

# 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



Generic photo used for illustration purposes only  
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

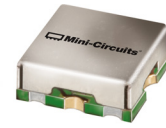
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### Features

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

### Applications

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

### Electrical Specifications at 25°C

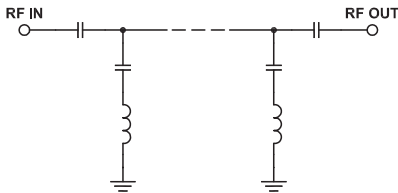
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Stop Band	Rejection Loss	DC-F1	DC-1030	20	30	-	dB
	VSWR	DC-F1	DC-1030	-	20	-	:1
Pass Band	Insertion Loss	F2-F3	1500-4000	-	0.7	2.0	dB
	VSWR	F2-F3	1500-4000	-	1.2	1.78	:1

### Maximum Ratings

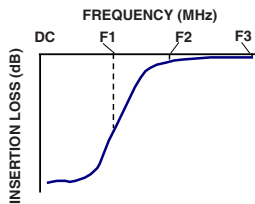
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5 W max.

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

### Functional Schematic



### Typical Frequency Response

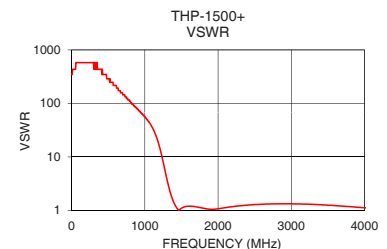
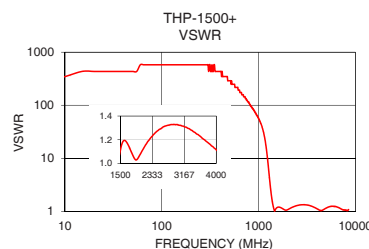
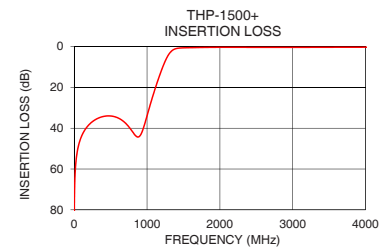
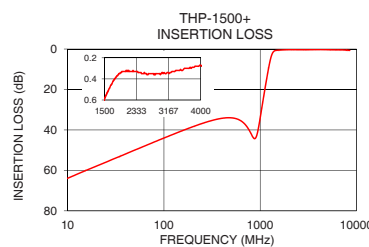


### Typical Performance Data at 25°C

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

### +RoHS Compliant

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



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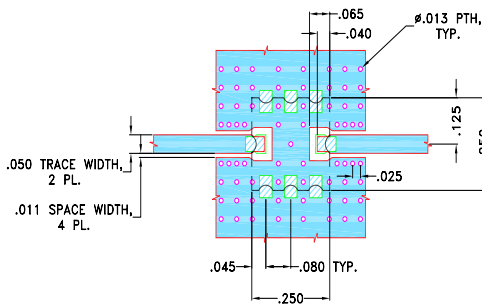
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ECO-005139  
THP-1500+  
EDU1762  
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## Pad Connections

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

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

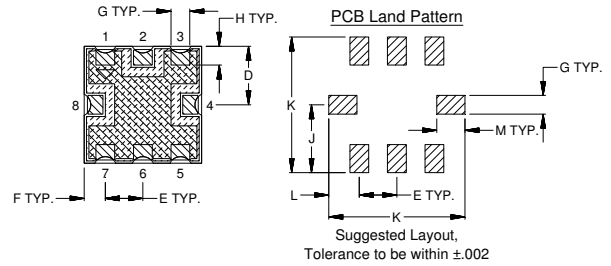
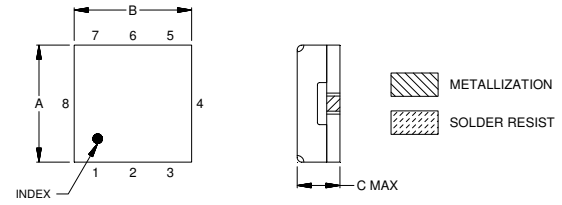


#### NOTES:

- 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.
- 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	

Note: Please refer to case style drawing for details

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