

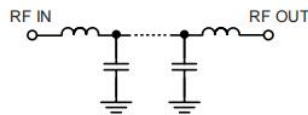
## Features

- High rejection
- Sharp insertion loss roll-off
- Good VSWR, 1.2:1 typ. at passband
- Ultra miniature surface mount package

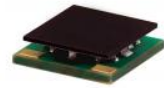
## Applications

- Wireless communications
- Receivers / Transmitters
- Lab use

## Functional Schematic



## JY-ULP-176+



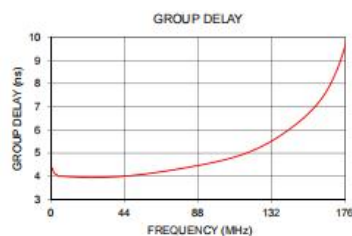
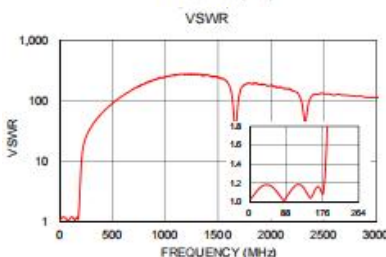
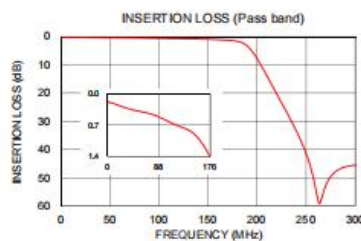
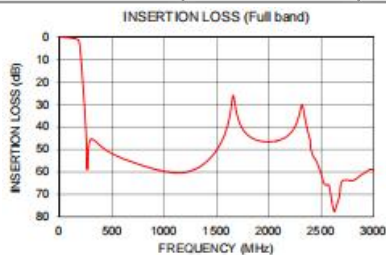
50Ω DC to 176 MHz

## Electrical Specifications at 25°C

| Parameter |                | Frequency(MHz) | Min. | Typ. | Max. | Unit |
|-----------|----------------|----------------|------|------|------|------|
| Pass Band | Insertion Loss | DC-176         | -    | 1.5  | 2.0  | dB   |
|           | Freq. Cut-Off  | 191            | -    | 3.0  | -    | dB   |
|           | VSWR           | DC-176         | -    | 1.2  | -    | :1   |
| Stop Band | Insertion Loss | 245-285        | 20   | 27   | -    | dB   |
|           |                | 285-1000       | 40   | 47   | -    | dB   |
|           | VSWR           | 1000-3000      | -    | 20   | -    | dB   |
|           |                | 245-1000       | -    | 20   | -    | :1   |

## Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) | Frequency (MHz) | Group Delay (nsec) |
|-----------------|---------------------|-----------|-----------------|--------------------|
| 1               | 0.18                | 1.03      | 1               | 4.35               |
| 50              | 0.38                | 1.17      | 5               | 4.00               |
| 176             | 1.45                | 1.08      | 10              | 3.99               |
| 185             | 2.20                | 1.56      | 20              | 3.95               |
| 191             | 3.63                | 2.50      | 40              | 3.98               |
| 200             | 7.80                | 5.61      | 50              | 4.05               |
| 210             | 13.94               | 10.70     | 80              | 4.36               |
| 220             | 20.30               | 15.31     | 90              | 4.49               |
| 235             | 29.98               | 20.49     | 100             | 4.64               |
| 245             | 37.20               | 23.23     | 110             | 4.83               |
| 250             | 41.50               | 24.55     | 120             | 5.09               |
| 285             | 46.78               | 33.12     | 130             | 5.44               |
| 300             | 45.55               | 36.55     | 140             | 5.89               |
| 500             | 51.87               | 89.41     | 150             | 6.45               |
| 750             | 56.51               | 171.43    | 155             | 6.79               |
| 1000            | 59.68               | 244.40    | 160             | 7.19               |
| 2000            | 46.72               | 176.95    | 165             | 7.71               |
| 2500            | 57.80               | 129.83    | 170             | 8.43               |
| 2800            | 64.12               | 117.68    | 175             | 9.42               |
| 3000            | 60.93               | 112.33    | 176             | 9.66               |



## Maximum Ratings

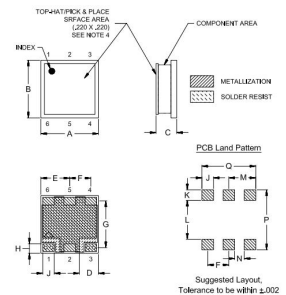
|                       |                  |
|-----------------------|------------------|
| Operating Temperature | -40°C to 85°C    |
| Storage Temperature   | -55°C to 100°C   |
| RF Power Input*       | 0.8W Max. @ 25°C |

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

## Pin Connections

|        |         |
|--------|---------|
| INPUT  | 1       |
| OUTPUT | 3       |
| GROUND | 2,4,5,6 |

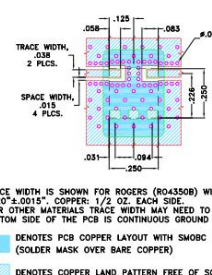
## Outline Drawing



## Outline Dimensions: Unit ( mm )

|   |      |    |       |
|---|------|----|-------|
| A | 6.35 | J  | 1.27  |
| B | 6.35 | K  | 1.17  |
| C | 2.10 | L  | 4.27  |
| D | 1.90 | M  | 2.97  |
| E | 3.18 | N  | 1.07  |
| F | 2.34 | P  | 6.60  |
| G | 5.11 | Q  | 5.94  |
| H | 1.04 | WT | 0.25g |

## Suggested PCB Layout



- NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS (R04350B) WITH DIELECTRIC THICKNESS .020"±.0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH 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 SOLDERMASK