

# Thin-Film RF/Microwave Filters

## Low Pass – Harmonic

### LP0805 Series – SMD Termination

#### GENERAL DESCRIPTION

The ITF (Integrated Thin-Film) SMD Filter is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.

The ITF Filter is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

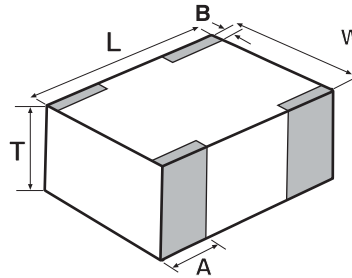
#### FEATURES

- Small Size: 0805
- Frequency Range: 800MHz - 3.5GHz
- Characteristic Impedance: 50Ω
- Operating / Storage Temp.: -40°C to +85°C
- Power Rating: 3W Continuous
- Low Profile
- Rugged Construction
- Taped and Reeled

#### APPLICATIONS

- Mobile Communications
- Satellite TV Receivers
- GPS
- Vehicle Location Systems
- Wireless LAN's

#### DIMENSIONS: millimeters (inches)



<b>L</b>	2.03±0.1 (0.080±0.004)
<b>W</b>	1.55±0.1 (0.061±0.004)
<b>T</b>	1.02±0.1 (0.040±0.004)
<b>A</b>	0.56±0.25 (0.022±0.010)
<b>B</b>	0.35±0.15 (0.014±0.006)

#### PAD LAYOUT

See CP0805 pad layout on page 64.

#### FINAL QUALITY INSPECTION

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

- Static Humidity: 85°C, 85% RH, 160 hours
- Endurance: 125°C, I<sub>R</sub> 4 hours

#### TERMINATION

Nickel/Solder coating (Sn, Pb) compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.

#### HOW TO ORDER

**LP**  
Style  
Low Pass

**0805A**  
Size  
0805

**0902**  
Frequency  
MHz

**AW**  
Termination  
AW = Nickel/Solder (SnPb)  
\*\*AS = Nickel/ Lead Free  
Solder (Sn100)

**TR**  
Taped & Reeled  
TR = Tape and Reel

\*\*RoHS compliant

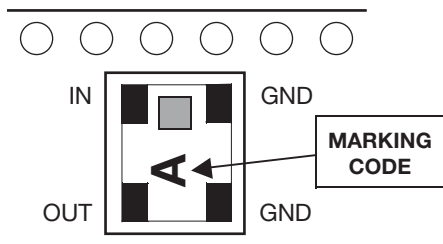
Not RoHS Compliant



For RoHS compliant products,  
please select correct termination style.

#### TERMINALS AND LAYOUT (TOP VIEW)

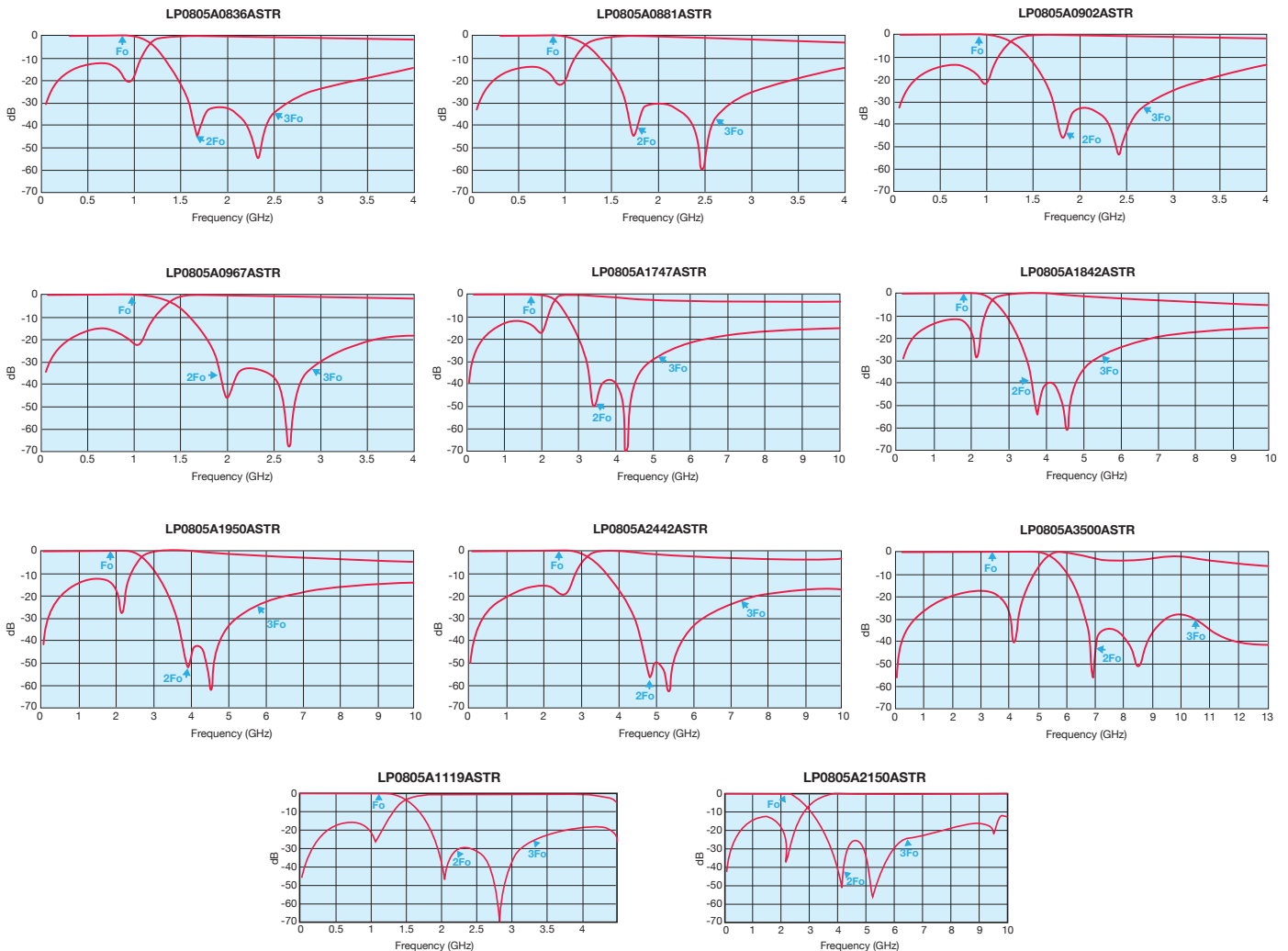
#### ORIENTATION IN TAPE



#### ELECTRICAL CHARACTERISTICS

Application	Part Number	Frequency Band (MHz)	I. Loss max	VSWR max	Attenuation (dB) Typical	Layout Type (SnPb)	Layout Type F Marking Code
E-G SM	LP0805A0897AS	880 - 915	0.4dB (0.3dB typ)	1.7	30 @ 2X $F_o$ 20 @ 3x $F_o$	A	E
	LP0805A0942AS	925 - 960				A	F
GSM	LP0805A0902AS	890 - 915				A	E
	LP0805A0947AS	935 - 960				A	F
	LP0805A1119AS	1101 - 1137				A	H
AM PS	LP0805A0836AS	824 - 849				A	A
	LP0805A0881AS	869 - 894				A	C
PCN	LP0805A1747AS	1710 - 1785				D	I
	LP0805A1842AS	1805 - 1880				D	J
PCS	LP0805A1880AS	1850 - 1910				D	K
	LP0805A1960AS	1930 - 1990				D	M
PHP	LP0805A1907AS	1895 - 1920				D	L
DECT	LP0805A1890AS	1880 - 1900				D	K
3G	LP0805A2150AS	1905 - 2180				D	N
Wireless LAN	LP0805A2442AS	2400 - 2484				D	S
WLL	LP0805A3500AS	3400 ~ 3600				E	X

### Typical Electrical Performance



# Thin-Film RF/Microwave Filters

## Low Pass – Harmonic

### LP0805 Series – Test Jig

#### ITF TEST JIG FOR LOW PASS FILTER 0805

##### GENERAL DESCRIPTION

These jigs are designed for testing the LPF0805 Low Pass Filters using a Vector Network Analyzer.

They consist of a dielectric substrate, having 50W microstrips as conducting lines and a bottom ground plane located at a distance of 0.254 mm from the microstrips.

The substrate used is RF-35-0100-C1B107 (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 50W SMA termination.

##### MEASUREMENT PROCEDURE

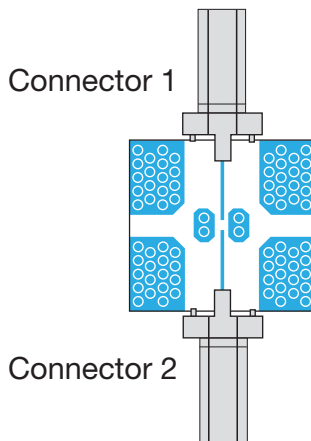
Follow the VNA's instruction manual and use the [calibration jig](#) to perform a full 2-Port calibration in the required bandwidths.

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).

**Measurement**



**Calibration Jig**

