Thin-Film RF/Microwave Filters Low Pass – Harmonic Lead-Free LP0402N Series – LGA Termination



RFAP TECHNOLOGY

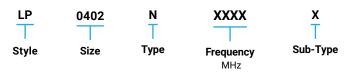
The LP0402N Series Harmonic Low Pass Filter is based on the proprietary RFAP Thin-Film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.

The RFAP Harmonic Low Pass Filter is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

APPLICATIONS

- Wireless communications
- Wireless LAN's
- GPS
- WiMAX

HOW TO ORDER



LAND GRID ARRAY ADVANTAGES

- Inherent Low Profile
- Self Alignment during Reflow
- Excellent Solderability
- Low Parasitics
- Better Heat Dissipation

Termination LGA Lead Free

Ν

TR Taped & Reeled





QUALITY INSPECTION

Finished parts are 100% tested for electrical parameters and visual characteristics. Each production lot is evaluated on a sample basis for:

- Static Humidity: 85°C, 85% RH, 160 hours
- Endurance: 125°C, IR, 4 hours

TERMINATION

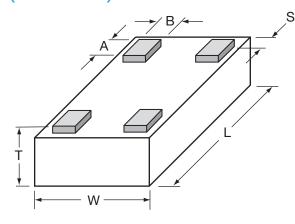
Nickel/Lead-Free solder coating compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.

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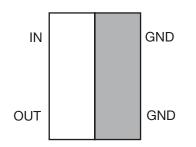


DIMENSIONS: millimeters (inches) (Bottom View)

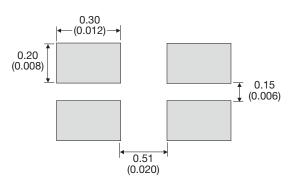


L	1.0±0.05 (0.040±0.002)	Α	0.20±0.06 (0.008±0.002)
w	0.58±0.04 (0.023±0.002)	В	0.18±0.05 (0.007±0.002)
т	0.35±0.5 (0.014±0.002)	s	0.05±0.05 (0.002±0.002)

TERMINALS (TOP VIEW)



RECOMMENDED PAD LAYOUT (MM)



ELECTRICAL CHARACTERISTICS

(Guaranteed over -40°C to +85°C Operating Temperature Range)

P/N	Frequency Band [MHz]	l. Loss [dB]	R. Loss [dB]	Attenuation @ 2xF [dB]	Attenuation @ 3xF [dB]
LP0402N2442ANTR	2400-2484	0.35 typ 0.5 max	20	30	17
LP0402N2690ANTR	2640-2740	0.35 typ 0.5 max	20	30	20
LP0402N3500ANTR	3400-3600	0.3 typ 0.5 max	19	30	20
LP0402N5200ANTR	5500-5350	0.2 typ 0.5 max	19	30	20
LP0402N5500ANTR	5350-5650	0.2 typ 0.5 max	15	30	-
LP0402N5800ANTR	5600-6000	0.2 typ 0.5 max	16	25	-

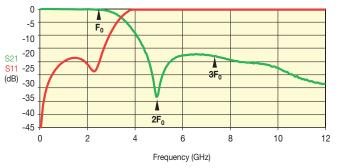
NOTE: Additional Frequencies Available Upon Request

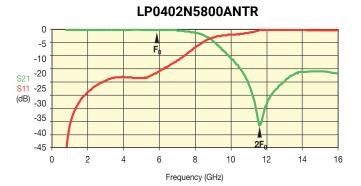


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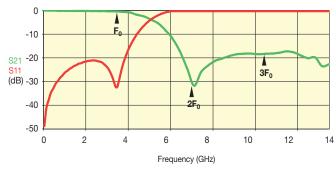
LP0402N2442ANTR

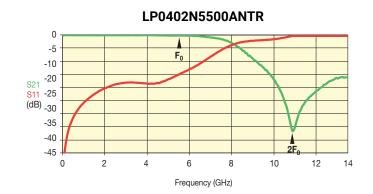




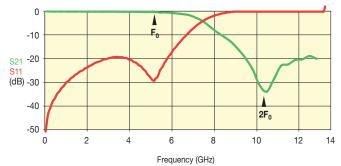
LP0402N2690ANTR 0 E -10 S21 -20 S11 (dB) -30 3F -40 2F₀ -50 0 2 4 6 8 10 12 14 Frequency (GHz)

LP0402N3500ANTR





LP0402N5200ANTR



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TEST JIG FOR LP0402 LOW PASS FILTER

GENERAL DESCRIPTION

These jigs are designed for testing the LP0603 LGA Low Pass Filters using a Vector Network Analyzer.

They consist of a dielectric substrate, having 50Ω microstrips as conducting lines and a bottom ground plane located at a distance of 0.127mm from the microstrips.

The substrate used is Neltec's NH9338ST0127C1BC (or similar).

The connectors are SMA type (female), 'Johnson Components Inc.' Product P/N: 142-0701-841 (or similar).

Both a measurement jig and a calibration jig are provided.

The calibration jig is designed for a full 2-port calibration, and consists of an open line, short line and through line. LOAD calibration can be done by a 50Ω SMA termination.

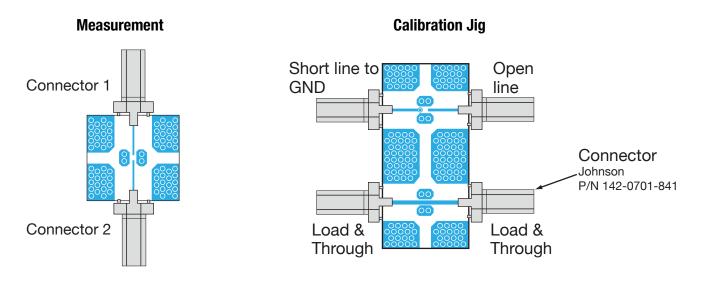
MEASUREMENT PROCEDURE

Follow the VNA's instruction manual and use the calibration jig to perform a full 2-Port calibration in the required bandwidths.

Solder the filter to the measurement jig as follows:

Input (Filter)	Connector 1 (Jig)	GND (Filter) 🖡 GND (Jig)
Output (Filter)	Connector 2 (Jig)	GND (Filter) 🖡 GND (Jig)

Set the VNA to the relevant frequency band. Connect the VNA using a 10dB attenuator on the jig terminal connected to port 2 (using an RF cable).



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