LTCC SURFACE MOUNT

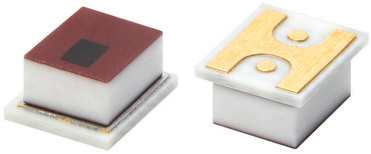
Low Pass Filter

LFHKI-530+

50Ω DC to 0.53 GHz

THE BIG DEAL

- Integrated CPWG Interposer for Simplified PCB Connection
- Insertion Loss, Typ. 1.6 dB
- Strong Stopband Rejection
- Power Handling: 9 W
- Compact 2.95 x 2.46 mm SMT Package
- Protected by US Patents 11,638,370 and 11,744,057

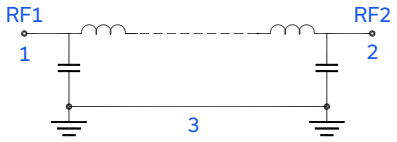


Generic photo used for illustration purposes only

APPLICATIONS

- Test and Measurement Equipment
- Microwave Transmitters and Receivers
- Harmonic Rejection
- Satellite Communications

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

Mini-Circuits' LFHKI-530+ is a passive RF low pass filter featuring a CPWG interposer that simplifies board-level implementation and supports compact RF designs. The device provides low insertion loss, good return loss and excellent suppression of harmonics and unwanted signals across a broad frequency range. Its shielded LTCC construction helps prevent de-tuning and EMI while maintaining stable performance over temperature. The compact 2.95 x 2.46 mm package is optimized for high-density RF and microwave applications.

ELECTRICAL SPECIFICATIONS[1,2,3] AT +25 °C, Z_0 = 50Ω

Parameter		F#	Frequency (GHz)	Min.	Typ.	Max.	Units
Passband	Insertion Loss	DC–F1	DC–0.53	-	1.6	2	dB
	Freq. Cut-Off[4]	Fc	0.67	-	3	-	dB
	Return Loss	DC–F1	DC–0.53	9	13	-	dB
Stopband	Rejection	F2–F3	0.84–1.25	20	26	-	dB
		F3–F4	1.25–4	48	58	-	
		F4–F5	4–10	43	53	-	
		F5–F6	10–14.5	43	53	-	
		F6–F7	14.5–40	-	24	-	

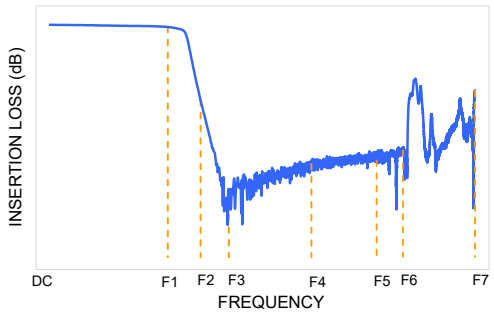
1. Tested in Evaluation Board P/N TB-LFHKI-530C+ with the connector and feedline effects de-embedded using the 2X Thru IEEE P370 method.
2. This filter is bi-directional; RF1 and RF2 ports may be interchanged. See S-Parameters for actual performance.
3. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.
4. Typical variation: ± 5 %

ABSOLUTE MAXIMUM RATINGS[5]

Operating Temperature	-55 °C to +125 °C
Storage Temperature	-55 °C to +125 °C
Input Power[6]	9 W @ +25 °C

5. Permanent damage may occur if any of these limits are exceeded.
6. Power rating applies only to signals within the passband. Power rating above +25 °C operating temperature decreases linearly to 1.1 W at +125 °C.

TYPICAL FREQUENCY RESPONSE



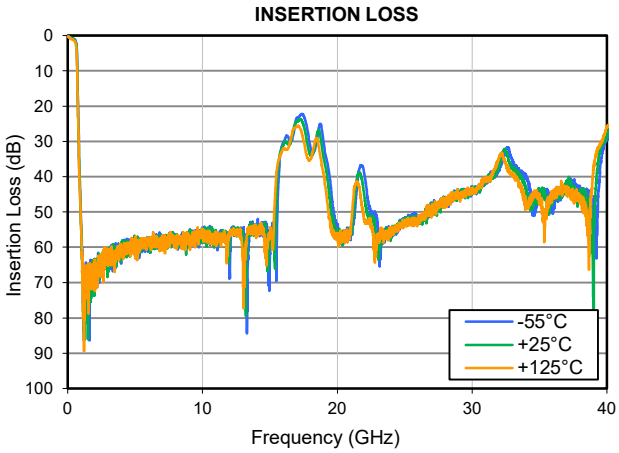
REV. OR
ECO-030926
LFHK-530+
MCL NY
260824

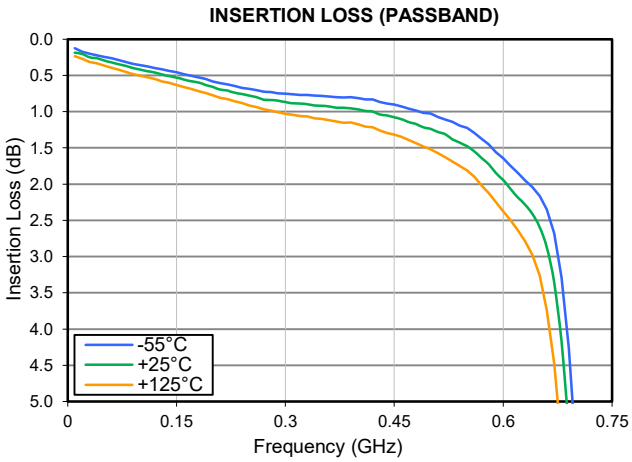
Low Pass Filter

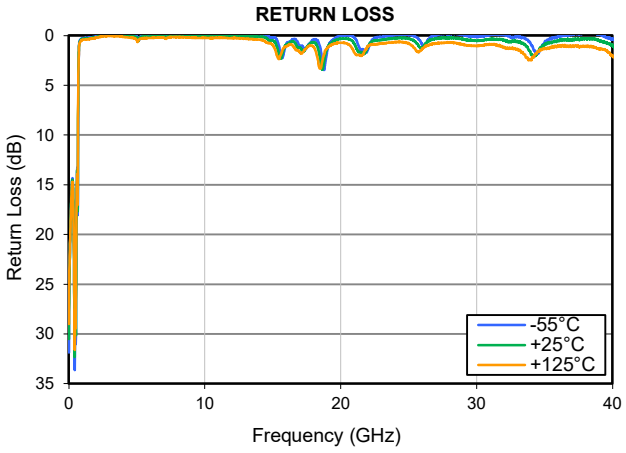
LFHKI-530+

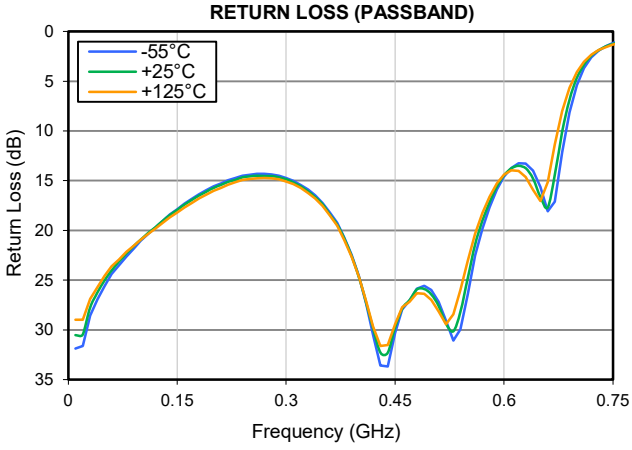
50Ω DC to 0.53 GHz

TYPICAL PERFORMANCE GRAPHS









LTCC SURFACE MOUNT

Low Pass Filter

LFHKI-530+

50Ω DC to 0.53 GHz

FUNCTIONAL DIAGRAM

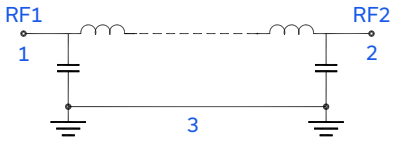


Figure 1. LFHKI-530+ Functional Diagram

PAD DESCRIPTION

Function	Pad Number	Description
RF1[2]	1	Connects to RF Input Port
RF2[2]	2	Connects to RF Output Port
GROUND	3	Connects to Ground on PCB, (See drawing PL-837)

SUGGESTED PCB LAYOUT (PL-837)

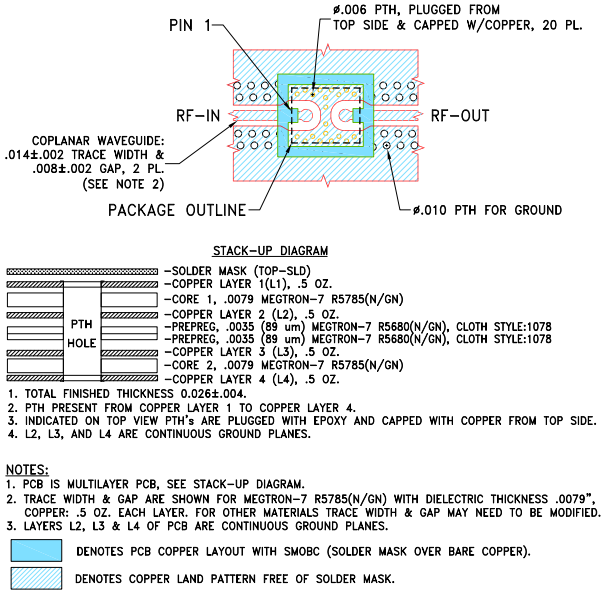
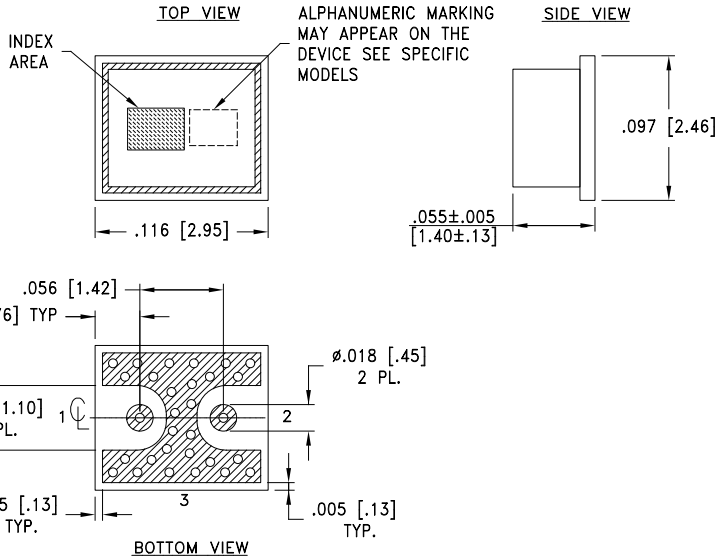


Figure 2. Suggested PCB Layout

CASE STYLE DRAWING



Weight: .021 grams
Dimensions are in inches [mm]. Tolerances: 2 Pl.±.01; 3 Pl. ±.005 Inches

PRODUCT MARKING*: V5

*Marking may contain other features or characters for internal lot control.

Low Pass Filter

LFHKI-530+

50Ω DC to 0.53 GHz

ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	NM3723-1 Lead Finish: Gold Plate over Nickel Plate
RoHS/REACH Status	Compliant
Tape and Reel	F66-3
Suggested Layout for PCB Design	PL-837
Evaluation Board	TB-LFHKI-530C+ Gerber File
Environmental Rating	ENV164

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-Circuits' 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/terms/viewterm.html