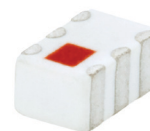


Ceramic High Pass Filter

HFCG-3500+

50Ω

3900 to 16500 MHz



Generic photo used for illustration purposes only
CASE STYLE: GE0805C-9

The Big Deal

- Low insertion loss, 1 dB typ.
- Very good rejection, 43 dB typ
- Small size 2.0 mm x 1.25 mm
- Good power handling, 3W
- Ceramic construction

Product Overview

HFCG-3500+ is a high pass filter with passband from 3900 MHz to 16500 MHz supporting a variety of applications. This model provides 1 dB typical insertion loss over a wide band due to strategically constructed layout. Housed in a tiny 0805 ceramic form factor with wraparound terminations, the filter is ideal for dense PCB layouts with minimal performance variation due to parasitics.

Key Features

Feature	Advantages
Small size, 2.0 mm x 1.25 mm	Accommodates tight space requirements for dense PCB layouts.
Wrap around termination	Provides excellent solderability and easy visual inspection capability.
LTCC construction	Provides a rugged package that is well suited for tough environments including high humidity and high temperature extremes.
Ultra-wide pass band	This filter has a very wide passband from 3.9 GHz to 16.5 GHz.

Notes

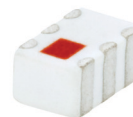
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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Ceramic High Pass Filter

50Ω 3900 to 16500 MHz

HFCG-3500+



Features

- Low insertion loss, 1 dB typ.
- Very good rejection, 43 dB typical
- Small size 2.0 mm x 1.25 mm
- Temperature stable
- LTCC construction

Applications

- Test and measurements
- Military applications
- Telecommunications and broadband wireless system
- 5G Sub 6 GHz
- Wi-Fi 6E and X-band Radar

Generic photo used for illustration purposes only
CASE STYLE: GE0805C-9

+RoHS Compliant

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

Electrical Specifications^(1,2) at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Stop Band	Rejection Loss	DC-F1	DC - 2400	37	43	-	dB
		F1-F2	2400 - 2700	26	38	-	dB
	Freq. Cut-Off	F3	3550	-	3.0	-	dB
Pass Band	Insertion Loss	F4-F5	3900 - 4400	-	1.8	-	dB
		F5-F6	4400 - 5200	-	0.9	1.6	dB
		F6-F7	5200 - 15000	-	0.8	1.4	dB
		F7-F8	15000 - 16500	-	1.0	-	dB
	Return Loss	F4-F8	3900 - 16500	-	12	-	dB

1 This component is not intended to act as a DC block. Please consult with Mini-Circuits for further details

2 Measured on Mini-Circuits Characterization Test Board TB-HFCG-3500+

* Typically, a ±5% frequency deviation from the stated value may occur on a unit-to-unit basis

Maximum Ratings

Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power Input*	3W @ 25°C

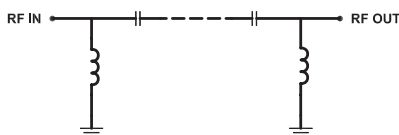
*Passband rating, derate linearly to 0.6W at 125°C ambient

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

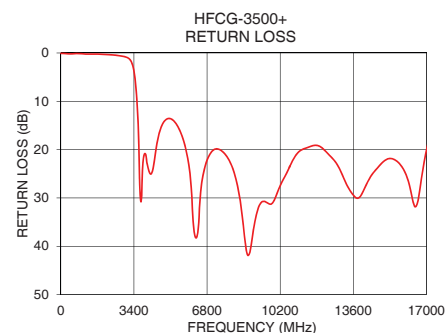
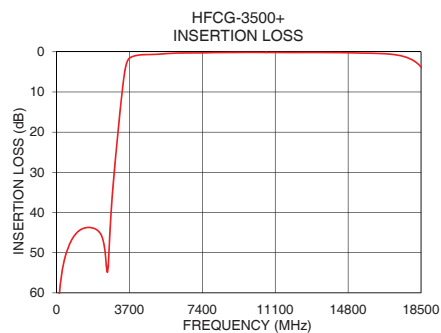
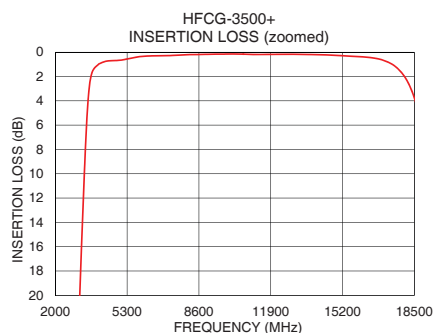
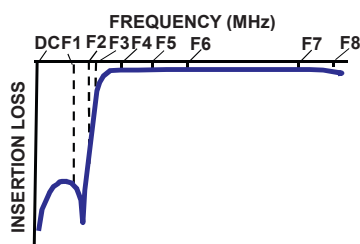
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
10	76.10	0.09
100	64.08	0.09
550	49.32	0.17
1010	45.14	0.17
2400	47.66	0.40
2700	46.23	0.55
2920	30.57	0.71
3120	20.09	1.01
3330	10.07	2.36
3500	4.05	7.42
3550	3.02	10.58
3900	1.13	20.85
4400	0.72	20.77
5200	0.60	13.83
10000	0.15	29.68
12000	0.18	19.24
14000	0.20	29.11
15000	0.27	22.47
16000	0.37	24.71
16500	0.45	31.80

Functional Schematic



Typical Frequency Response



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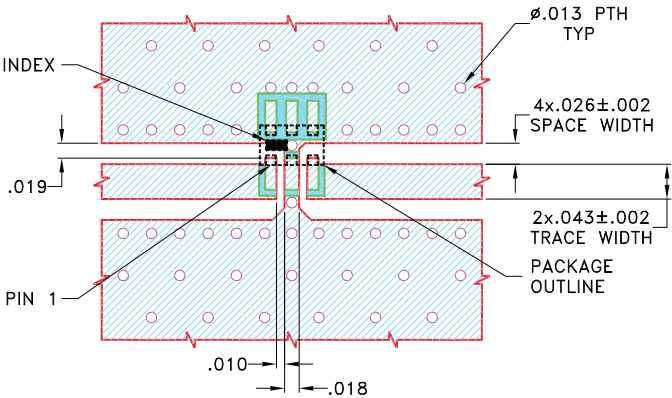
REV. OR
ECO-011017
HFCG-3500+
EDU4197
URJ
211202
Page 2 of 3

Pad Connections

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

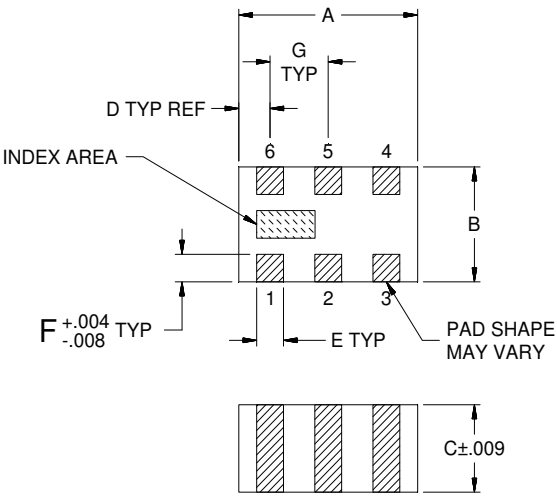
Product Marking: UK

Demo Board MCL P/N: TB-HFCG-3500+
Suggested PCB Layout (PL-633)



- NOTES:
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS (R04350B) WITH DIELECTRIC THICKNESS .020±.0015. 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 PATTERN WITH SMOBC (SOLDER MASK OVER BARE COPPER)
■ DENOTES PCB COPPER PATTERN FREE OF SOLDERMASK

Outline Drawing



Outline Dimensions (^{inch}/_{mm})

A	B	C	D	E	F	G	Wt.
.079	.049	.037	.014	.012	.012	.026	grams
2.00	1.25	0.95	0.35	0.30	0.30	0.65	.008

Note: Please refer to case style drawing for details.

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