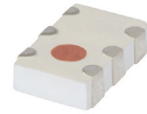


# Ceramic Diplexer

## LDPG-272-492+

50Ω DC to 5750 MHz (DC-2700, 4900-5750 MHz)



Generic photo used for illustration purposes only

CASE STYLE: GE0805C-10

**+RoHS Compliant**

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Available Tape and Reel at no extra cost

| Reel Size | Devices/Reel                      |
|-----------|-----------------------------------|
| 7"        | 20, 50, 100, 200, 500, 1000, 4000 |

### Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature*  | -55°C to 100°C |
| RF Power Input**      | 2W at 25°C     |

\* 12 months max.

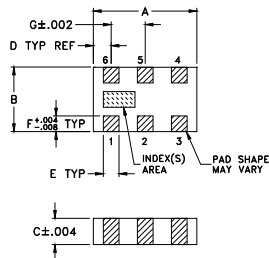
\*\* passband rating, derate linearly to 1W at 100°C ambient.

Permanent damage may occur if any of these limits are exceeded.

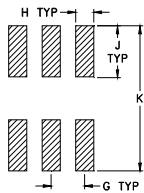
### Pad Connections

|                |       |
|----------------|-------|
| Low Pass Port  | 6     |
| High Pass Port | 4     |
| Common Port    | 2     |
| Ground         | 1,3,5 |

### Outline Drawing



### PCB Land Pattern

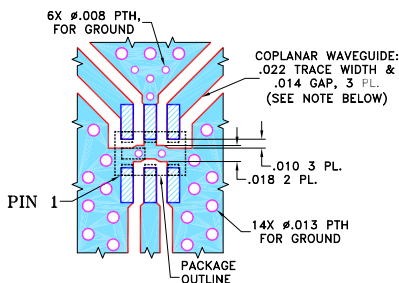


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch mm)

|      |      |      |      |      |       |
|------|------|------|------|------|-------|
| A    | B    | C    | D    | E    | F     |
| .079 | .049 | .020 | .014 | .012 | .012  |
| 2.01 | 1.24 | 0.51 | 0.36 | 0.30 | 0.30  |
| G    | H    | J    | K    |      | wt    |
| .026 | .014 | .039 | .110 |      | grams |
| 0.66 | 0.36 | 1.00 | 2.80 |      | .005  |

### Demo Board MCL P/N: TB-798+ Suggested PCB Layout (PL-441)



#### NOTES:

1. COPLANAR WAVEGUIDE IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .010" ± .001". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.

2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

#### Notes

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

### Features

- small size 0805(2.0 x 1.25 mm)
- low insertion loss, 0.7 dB typ.
- high rejection
- temperature stable
- LTCC construction

### Applications

- communication systems
- ISM
- WiFi

### Electrical Specifications<sup>1,2</sup> at 25°C

| Parameter           | Port           | Frequency (MHz) | Min.        | Typ. | Max. | Unit |    |
|---------------------|----------------|-----------------|-------------|------|------|------|----|
| Pass Band           | Insertion Loss | Low Pass        | DC - 2700   | —    | 0.5  | 0.9  | dB |
|                     |                | Band Pass       | 4900 - 5750 | —    | 0.7  | 0.9  |    |
|                     | Return Loss    | Low Pass        | 2300 - 2700 | 10   | 16   | —    | dB |
|                     |                | Band Pass       | 4900 - 5750 | 10   | 14   | —    |    |
| Stop Band Isolation | Band Pass      | DC - 2700       | 18          | 23   | —    | dB   |    |
|                     |                | 9800 - 11900    | —           | 17   | —    |      |    |
|                     | Low Pass       | 4800 - 8000     | 20          | 30   | —    | dB   |    |

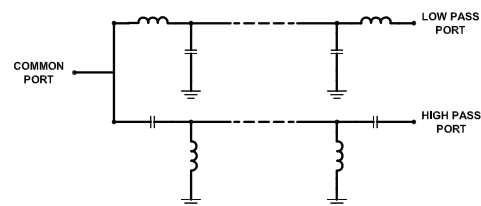
<sup>1</sup> In Application where DC voltage is present at either input or output port, coupling capacitors are required.

<sup>2</sup> Measured on Mini-Circuits Characterization Test Board TB-798+

### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) |                |             | Return Loss (dB) |                |
|-----------------|---------------------|----------------|-------------|------------------|----------------|
|                 | Low Pass Port       | High Pass Port | Common Port | Low Pass Port    | High Pass Port |
| 10              | 0.10                | 58.83          | 47.75       | 37.84            | 0.04           |
| 50              | 0.05                | 45.92          | 38.49       | 34.75            | 0.03           |
| 100             | 0.10                | 41.84          | 33.28       | 32.98            | 0.03           |
| 800             | 0.34                | 25.56          | 15.37       | 14.76            | 0.08           |
| 2300            | 0.43                | 27.39          | 17.15       | 21.24            | 0.25           |
| 2700            | 0.56                | 37.44          | 18.10       | 19.31            | 0.33           |
| 3500            | 2.30                | 8.69           | 14.46       | 16.57            | 3.00           |
| 4000            | 18.88               | 1.05           | 11.25       | 0.80             | 14.70          |
| 4800            | 31.11               | 0.54           | 18.24       | 0.39             | 25.61          |
| 4900            | 31.67               | 0.54           | 19.56       | 0.38             | 26.15          |
| 5750            | 35.40               | 0.59           | 18.12       | 0.33             | 18.97          |
| 6000            | 35.94               | 0.72           | 14.00       | 0.31             | 14.49          |
| 7000            | 34.23               | 1.84           | 6.46        | 0.17             | 7.46           |
| 8000            | 34.32               | 6.18           | 2.51        | 0.07             | 2.74           |
| 9800            | 28.29               | 32.63          | 0.51        | 0.19             | 0.31           |
| 11900           | 21.63               | 20.94          | 0.43        | 0.49             | 0.51           |
| 12000           | 21.41               | 20.85          | 0.41        | 0.51             | 0.57           |

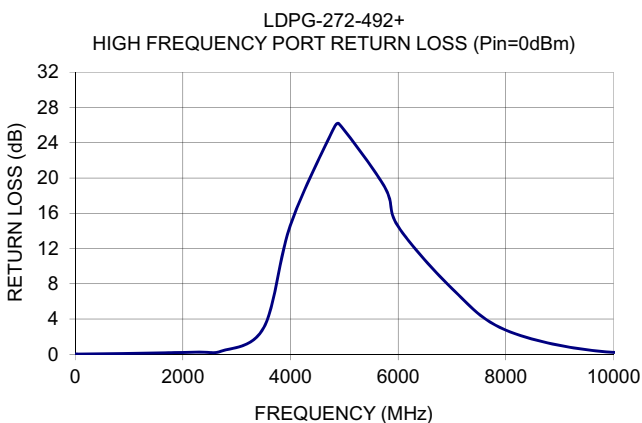
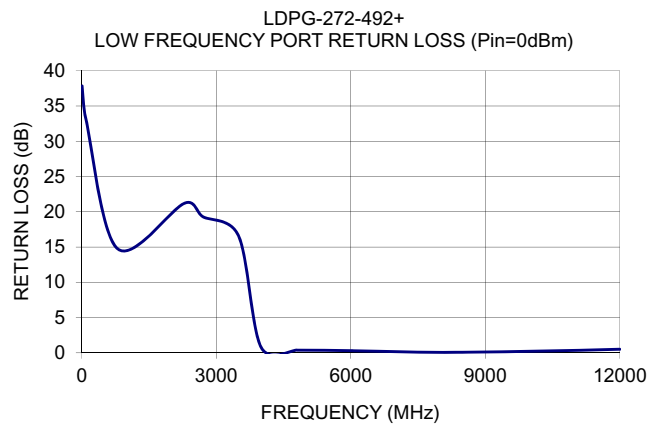
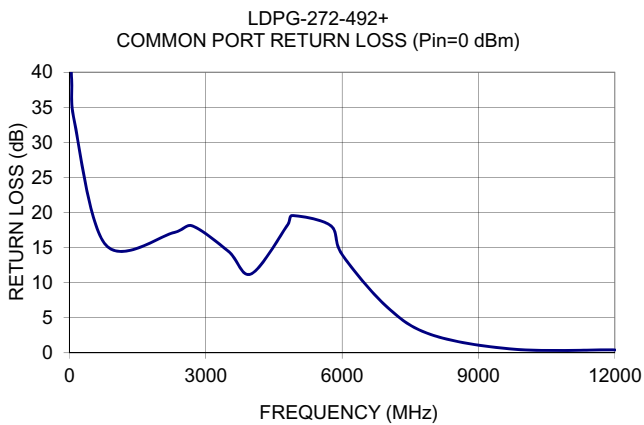
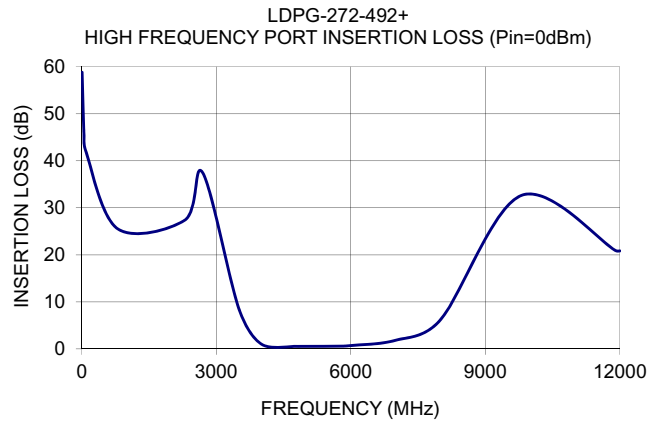
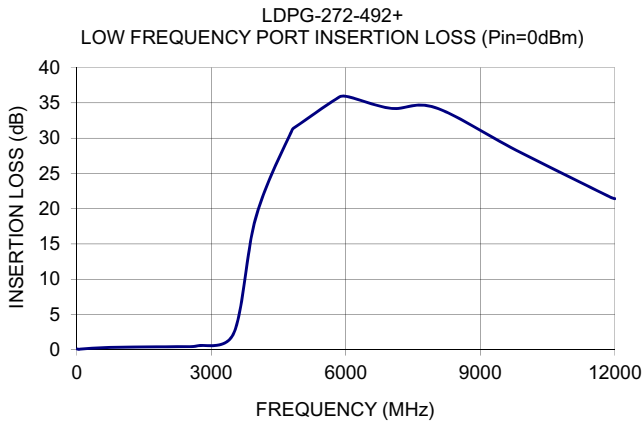
### Functional Schematic



**Mini-Circuits**

[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

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