 2.98dBi (dependant on band)
- Average Gain -0.51 ~ -1.10dBi (dependant on band)
- VSWR 3.0 : 1 max
- Size – 4.0 x 2.0 x 1.2mm (0.157 x 0.078 x 0.047 inch)
- Non Ground Mounting type
- Linear Polarization
- Matched to 50 Ohm.

APPLICATIONS:

- 1550 ~ 1610MHz & 2400 ~ 2485MHz
 - GPS
 - Bluetooth
- 1920 ~ 2170MHz & 1930 ~ 1990MHz & 2110 ~ 2155MHz
 - WCDMA
 - US PCS Rx
 - AWS Rx
- 2300 ~ 2390MHz & 2400 ~ 2485MHz & 2605 ~ 2655MHz
 - WiBro
 - Bluetooth
 - DMB
- 2500 ~ 2700MHz
 - WiMax

STANDARD SPECIFICATIONS

Maximum Ratings

Item	Value
ESD Voltage	15kV [HBM Class 3B]
Operating Temperature Range	-40°C to + 85°C
Storage Temperature Range	-40°C to + 85°C

3D Electrical Characteristics for 1550 ~ 2485MHz

ITEM		SPECIFICATION					
Frequency Range		1550 ~ 2485MHz					
VSWR		3: 1 Max					
Polarization		Linear					
Frequency [MHz]		1550	1580	1610	2400	2445	2485
Gain [dBi]	Peak	2.43	2.98	0.93	1.60	2.46	2.38
	Average	-1.78	-1.06	-2.80	-2.19	-1.74	-2.59
Efficiency [%]		66.43	78.38	52.63	60.45	67.15	55.22

3D Electrical Characteristics for 1920 ~ 2170MHz

ITEM		SPECIFICATION			
Frequency Range		1920 ~ 2170MHz			
VSWR		3: 1 Max			
Polarization		Linear			
Frequency [MHz]		1920	1980	2110	2170
Gain [dBi]	Peak	1.76	2.26	1.63	1.83
	Average	-2.06	-1.65	-2.60	-2.16
Efficiency [%]		62.31	68.52	55.08	60.89





4.0 x 2.0 x 1.2 mm

3D Electrical Characteristics for 2300 ~ 2655MHz

ITEM		SPECIFICATION					
Frequency Range		2300 ~ 2655MHz					
VSWR		3: 1 Max					
Polarization		Linear					
Frequency [MHz]		2300	2390	2400	2485	2605	2655
Gain [dBi]	Peak	1.43	2.69	2.52	1.33	1.09	1.86
	Average	-2.34	-1.37	-1.60	-2.54	-2.47	-2.33
Efficiency [%]		58.51	73.13	69.25	55.78	56.74	58.63

3D Electrical Characteristics for 2550 ~ 2700MHz

ITEM		SPECIFICATION				
Frequency Range		2500 ~ 2700MHz				
VSWR		3: 1 Max				
Polarization		Linear				
Frequency [MHz]		2500	2550	2600	2650	2700
Gain [dBi]	Peak	2.11	2.34	2.47	2.88	1.95
	Average	-1.68	-1.22	-1.03	-0.51	-1.37
Efficiency [%]		68.10	75.67	78.97	89.10	73.11

PART IDENTIFICATION:

ACA-108-

Packaging

Blank: Bulk

T: Tape and Reel

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4.0 x 2.0 x 1.2 mm

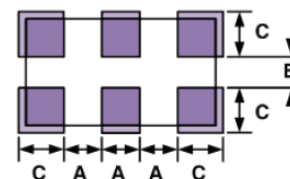
OUTLINE DIMENSIONS:

Chip Antenna Dimension

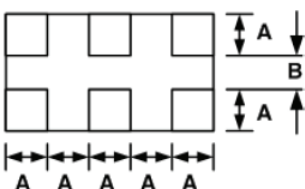


Recommended Land Pattern

PCB Soldering Land Dimension



Chip Antenna Soldering Pad Dimension



Parameter	A	B	C
Value (mm)	0.8	0.4	0.9

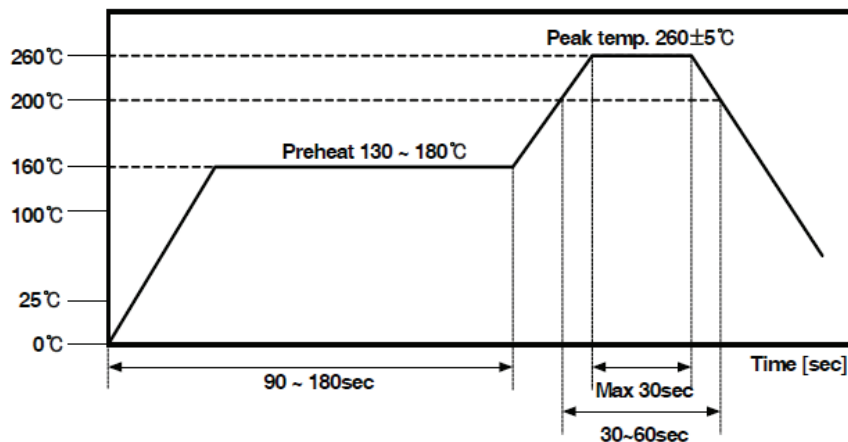
Unless specified tolerances are $\pm 0.05\text{mm}$

Parameter	L	W	T	A	B
Value (mm)	$4.0 \pm 0.10\text{mm}$	$2.0 \pm 0.10\text{mm}$	$1.2 \pm 0.10\text{mm}$	0.8	0.4

Unless specified tolerances are $\pm 0.05\text{mm}$

(Dimensions: mm)

REFLOW PROFILE:



Manual Soldering

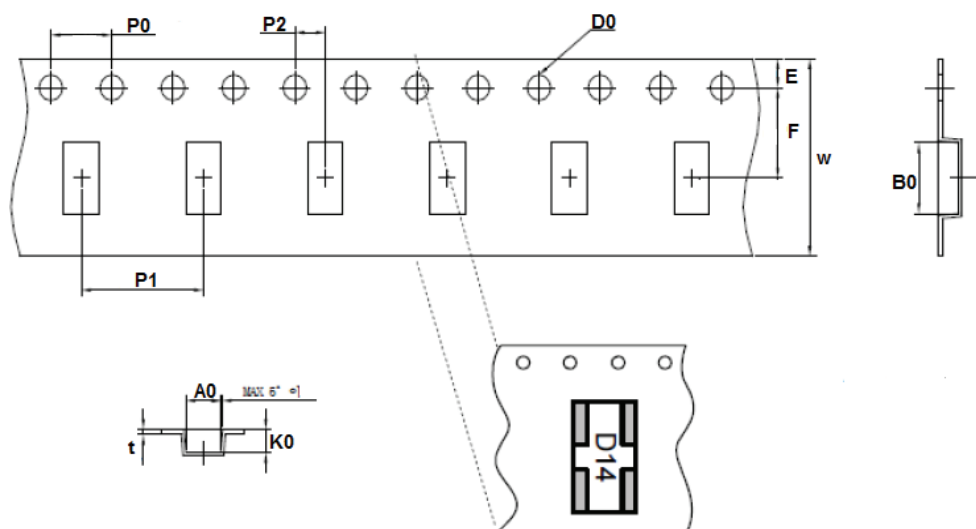
	Condition
Pre-Heating Temperature	120 °C , 60 ~ 300 sec
Soldering Temperature	340°C $\pm$ 5°C , 5 sec max per each terminal



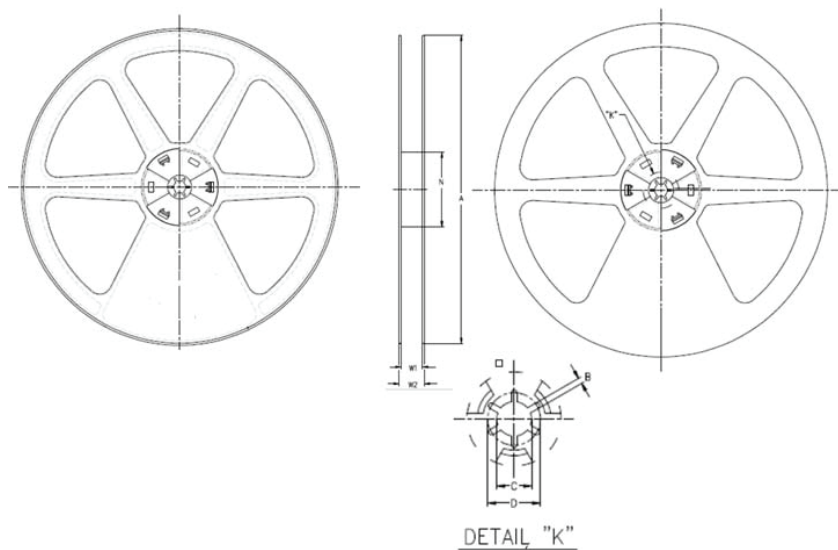
4.0 x 2.0 x 1.2 mm

TAPE & REEL:

Packaging: 5,000 Units Per Reel



A0	2.30±0.10	E	1.75±0.10
B0	4.30±0.10	F	5.50
K0	1.35±0.10	t	0.3±0.05
D0	Ø1.55±0.05	w	12.00±0.30
P0	4.0±0.10	P1	8.00
P2	2.00		



Size	12mm Reel
A	330 +0.2 / -2.0mm
B	2.0 +0.5 / -0.2mm
C	13.0 +0.5 / -0.0mm
D	20.2mm Min
N	80 +3.0 / -0.0mm
W1	12.4 +3.0 / -0.0mm
W2	16.4 +2.0 / -2.0mm

(Dimensions: mm)

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