Bluetooth / WLAN / WiFi
Ceramic Chip Antenna

Ground cleared under antenna, clearance area 4.00 x 4.25/6.25 mm. Pulse Part Number W3008, W3008C

Features
- Omni directional radiation
- Low profile
- Compact size W x L x H (3.2 x 1.6 x 1.1 mm)
- Low weight (33 mg)
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS Compliant Product

Applications
- Bluetooth, WLAN, WiFi
- IEEE 802.11b/g
- ZigBee IEEE 802.15.4
- 2.4 GHz WLAN
- 2.4 GHz ISM Band Systems

Electrical specifications @ +25 °C
Note: Electrical characteristics depend on test board (GP) size and antenna positioning on GP and Ground Clearance area size.

Bluetooth, W3008
Typical performance (test board size 80x37 mm, PWB ground clearance area 4.00 x 4.25 mm)

<table>
<thead>
<tr>
<th>Frequency Range (MHz)</th>
<th>Linear Max Gain [dBi]</th>
<th>Efficiency [%] / [dB]</th>
<th>Return loss min. [dB]</th>
<th>Impedance [Ω]</th>
<th>Operating Temperature [°C]</th>
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<tbody>
<tr>
<td>2400–2483.5</td>
<td>1.7 (Peak) 0.7 (Band edges)</td>
<td>70 / -1.6 (Peak) 55 / -2.6 (Band edges)</td>
<td>-8</td>
<td>50</td>
<td>-40 to +85</td>
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Bluetooth / WLAN / WiFi, W3008C
Typical performance (test board size 80x37 mm, PWB ground clearance area 4.00 x 6.25 mm)

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<td>2400–2483.5</td>
<td>2.2 (Peak) 1.9 (Band edges)</td>
<td>75 / -1.3 (Peak) 70 / -1.6 (Band edges)</td>
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Terminal Configuration

**PWB Layout**

Matching Component (optional shunt)

Ground clearance area (4.00 x 4.25 mm) all metalization should be removed from all PWB layers

Ground area

Ground via hole

Ground area should be surrounded with Ground via holes

Feed line 50 Ohm

Any type of 50 Ohm feed line can be used. Inner layers on feedline area need to designed to give 50 Ohm characteristics to feed line.

**PWB features**

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<tr>
<th>No.</th>
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<th>Terminal Dimensions</th>
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<tr>
<td>1</td>
<td>Feed</td>
<td>0.8 x 0.65 mm</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>0.8 x 0.65 mm</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
<td>0.8 x 1.60 mm</td>
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**Terminal Configuration**

**PWB Layout**

- **Feed contact**
- **Ground contact**

**Antenna features**

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<td>1</td>
<td>Feed / GND</td>
<td>0.62 x 1.36 mm</td>
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Antenna is symmetrical.
Either of terminals 1 or 2 can be feed / GND

**PWB features**

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**Antenna**

- Ag metallization contact pad area (2x)

- Pads 1 & 2

- 0.62 x 3.20

**Pad dimensions on PWB layout**

- 3.20 x 0.80

**Matching Component (optional shunt)**

- Ground clearance area (4.00 x 6.25 mm)
  All metallization should be removed from all PWB layers

- Ground area

- Ground via hole

- Ground area should be surrounded with Ground via holes

**Feed line 50 Ohm**

- Any type of 50 Ohm feed line can be used. Inner layers on feedline area need to designed to give 50 Ohm characteristics to feed line,
Bluetooth / WLAN / WiFi Ceramic Chip Antenna

Typical Electrical Characteristics (T=25 °C), W3008

Typical Return Loss S11/impedance, measured on the test board

Free space efficiency and maximum gain / PWB ground clearance 4.00 x 4.25 mm

BT GC 3.2 x 1.6 x 1.1 mm

BT GC 3.2 x 1.6 x 1.1 mm
Bluetooth / WLAN / WiFi
Ceramic Chip Antenna

Typical Free Space Radiation Patterns, W3008
Bluetooth / WLAN / WiFi Ceramic Chip Antenna

Typical Electrical Characteristics (T=25 °C), W3008C
Typical Return Loss S11/ impedance, measured on the test board

Free space efficiency and maximum gain / PWB ground clearance area 4.00 x 6.25 mm

BT/WLAN 20 Oct 2005 12:38:25
CH1 S11&M LOG

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Typical Free Space Radiation Patterns, W3008C
Bluetooth / WLAN / WiFi Ceramic Chip Antenna

Packing Form

REEL LABEL INFORMATION:
- TRACEABILITY
- QUANTITY
- PRODUCT CODE

CARRIER TAPE H85-00125
width=8,00 depth=1,22
COVER TAPE H85-00125
width=5,60

LENGTH OF TAPE:
- Leader section: 50 empty cavities before component section
- Trailer section: 25 empty cavities after component section.

Empty part cavities at leader and trailer section of the tape must be sealed with top cover tape.

BOX H85-00128
182x182x132
- LABEL
1 pcs/BOX

REEL H85-00127
D180, W12
- REEL LABEL
1 pcs/REEL