

SPECIFICATION

Dielectric Resonator Antenna

2400-2500 MHz

P/N: KH-2012-D002CS

DR Antenna 2012 Size

1. Features

Antenna Frequency for 2400-2500 MHz

2. Applications

For Miniaturized Bluetooth System

3. Shapes & Dimensions(Unit : mm)





| L | W | н | A |
|---------|---------|----------|----------|
| 2.0±0.3 | 1.2±0.3 | 0.55±0.1 | 0.4±0.25 |

4. Evaluation Board and Matching Circuits



5. Electrical Characteristics

| Part Number | HMAN20L2450-D002CS | | |
|-------------------|--------------------|-----|--|
| Central Frequency | 2450 | MHz | |
| Bandwidth | 100(typ.) | MHz | |
| Efficiency | 72.6 | % | |
| Peak Gain | 2.48 | dBi | |
| Impedance | 50 | Ohm | |
| Polarization | Linear | | |
| Azimuth Beamwidth | Omni-directional | | |

6. Radiation Pattern (2450MHz)





7. Reflow Soldering Standard Condition



8. Packaging and Dimensions 2012 (2.0*1.2mm)





KH2012-D002CS-V1.0

• Reel (5000 pcs / 7 Reel)



• Storage Period

Oxidizable Material, 12 months in vacuum sealed bag, please repack within 168 hours by re-seal the package treatment after using. Storage Temperature Range : <30 degree C, Humidity : <60%RH

9. Dependability Test

| Test item | Test condition / Test method | Specification |
|---|---|--|
| Solderability IEC 60068-2-58 GB/T2423.28 | *Solder bath temperature: 240±5°C *Immersion time: 2±0.5 sec Solder: Sn96.5Ag3.0Gu0.5 for lead-free. | At least 95% of a surface of each terminal electrode must be covered by fresh solder. |
| Leaching (Resistance to dissolution of metallization) JIS C5101 | *Solder bath temperature: 260±5°C *Leaching immersion time: 10±1 sec Solder : Sn96.5 Ag3.0 Gu0.5 for lead-free. | Loss of metallization on the edges of each electrode shall not exceed 25%. |
| Resistance to soldering heat IEC 60068-2-58 GB/T2423.28 | *Preheating temperature: 120~150°C, 1 minute. *Solder temperature: 260±5°C *Immersion time: 10±1 sec Solder: Sn96.5Ag3.0Gu0.5 for lead-free Measurement to be made after keeping at room temperature for 24±2 hrs. | No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature. Loss of metallization on the edges of each electrode shall not exceed 25%. |
| Drop Test IEC 60068-2-32 GB/T2423.8 Customer's specification. | *Height : 50 cm *Test Surface: Rigid surface of concrete or steel. *Times : 6 surfaces for each units ; 2 times for each side. | No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature. |
| Vibration IEC 60068-2-6 GB/T 2423.10 | *Frequency : 10Hz~55Hz~10Hz(1min) *Total amplitude : 1.5mm *Test times: 6hrs.(Two hrs each in three mutually perpendicular directions) | No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature. |
| Adhesive Strength of Termination IEC60068-2-21 GB/T 2423.6 | *Pressurizing force : $5N(\leq 0603)$; 10N(>0603) *Test time:10±1 sec | No remarkable damage or removal of the termination. |

| Bending test | The middle part of substrate shall be | No mechanical damage. |
|--------------------------------|--|--|
| IEC 60068-2-21 GB/T 2423.29 | pressurized by means of the pressurizing rod at a rate of about 1 mm/s per second | Electrical specification shall satisfy the descriptions in electrical characteristics at |
| | until the deflection becomes 2mm and then pressure shall be maintained for 10±1 sec. Measurement to be made after keeping at | the room temperature. |
| | room temperature for 24 ± 2 hours. | |
| Temperature cycle | 30 minutes at-40°C±2°C. | No mechanical damage. |
| IEC60068-2-14 | 10~15 minutes at room temperature. | Electrical specification shall satisfy the |
| GB/T 2423.22 | 30minutes at +85°C±2°C. | descriptions in electrical characteristics at |
| | 10~15 minutes at room temperature. | the room temperature. |
| | Total 100 continuous cycles Measurement | |
| | to be made after keeping at room | |
| | temperature for 24±2 hrs. | |
| High temperature | *Temperature: 85±2°C. | No mechanical damage. |
| IEC 60068-2-2 | *Test duration: 500+24/-0 hours. | Electrical specification shall satisfy the |
| GB/T2423.2 | Measurement to be made after keeping at | descriptions in electrical characteristics. |
| | room temperature for 24±2 hrs. | |
| Humidity (steady | *Humidity : 85±5%R.H. | No mechanical damage. |
| conditions) | *Temperature: 85±2°C. | Electrical specification shall satisfy the |
| IEC60068-2-3 | *Time : 500+24/-0 hrs. | descriptions in electrical characteristics at |
| GB/T 2423.3 | Measurement to be made after | the room temperature. |
| | keeping at room temperature for 24±2 | |
| | hrs | |
| | ※ 200hrs measuring the first data then | |
| | 300hrs data. | |
| Low temperature | *Temperature: -40±2°C. | No mechanical damage. |
| IEC 60068-2-1 | *Test duration: 500+24/-0 hours | Electrical specification shall satisfy the |
| GB/T2423.1 | Measurement to be made after keeping at | descriptions in electrical characteristics at |
| | room temperature for 24±2 hrs. | the room temperature. |

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