

- Miniature antenna element for Global Positioning Systems (GPS)

FEATURES

Stabilized Temperature Factor
High quality dielectric ceramics
Excellent Radiation Pattern

ELEMENT CONSTRUCTION

Type: Flat patch antenna
Design: Rectangular micro strip antenna
Feeding Method: Offset one point feeding

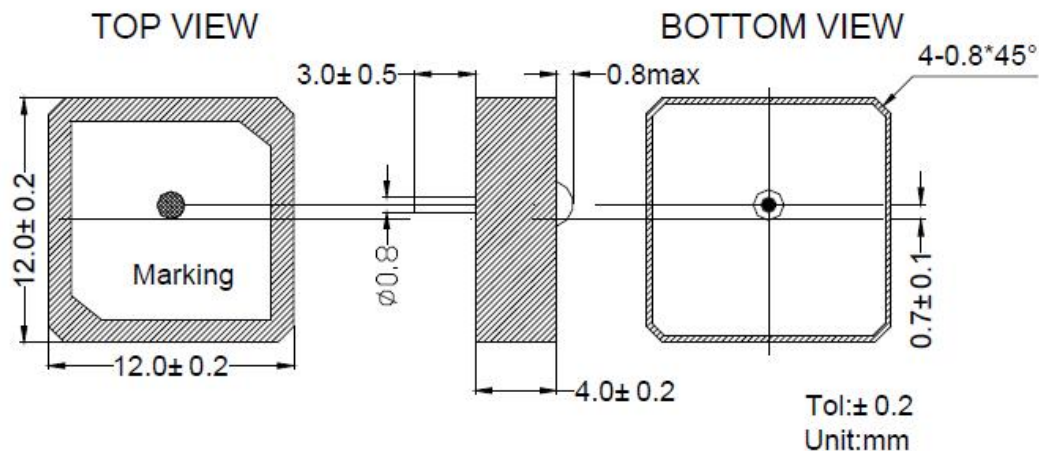
1. ELECTRICAL SPECIFICATIONS

No.	Name	Value
1-1	Outline Dimension	12 x 12 x 4 mm
1-2	Ground Plane	12×12 mm
1-3	Center Frequency	1575.42 ± 3 MHz
1-4	Bandwidth	≥ 5 MHz
1-5	Impedance	50 Ω
1-6	Gain @ Zenith	+0.0dBi typical
1-7	Frequency Temperature Coefficient	0±10 ppm/°C
1-8	Return Loss @fo	20dB min.

2. STRUCTURE AND MATERIAL

No.	Description	Structure and material
2-1	Antenna Substrate	Dielectric Ceramics
2-2	Pin	Copper, lead and tin plate
2-3	Electrode	Ag plated
2-4	Ground Base	Ag plated

3. DRAWING



4. ENVIRONMENTAL SPECIFICATIONS

Standard Condition: Temperature range: 25 ± 3 °C

Relative Humidity range: 55 ~ 75 % RH

Operating Temperature range: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

Storage Temperature range: $-40^{\circ}\text{C} \sim +100^{\circ}\text{C}$

4.1 High Temperature Endurance

The device should satisfy the specification in Table 1 after exposed to temperature 85 ± 5 °C for 24 ± 2 hours and 1 ~ 2 hours recovery time under normal temperature.

4.2 Low Temperature Endurance

The device should also satisfy the specification in Table 1 after exposed to the temperature $-40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 24 ± 2 hours and 1 ~ 2 hours recovery time under normal temperature.

4.3 Moisture Proof

The device should satisfy the specification in Table 1 after exposed to the temperature $40 \pm 2^{\circ}\text{C}$ and the relative humidity 90 ~ 95% RH for 96 hours and 1~2 hours recovery time under normal condition.

4.4 Vibration Resist

The device should satisfy the specification in Table 1 after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X, Y and Z directions.

4.5 Drop Shock

The device should satisfy the specification in Table 1 after dropping onto the hard wooden board from the height of 30cm for 3 times each facet of the 3 dimensions of the device.

4.6 Temperature Cycle Test

The device should also satisfy the specification in Table 1 after exposed to the low temperature -25°C and high temperature $+85^{\circ}\text{C}$ for 30 ± 2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.