

# On-Board Type (DC) EMI Suppression Filters (EMIFIL®)

**Murata**

## Chip EMIFIL® LC Combined Monolithic Type NFL18ST/NFL18SP/NFL21S Series

### NFL18ST Series

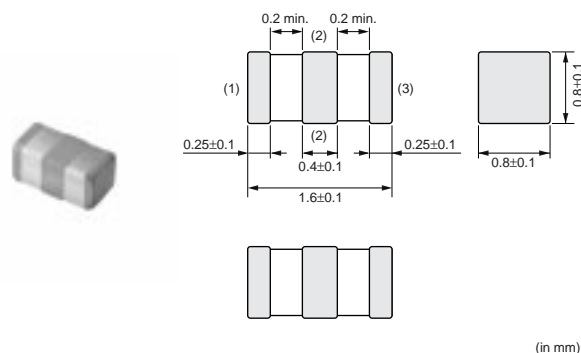
The NFL18ST series is an EMI suppression filter for high speed signal lines, achieving T-type structure in 1.6x0.8mm size with Murata's multilayer technology.

#### ■ Features

1. Ultra-small size in 1.6x0.8x0.8mm
2. Steep insertion loss characteristics realize excellent noise suppression and prevent distortion of signal waveform.
3. By minimizing stray capacitance of inductor, achieves high performance in noise suppression in high frequency range.
4. Five different values of cut off frequency are available, ranging from 100MHz up to 500MHz.
5. No polarity using the same structure on all the side electrode.

#### ■ Applications

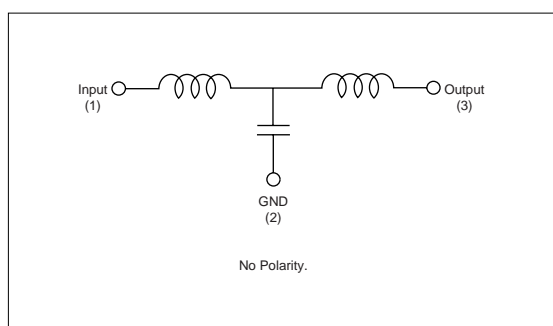
Noise suppression for video signal lines (RGB lines) and high speed clock lines



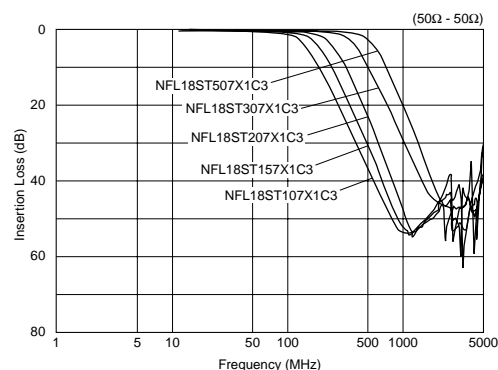
Part Number	Cut-off Frequency (MHz)	Capacitance (pF)	Inductance (nH)	Rated Voltage (Vdc)	Rated Current (mA)	Insulation Resistance (M ohm)	Operating Temperature Range (°C)
<b>NFL18ST107X1C3</b>	100	40 +20%, -20%	175 +20%, -20%	16	100	1000	-55 to 125
<b>NFL18ST157X1C3</b>	150	32 +20%, -20%	140 +20%, -20%	16	100	1000	-55 to 125
<b>NFL18ST207X1C3</b>	200	25 +20%, -20%	110 +20%, -20%	16	150	1000	-55 to 125
<b>NFL18ST307X1C3</b>	300	18 +20%, -20%	62 +20%, -20%	16	200	1000	-55 to 125
<b>NFL18ST507X1C3</b>	500	10 +20%, -20%	43 +20%, -20%	16	200	1000	-55 to 125

Number of Circuits : 1

#### ■ Equivalent Circuit



#### ■ Insertion Loss Characteristics (Typical)

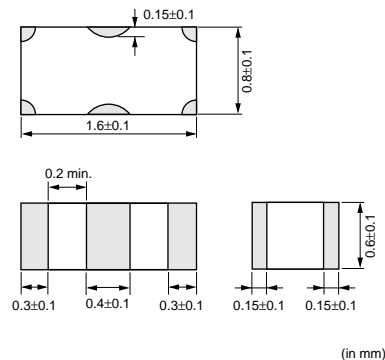


## NFL18SP Series

The chip "EMIFIL" NFL18SP series is an EMI suppression filter for high speed signal lines, achieving pi-type structure in 0603 size with Murata's multilayer technology.

### ■ Features

1. Ultra-small size in 1.6x0.8x0.6 mm
2. Achieves high performance in noise suppression over wide frequency range
3. Steep insertion loss characteristics realize excellent noise suppression and prevent distortion of signal waveform.
4. Line up 4 items of cut off frequency range from 150 to 500MHz



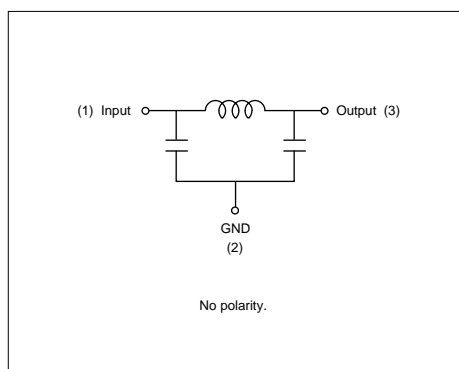
### ■ Applications

EMI suppression for digital signal line such as RGB and high speed clock lines

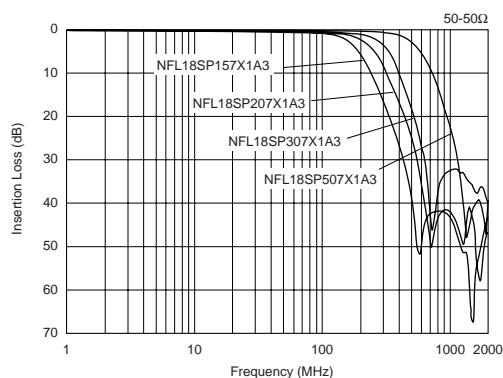
Part Number	Cut-off Frequency (MHz)	Capacitance (pF)	Inductance (nH)	Rated Voltage (Vdc)	Rated Current (mA)	Insulation Resistance (M ohm)	Operating Temperature Range (°C)
NFL18SP157X1A3	150	34 +20%, -20%	100 +20%, -20%	10	100	1000	-55 to 125
NFL18SP207X1A3	200	24 +20%, -20%	80 +20%, -20%	10	100	1000	-55 to 125
NFL18SP307X1A3	300	19 +20%, -20%	60 +20%, -20%	10	100	1000	-55 to 125
NFL18SP507X1A3	500	11 +20%, -20%	38 +20%, -20%	10	100	1000	-55 to 125

Number of Circuits : 1

### ■ Equivalent Circuit



### ■ Insertion Loss Characteristics (Typical)



## NFL21S Series

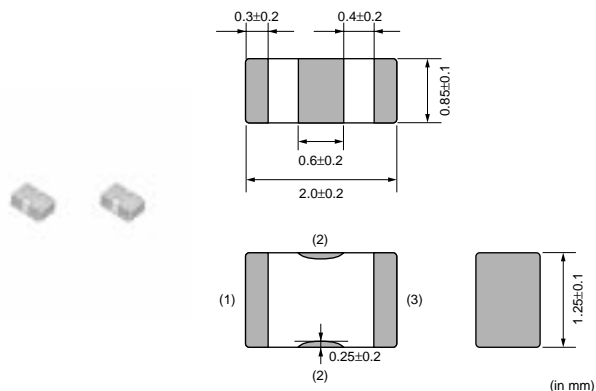
The chip "EMIFIL" NFL21S series is a high performance EMI suppression filter in 2.0x1.25mm size for high speed signal lines by using Murata's processing technology.

### ■ Features

1. Suppresses noise with little attenuation of the signal itself due to its steep filtering characteristics.
2. Murata's original internal structure design enables excellent noise suppression up to high frequencies.
3. Available in nine different values of cut off frequency ranging from 10MHz up to 500MHz.

### ■ Applications

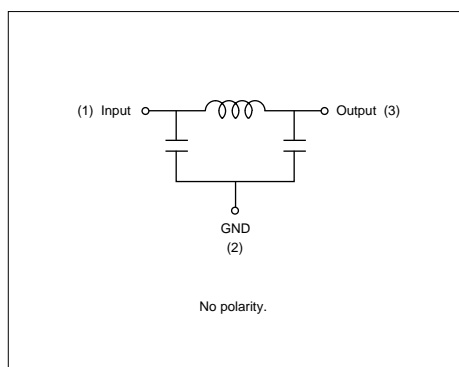
Suppression of high magnitude radiated noise generated by high speed digital circuits such as clock and RGB



Part Number	Cut-off Frequency (MHz)	Capacitance (pF)	Inductance (nH)	Rated Voltage (Vdc)	Rated Current (mA)	Insulation Resistance (M ohm)	Operating Temperature Range (°C)
NFL21SP106X1C3	10	670 +20%,-20%	680 +50%,-50%	16	100	1000	-55 to 125
NFL21SP206X1C3	20	240 +20%,-20%	700 +20%,-20%	16	100	1000	-55 to 125
NFL21SP506X1C3	50	84 +20%,-20%	305 +20%,-20%	16	150	1000	-55 to 125
NFL21SP706X1C3	70	76 +20%,-20%	185 +20%,-20%	16	150	1000	-55 to 125
NFL21SP107X1C3	100	44 +20%,-20%	135 +20%,-20%	16	200	1000	-55 to 125
NFL21SP157X1C3	150	28 +20%,-20%	128 +20%,-20%	16	200	1000	-55 to 125
NFL21SP207X1C3	200	22 +20%,-20%	72 +20%,-20%	16	250	1000	-55 to 125
NFL21SP307X1C3	300	19 +10%,-10%	45 +10%,-10%	16	300	1000	-55 to 125
NFL21SP407X1C3	400	16 +10%,-10%	34 +10%,-10%	16	300	1000	-55 to 125
NFL21SP507X1C3	500	12 +10%,-10%	31 +10%,-10%	16	300	1000	-55 to 125

Number of Circuits : 1

### ■ Equivalent Circuit



### ■ Insertion Loss Characteristics (Typical)

