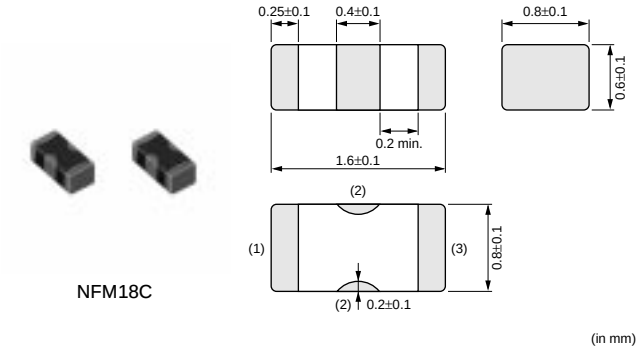
On-Board Type (DC) EMI Suppression Filters (EMIFIL®)

Chip EMIFIL® Capacitor Type NFM18C/NFM21C/NFM3DC/NFM41C Series

NFM18C Series

The NFM18CC series is a 1.6x0.8mm EMI suppression filter for signal lines which has a 3-terminal structure using Murata's multilayer technology.



NFM18C

(in mm)

■ Features

1. Ultra small size in 1.6x0.8x0.6mm enable high density mounting.
2. 3-terminal structure with low residual inductance (ESL)* characteristics achieves large insertion loss characteristics even in high frequency area.
3. The NFM18cc series covers capacitance range from 22 to 22000pF.

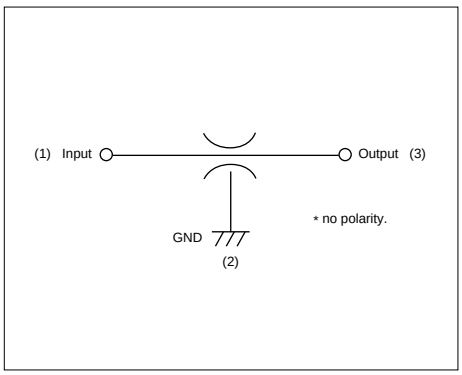
* Not exceeding one-tenth of monolithic ceramic capacitors (2-terminal).

■ Applications

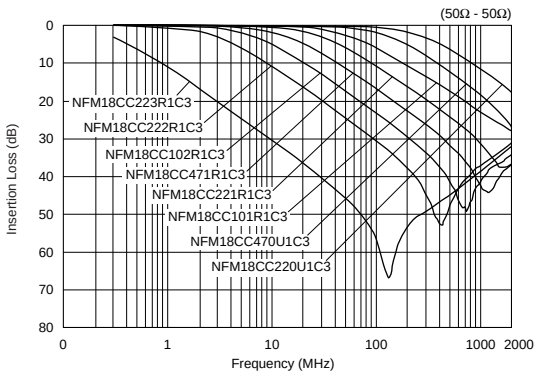
1. EMI suppression of circuit for insertion loss in quantity.
2. Noise suppression up to GHz.

Part Number	Capacitance (pF)	Rated Voltage (Vdc)	Rated Current (mA)	Insulation Resistance (min.) (M ohm)	Operating Temperature Range (°C)
NFM18CC220U1C3	22 +20%,-20%	16	300	1000	-55 to +125
NFM18CC470U1C3	47 +20%,-20%	16	300	1000	-55 to +125
NFM18CC101R1C3	100 +20%,-20%	16	300	1000	-55 to +125
NFM18CC221R1C3	220 +20%,-20%	16	300	1000	-55 to +125
NFM18CC471R1C3	470 +20%,-20%	16	300	1000	-55 to +125
NFM18CC102R1C3	1000 +20%,-20%	16	300	1000	-55 to +125
NFM18CC222R1C3	2200 +20%,-20%	16	300	1000	-55 to +125
NFM18CC223R1C3	22000 +20%,-20%	16	1000	1000	-55 to +125

■ Equivalent Circuit

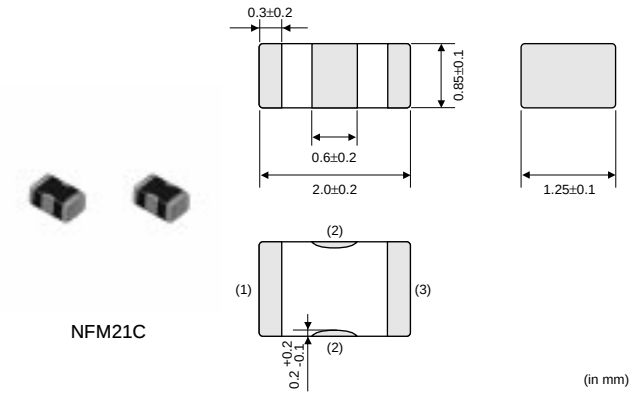


■ Insertion Loss Characteristics (Typical)



NFM21C Series

The chip "EMIFIL" NFM21C series is a chip type 3-terminal EMI suppression filter. It can reduce residual inductance to an extremely low level making it excellent for noise suppression at high frequencies.



■ Features

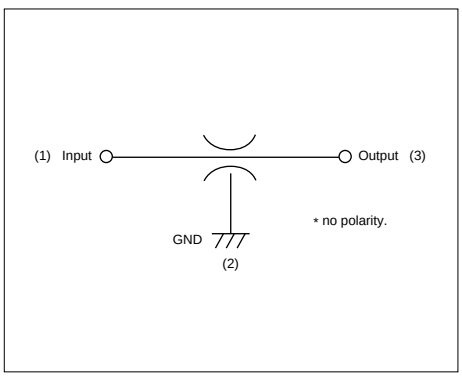
1. Small and low profile of 2.0x1.25x0.85mm (NFM21C) enables high density mounting.
2. 3-terminal structure enables high performance in high frequency range.
3. Uses original electrode structure which realizes excellent solderability.
4. An electrostatic capacitance range of 22 to 22000pF enables suppression of noise at specific frequencies.

■ Applications

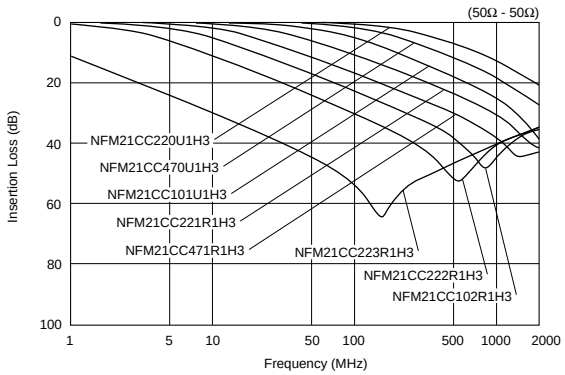
1. PCs and peripherals which emit high amount of noises
2. Compact size equipment such as PDA, PC card and mobile telecommunications equipment
3. Severe EMI suppression and high impedance circuits such as digital circuits

Part Number	Capacitance (pF)	Rated Voltage (Vdc)	Rated Current (mA)	Insulation Resistance (min.) (M ohm)	Operating Temperature Range (°C)
NFM21CC220U1H3	22 +20%,-20%	50	300	1000	-55 to +125
NFM21CC470U1H3	47 +20%,-20%	50	300	1000	-55 to +125
NFM21CC101U1H3	100 +20%,-20%	50	300	1000	-55 to +125
NFM21CC221R1H3	220 +20%,-20%	50	300	1000	-55 to +125
NFM21CC471R1H3	470 +20%,-20%	50	300	1000	-55 to +125
NFM21CC102R1H3	1000 +20%,-20%	50	300	1000	-55 to +125
NFM21CC222R1H3	2200 +20%,-20%	50	300	1000	-55 to +125
NFM21CC223R1H3	22000 +20%,-20%	50	2000	1000	-55 to +125

■ Equivalent Circuit



■ Insertion Loss Characteristics (Typical)



NFM3DC Series

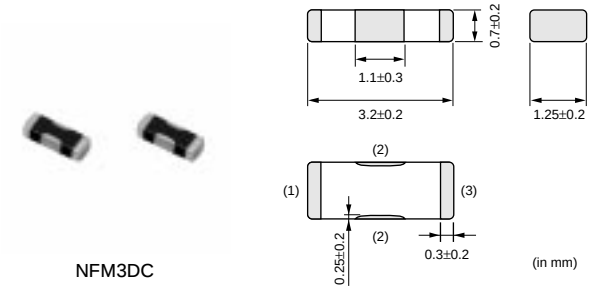
The chip "EMIFIL" NFM3DC series is a chip type 3-terminal EMI suppression filter. It can reduce residual inductance to an extremely low level making it excellent for noise suppression at high frequencies.

■ Feature

An electrostatic capacitance range of 22 to 22,000pF enables suppression of noise at specific frequencies.

■ Application

High noise radiation and high impedance circuits such as digital circuits

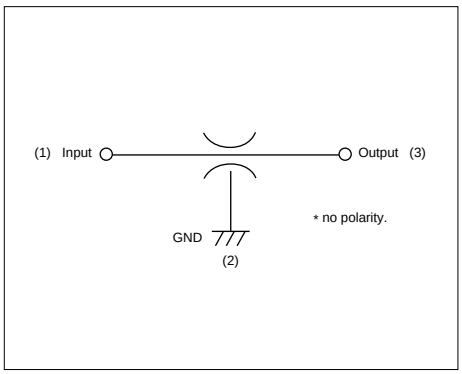


NFM3DC

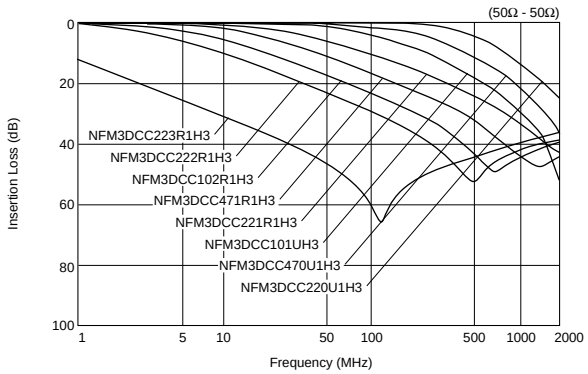
2

Part Number	Capacitance (pF)	Rated Voltage (Vdc)	Rated Current (mA)	Insulation Resistance (min.) (M ohm)	Operating Temperature Range (°C)
NFM3DCC220U1H3	22 +50%,-20%	50	300	1000	-55 to +125
NFM3DCC470U1H3	47 +50%,-20%	50	300	1000	-55 to +125
NFM3DCC101U1H3	100 +50%,-20%	50	300	1000	-55 to +125
NFM3DCC221R1H3	220 +50%,-20%	50	300	1000	-55 to +125
NFM3DCC471R1H3	470 +50%,-20%	50	300	1000	-55 to +125
NFM3DCC102R1H3	1000 +50%,-20%	50	300	1000	-55 to +125
NFM3DCC222R1H3	2200 +50%,-20%	50	300	1000	-55 to +125
NFM3DCC223R1H3	22000 +50%,-20%	50	300	1000	-55 to +125

■ Equivalent Circuit



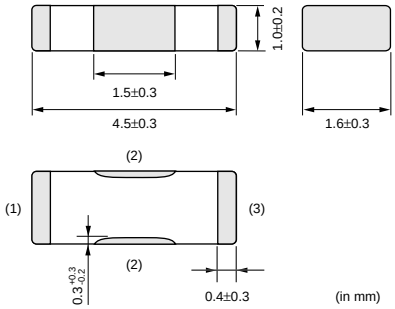
■ Insertion Loss Characteristics (Typical)



NFM41C Series

The chip "EMIFIL" NFM41C series is a chip type 3-terminal EMI suppression filter. It can reduce residual inductance to an extremely low level making it excellent for noise suppression at high frequencies.

NFM41C



■ Features

An electrostatic capacitance range of 22 to 22,000pF enables suppression of noise at specific frequencies.

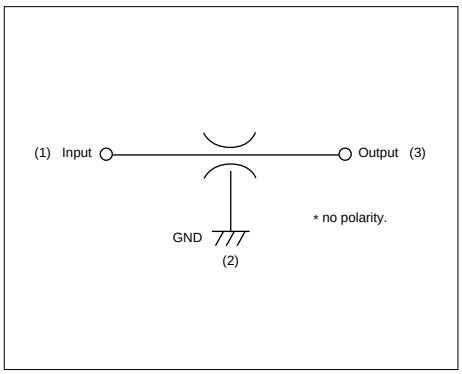
■ Applications

High noise radiation and high impedance circuits such as digital circuits

2

Part Number	Capacitance (pF)	Rated Voltage (Vdc)	Rated Current (mA)	Insulation Resistance (min.) (M ohm)	Operating Temperature Range (°C)
NFM41CC220U2A3	22 +50%,-20%	100	300	10000	-55 to +125
NFM41CC470U2A3	47 +50%,-20%	100	300	10000	-55 to +125
NFM41CC101U2A3	100 +50%,-20%	100	300	10000	-55 to +125
NFM41CC221U2A3	220 +50%,-20%	100	300	10000	-55 to +125
NFM41CC471R2A3	470 +50%,-20%	100	300	10000	-55 to +125
NFM41CC102R2A3	1000 +50%,-20%	100	300	10000	-55 to +125
NFM41CC222R2A3	2200 +50%,-20%	100	300	10000	-55 to +125
NFM41CC223R2A3	22000 +50%,-20%	100	300	10000	-55 to +125

■ Equivalent Circuit



■ Insertion Loss Characteristics (Typical)