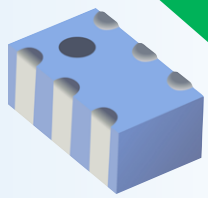
BOURNS®

FDP2009N122157H4

LTCC Diplexer



*RoHS COMPLIANT

Features

- Low Temperature Co-fired Ceramic (LTCC)
- Compact size
- Frequency Range: 1164-1285 MHz / 1539-1606 MHz
- RoHS compliant*

Applications

- GPS

Sustainability

- Small size reduces material use
- Eco-logistics-friendly packing
- Energy-saving low-power design
- ISO 14001, low-impact energy
- Responsibly sourced and produced

Product Overview

LTCC (Low-Temperature Co-fired Ceramic) technology integrates multiple passive elements into a single monolithic structure, enabling slim, compact, and reliable microelectronic solutions.

The FDP2009N122157H4 provides efficient signal separation and combining capabilities for RF front-end applications. Its operating frequency ranges correspond to GNSS L-band signals, including L1, L2, and L5. It supports an operating temperature range from -40 °C to +105 °C and is well-suited for positioning and navigation applications, enabling stable, low-loss signal handling in compact wireless system designs.

Electrical Specifications

Item	Specifications	
Frequency Range	1164 ~ 1285 MHz	1539 ~ 1606 MHz
Insertion Loss (at 25 °C)	1.0 dB max. (0.56 dB typ.)	1.0 dB max. (0.87 dB typ.)
Insertion Loss (at -40 °C ~ +105 °C)	1.2 dB max.	
Attenuation	20 dB min. (25.7 dB typ.) @ 1539 ~ 1606 MHz	20 dB min. (25.6 dB typ.) @ 1164 ~ 1285 MHz
Isolation	20 dB min. (25.9 dB typ.) @ 1539 ~ 1606 MHz	20 dB min. (24.7 dB typ.) @ 1164 ~ 1285 MHz
Return Loss	10 dB min.	
Impedance	50 Ω	
Power Capacity	3 W max.	
ESD Classification (HBM)	Pass 1 kV on all pins	
ESD Classification (MM)	Pass 200 V	

Contact Information

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General Specifications

Operating Temperature: .....-40 °C to +105 °C
Storage Temperature .....-40 °C to +105 °C
Moisture Sensitivity Level.....1
Weight .....7.7 mg

Materials

Base Material.....Ceramic
Terminal .....Ag/Ni/Sn
Packaging.....4,000 pcs. per 7-inch reel

How to Order

F DP 2009 N 122 157 H4

- F — LTCC RF
- DP — Diplexer
- 2009 — Size
- N — Non-automotive Grade
- 122 — Central Frequency - Low
- 157 — Central Frequency - High
- H4 — High Band Location

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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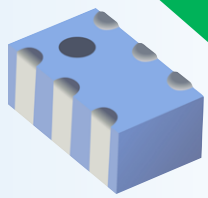

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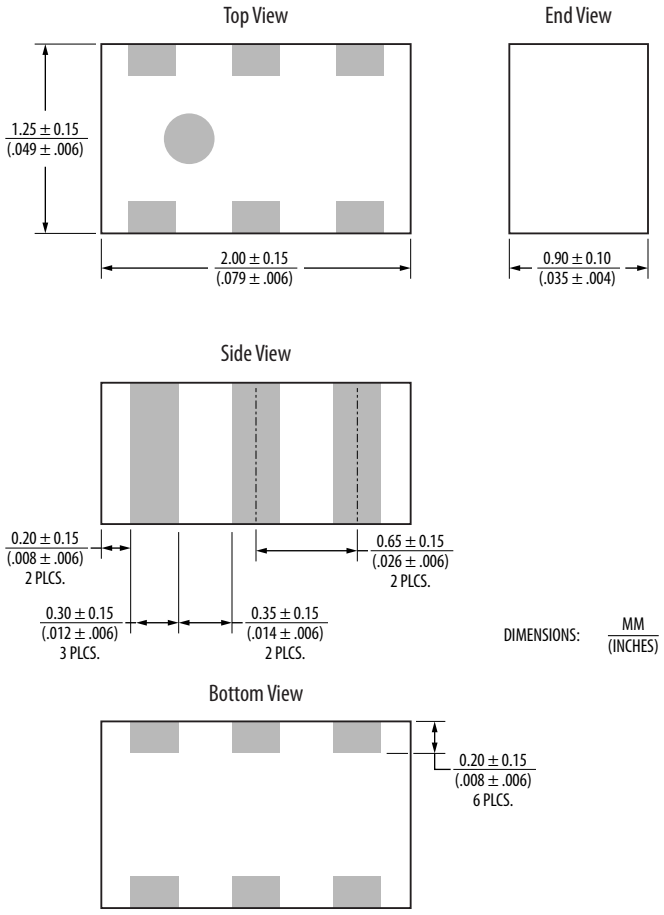
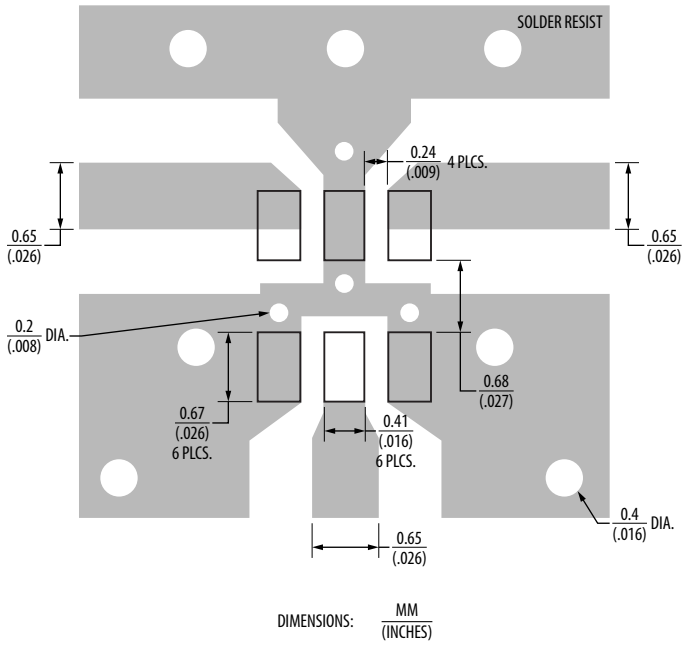
Product Dimensions

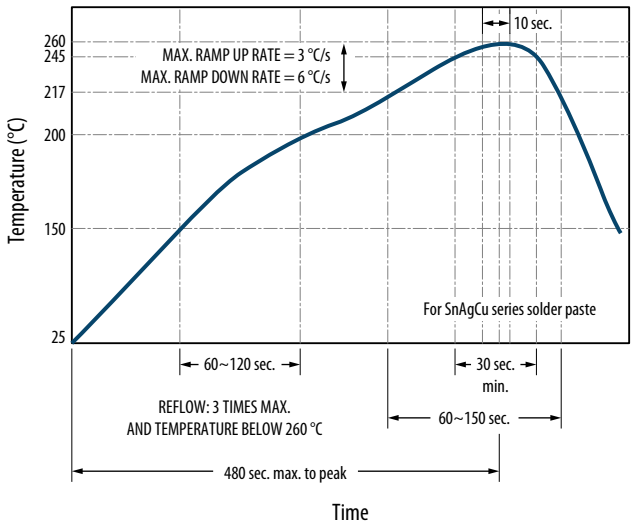


Recommended Land Pattern

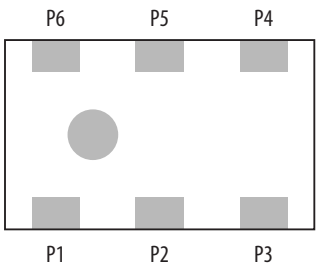


Note:
Line width to be designed to match 50 ohm characteristic impedance, depending on PCB material and thickness.

Soldering Profile



Construction



PIN	Connection
P1	GND
P2	Common Port
P3	GND
P4	High Band Port
P5	GND
P6	Low Band Port

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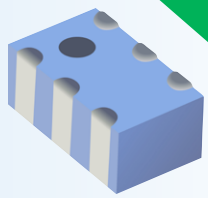

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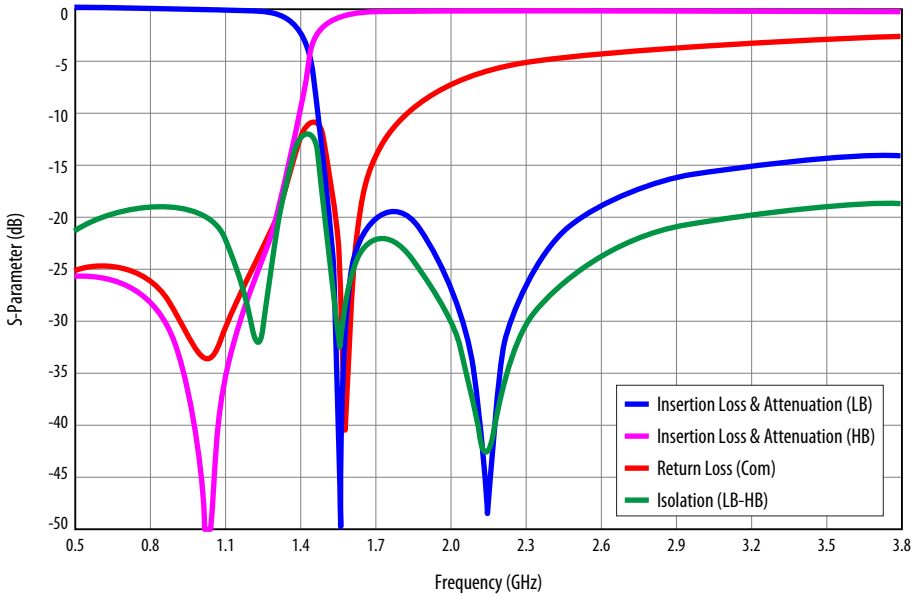
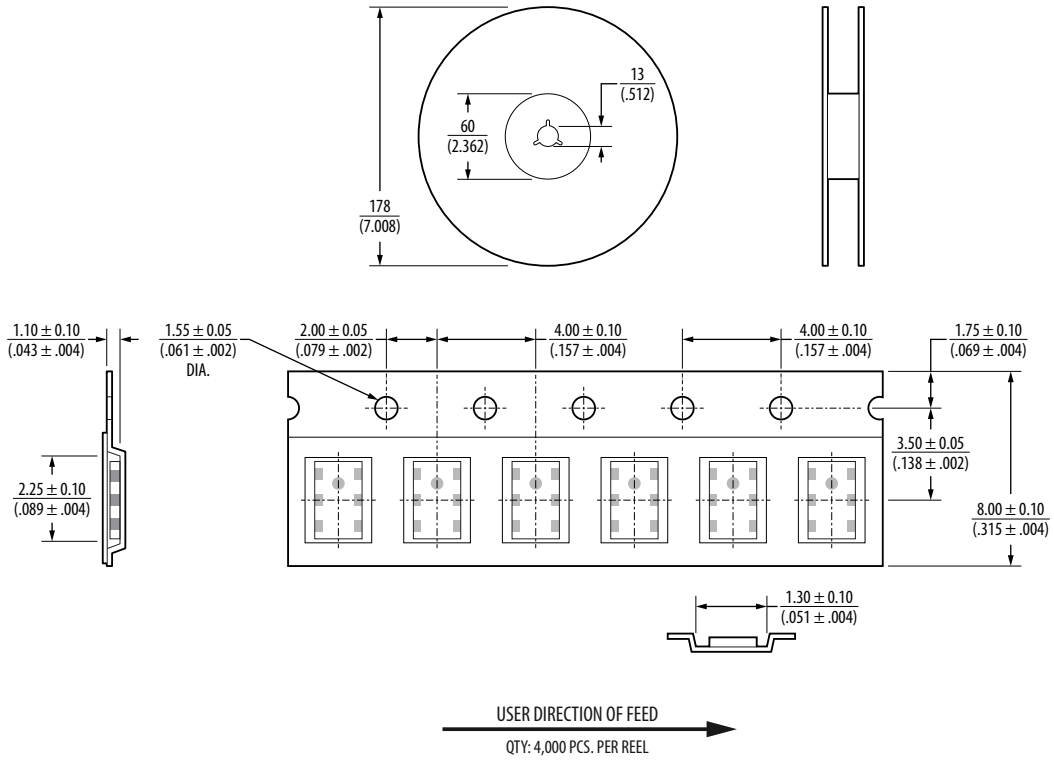
RF Characteristics vs. Frequency



Packaging Information



REV. 07/26

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