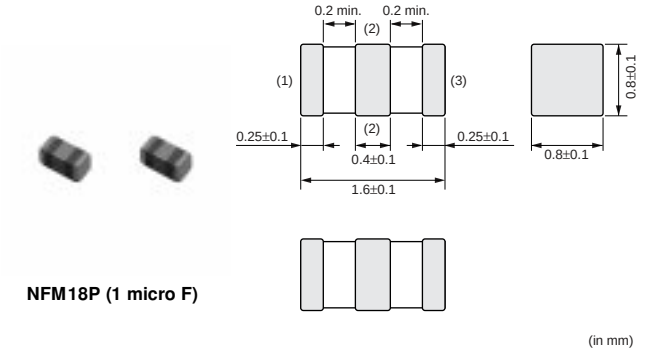
On-Board Type (DC) EMI Suppression Filters (EMIFIL®)

Chip EMIFIL® for Large Current NFM18P/21P/3DP/41P Series

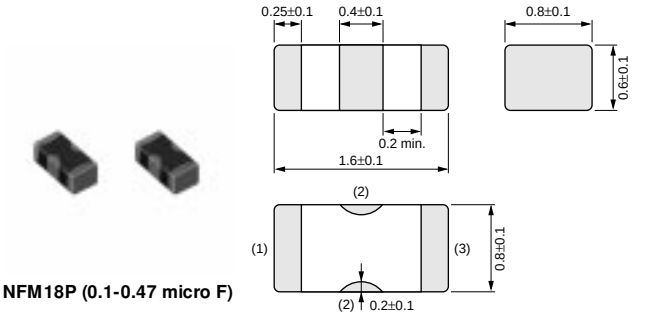
NFM18P Series

The NFM18P series is an EMI suppression filter for high speed IC power lines which realizes large capacitance 1 microF max. and rated current 2A in 1608 size by Murata's multilayer technology.



NFM18P (1 micro F)

(in mm)



NFM18P (0.1-0.47 micro F)

(in mm)

■ Features

1. Ultra small size in 1.6x0.8mm
2. 3-terminal structure with low residual (ESL)* and large capacitance 1 microF (max.) realizes large insertion loss characteristics over wide frequency range.
3. Large rated current 2A is suitable for noise suppression of circuits which require large current.
4. The NFM18P series has line up of capacitance 0.1 to 1.0 microF.

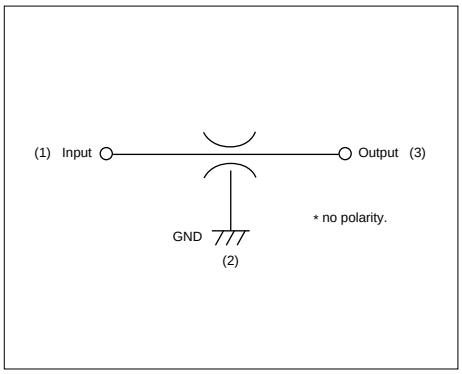
* Not exceeding one-tenth of monolithic ceramic capacitors (2-terminal).

■ Applications

1. Noise suppression for large capacitance circuit such as high speed IC power lines
2. Control change of voltage for high speed IC

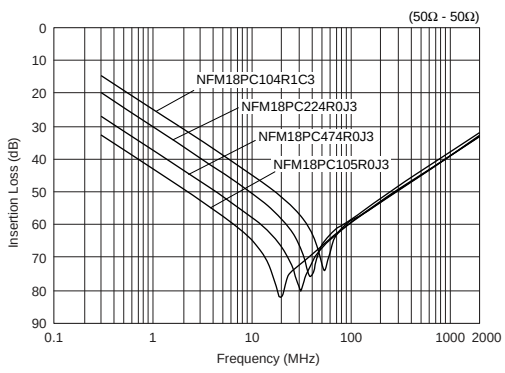
Part Number	Capacitance (∝F)	Rated Voltage (Vdc)	Rated Current (A)	Insulation Resistance (min.) (M ohm)	Operating Temperature Range (°C)
NFM18PC104R1C3	0.1 +20%,-20%	16	2	1000	-55 to +125
NFM18PC224R0J3	0.22 +20%,-20%	6.3	2	1000	-55 to +125
NFM18PC474R0J3	0.47 +20%,-20%	6.3	2	1000	-55 to +125
NFM18PC105R0J3	1.0 +20%,-20%	6.3	2	500	-55 to +105

■ Equivalent Circuit



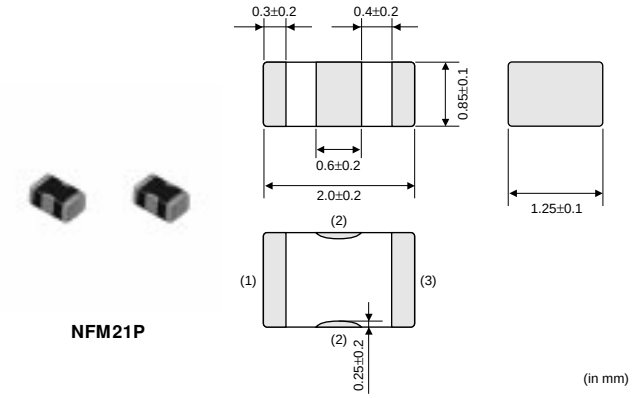
■ Insertion Loss Characteristics

NFM18P Series



NFM21P Series

NFM21P is a 3-terminal structure component. This product can be applied to large current DC power lines. NFM21P is suitable for noise suppression of DC power lines where relatively operates large current.



■ Features

1. The rated current of 4A is suitable for IC's individual power lines.
2. Small dimension enables higher density packaging. NFM21P is much smaller size (2.0x1.25x0.85mm).
3. Murata's original internal electrode structure design realizes excellent EMI suppression effects from low frequency to high frequency.

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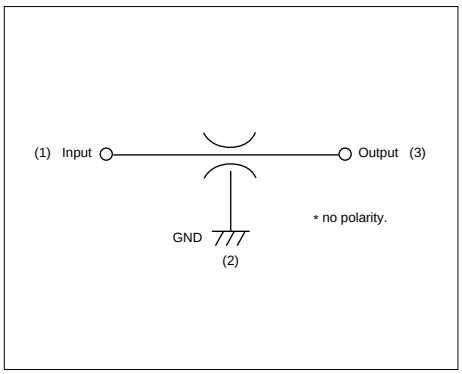
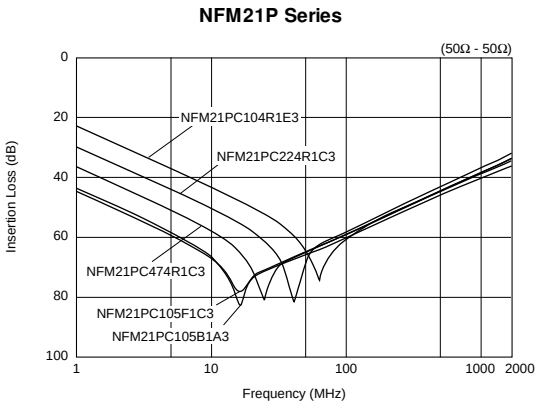
Part Number	Capacitance (∝F)	Rated Voltage (Vdc)	Rated Current (A)	Insulation Resistance (min.) (M ohm)	Operating Temperature Range (°C)
NFM21PC104R1E3	0.1 +20%,-20%	25	2	1000	-55 to +125
NFM21PC224R1C3	0.22 +20%,-20%	16	2	1000	-55 to +125
NFM21PC474R1C3	0.47 +20%,-20%	16	2	1000	-55 to +125
NFM21PC105B1A3	1.0 +20%,-20%	10	4	500	-40 to +85
NFM21PC105F1C3	1.0 +80%,-20%	16	2	500	-40 to +85

■ Equivalent Circuit

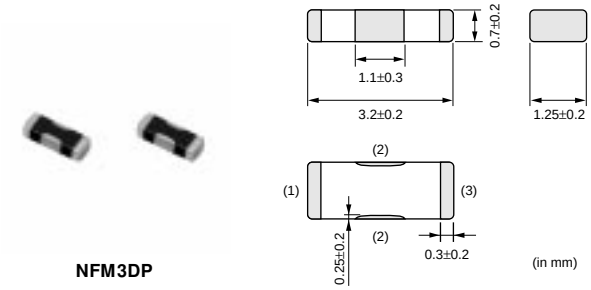


■ Insertion Loss Characteristics



NFM3DP Series

The chip "EMIFIL" NFM3DP is a chip type 3-terminal capacitor with high rated current of 2A. This series is suited for noise suppression in DC power supply lines of digital instruments.



NFM3DP

■ Features

1. Large rated current (2A) is suitable for application in DC power lines.
2. Small size (3.2x1.25mm) and low profile (0.7mm max.)

■ Applications

1. Personal computers, word processors and peripherals
2. Telephones, PPCs, communications equipment, etc.
3. Digital TVs, VCRs
4. Telecommunications equipment

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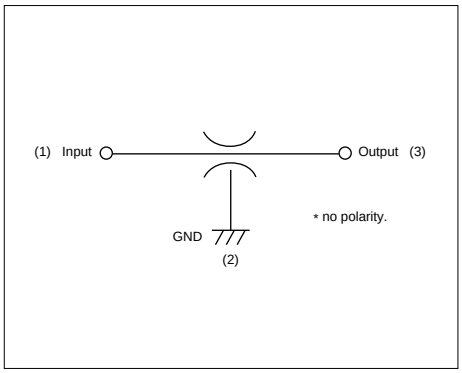
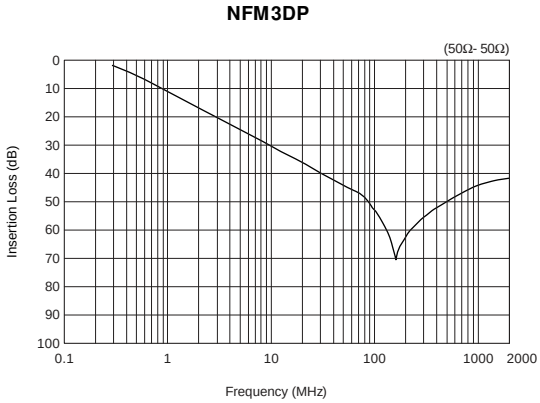
Part Number	Capacitance (∝F)	Rated Voltage (Vdc)	Rated Current (A)	Insulation Resistance (min.) (M ohm)	Operating Temperature Range (°C)
NFM3DPC223R1H3	0.022 +20%,-20%	50	2	1000	-55 to +85

■ Equivalent Circuit

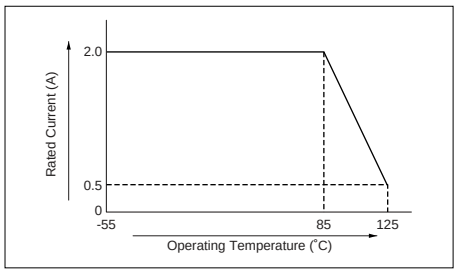


■ Insertion Loss Characteristics



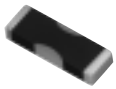
■ Notice (Rating)

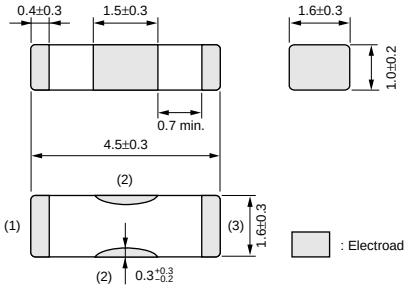
When the NFM3DP series is used in operating temperatures exceeding +85°C, derating of current is necessary.
Please apply the derating curve shown below according to the operating temperature.



NFM41P Series

The chip "EMIFIL" NFM41P series consists of 3-terminal structure. These components are able to be applied to large current DC power lines. NFM41P series are suitable in noise suppression in DC lines where relatively large currents operate.





NFM41P

(in mm)

■ Features

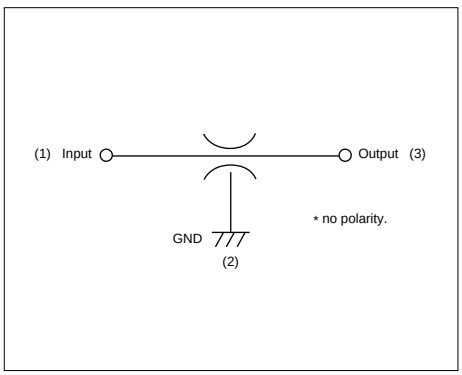
1. Large rated current 6A (max.) is suitable for the application in DC power lines.
2. High electrostatic capacitance and remarkable high frequency performance are effective for immunity against surge noise and pulse noise.

■ Applications

1. Personal computers, word processors and peripherals
2. Telephones, PPCs, communication equipments, etc.
3. Digital TVs, VCRs
4. Telecommunications equipment

Part Number	Capacitance (∝F)	Rated Voltage (Vdc)	Rated Current (A)	Insulation Resistance (min.) (M ohm)	Operating Temperature Range (°C)
NFM41PC204F1H3	0.2 +80%,-20%	50	2	1000	-55 to +85
NFM41PC155B1E3	1.5 +20%,-20%	25	6	300	-55 to +85

■ Equivalent Circuit



■ Insertion Loss Characteristics

NFM41P