*Surface Mount*

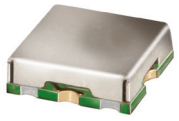
# High Pass Filter

# THP-1500+

50Ω 1500 to 4000 MHz

## The Big Deal

- Small size (0.25" x 0.25" x 0.10")
- Good matching
- Low insertion loss



CASE STYLE: GQ1018

## Product Overview

THP-1500+ is a 50Ω high pass filter fabricated using SMT technology. This high pass filter covers from 1500-4000 MHz. This series of filters are constructed in a tiny package offering dual advantage of superior lumped element filter performance in a space saving SMT package. These models are suitable for mass production without losing flexibility of small volume requirements. It has repeatable performance across lots and consistent performance across temperature.

## Key Features

| Feature | Advantages |
|---|---|
| Low insertion loss | Can be used in high performance applications. |
| Good rejection | This enables the filter to attenuate spurious signals and reject harmonics for broad frequency band. |
| Small size, 0.25" x 0.25" x 0.10" | The small surface mount package enables the THP-1500+ to be used in compact designs. |

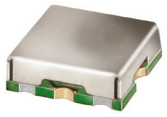
**Notes**
**A.** Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
**B.** Electrical specifications and performance data contained in this specification document are 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

*Surface Mount*

# High Pass Filter

## THP-1500+

50Ω 1500 to 4000 MHz



CASE STYLE: GQ1018

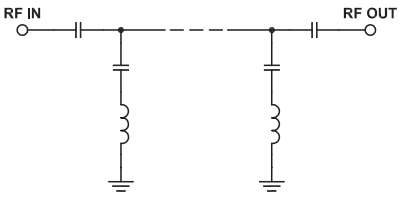
### Features

- Low insertion loss
- Good matching
- Small size (0.25" x 0.25" x 0.10")

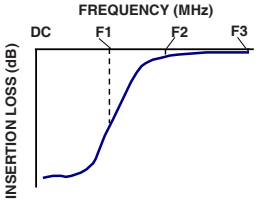
### Applications

- Mobile (Aeronautical telemetering)
- Mobile satellite, maritime mobile satellite
- Radio astronomy
- Fixed mobile

### Functional Schematic




### Typical Frequency Response




***+RoHS Compliant***

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

### Electrical Specifications at 25°C

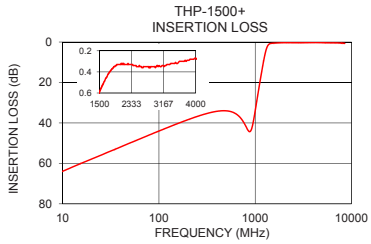
| Parameter | | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Stop Band | Rejection Loss | DC-F1 | DC-1030 | 20 | 30 | - | dB |
| | VSWR | DC-F1 | DC-1030 | - | 20 | - | :1 |
| Pass Band | Insertion Loss | F2-F3 | 1500-4000 | - | 0.7 | 2.0 | dB |
| | VSWR | F2-F3 | 1500-4000 | - | 1.2 | 1.78 | :1 |

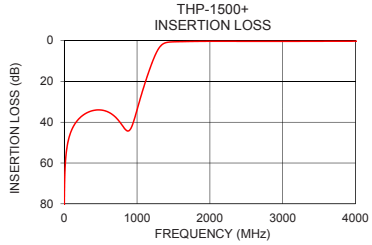
| Maximum Ratings | |
|---|---|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input | 0.5 W max. |

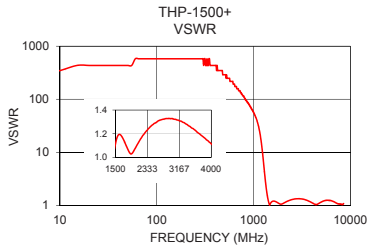
Permanent damage may occur if any of these limits are exceeded.

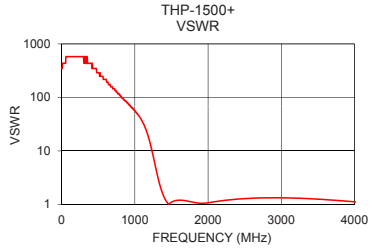
### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|---|---|---|
| 10 | 63.87 | 434.30 |
| 900 | 43.82 | 78.97 |
| 1030 | 30.14 | 49.64 |
| 1145 | 16.94 | 26.74 |
| 1230 | 8.69 | 10.75 |
| 1280 | 4.87 | 5.30 |
| 1325 | 2.56 | 2.86 |
| 1380 | 1.19 | 1.61 |
| 1500 | 0.59 | 1.11 |
| 1650 | 0.47 | 1.18 |
| 1780 | 0.39 | 1.10 |
| 1900 | 0.35 | 1.03 |
| 2000 | 0.33 | 1.07 |
| 2230 | 0.33 | 1.19 |
| 2570 | 0.35 | 1.30 |
| 2730 | 0.35 | 1.32 |
| 2910 | 0.35 | 1.33 |
| 3200 | 0.34 | 1.31 |
| 3800 | 0.29 | 1.17 |
| 4000 | 0.27 | 1.12 |



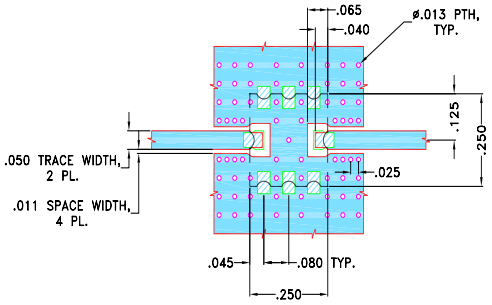

Notes

**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

## Pad Connections

| | |
|---|---|
| INPUT | 8 |
| OUTPUT | 4 |
| GROUND | 1, 2, 3, 5, 6, 7 |

***Demo Board MCL P/N: TB-680***
***Suggested PCB Layout (PL-372)***



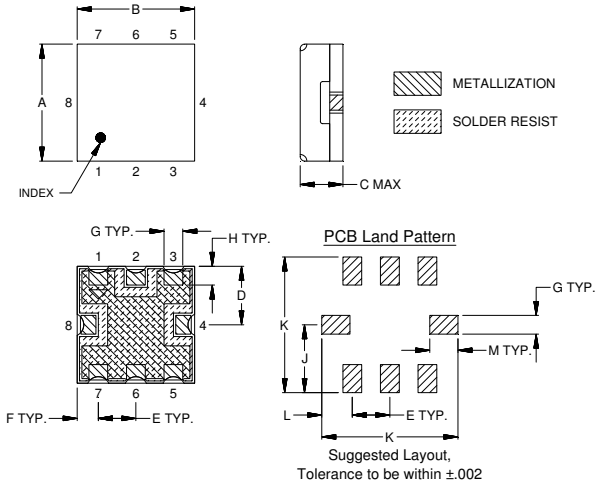

NOTES:

1. TRACE WIDTH IS SHOWN FOR OAK (OAK-602) WITH DIELECTRIC THICKNESS .022"±.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

## Outline Drawing




## Outline Dimensions ( inch / mm )

| A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|
| **.25** | **.25** | **.10** | **.125** | **.080** | **.045** | **.040** |
| 6.35 | 6.35 | 2.54 | 3.18 | 2.03 | 1.14 | 1.02 |

| H | J | K | L | M | Wt. |
|---|---|---|---|---|---|
| **.040** | **.145** | **.290** | **.065** | **.060** | grams |
| 1.02 | 3.68 | 7.37 | 1.65 | 1.52 | .25 |

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