

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

**muRata**

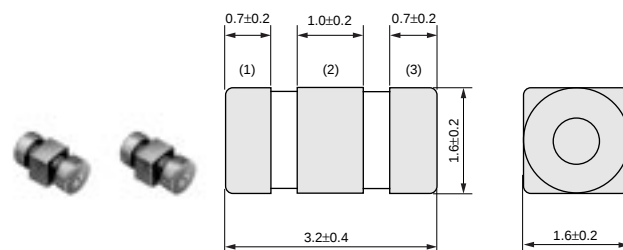
## Chip EMIFIL® LC Combined Type for Large Current NFE31P/NFE61P/NFE61H Series

### NFE31P Series

The chip "EMIFIL" NFE31P is small a size T-type circuit EMI suppression filter.

#### ■ Features

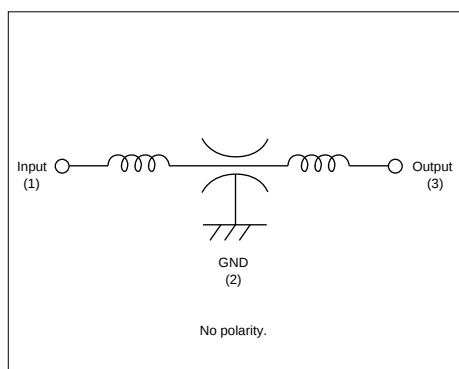
1. Its large rated current of 6A and low voltage drop due to small DC resistance are suitable for DC power line use.
2. The feedthrough capacitor realizes excellent high frequency characteristics.
3. The structure incorporates built-in ferrite beads which minimize resonance with surrounding circuits.
4. 22 to 22,000pF lineups can be used signal lines.



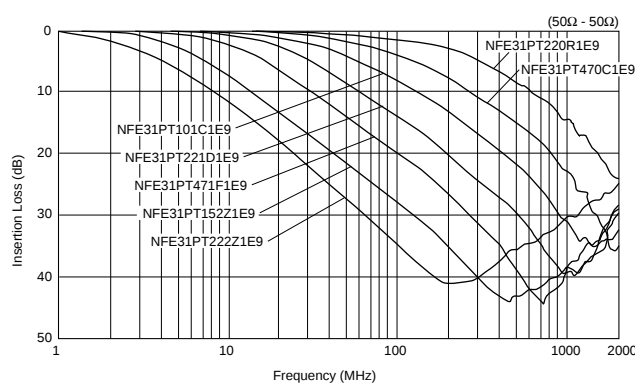
(in mm)

| Part Number    | Capacitance (pF) | Rated Voltage (Vdc) | Rated Current (A) | Insulation Resistance (min.) (M ohm) | Operating Temperature Range (°C) |
|----------------|------------------|---------------------|-------------------|--------------------------------------|----------------------------------|
| NFE31PT220R1E9 | 22 +30%, -30%    | 25                  | 6                 | 1000                                 | -40 to +85                       |
| NFE31PT470C1E9 | 47 +50%, -20%    | 25                  | 6                 | 1000                                 | -40 to +85                       |
| NFE31PT101C1E9 | 100 +80%, -20%   | 25                  | 6                 | 1000                                 | -40 to +85                       |
| NFE31PT221D1E9 | 220 +50%, -20%   | 25                  | 6                 | 1000                                 | -40 to +85                       |
| NFE31PT471F1E9 | 470 +50%, -20%   | 25                  | 6                 | 1000                                 | -40 to +85                       |
| NFE31PT152Z1E9 | 1500 +50%, -20%  | 25                  | 6                 | 1000                                 | -40 to +85                       |
| NFE31PT222Z1E9 | 2200 +50%, -50%  | 25                  | 6                 | 1000                                 | -40 to +85                       |

#### ■ Equivalent Circuit



#### ■ Insertion Loss Characteristics (Typical)

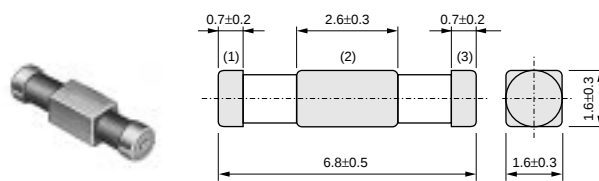


## NFE61P Series

The chip "EMIFIL" NFE61P is a T-type circuit EMI suppression filter.

### ■ Feature

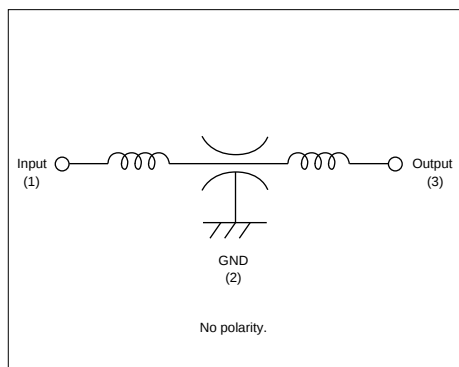
1. Its large rated current of 2A and low voltage drop due to small DC resistance are suitable for DC power line use.
2. The feedthrough capacitor realizes excellent high frequency characteristics.
3. The structure incorporates built-in ferrite beads which minimize resonance with surrounding circuits.
4. 33 to 4700pF lineups can be used signal lines.



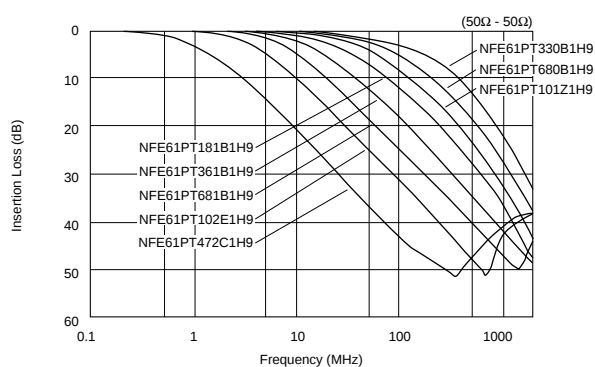
(in mm)

| Part Number    | Capacitance (pF) | Rated Voltage (Vdc) | Rated Current (A) | Insulation Resistance (min.) (M ohm) | Operating Temperature Range (°C) |
|----------------|------------------|---------------------|-------------------|--------------------------------------|----------------------------------|
| NFE61PT330B1H9 | 33 +30%, -30%    | 50                  | 2                 | 1000                                 | -25 to +85                       |
| NFE61PT680B1H9 | 68 +30%, -30%    | 50                  | 2                 | 1000                                 | -25 to +85                       |
| NFE61PT101Z1H9 | 100 +30%, -30%   | 50                  | 2                 | 1000                                 | -25 to +85                       |
| NFE61PT181B1H9 | 180 +30%, -30%   | 50                  | 2                 | 1000                                 | -25 to +85                       |
| NFE61PT361B1H9 | 360 +20%, -20%   | 50                  | 2                 | 1000                                 | -25 to +85                       |
| NFE61PT681B1H9 | 680 +30%, -30%   | 50                  | 2                 | 1000                                 | -25 to +85                       |
| NFE61PT102E1H9 | 1000 +80%, -20%  | 50                  | 2                 | 1000                                 | -25 to +85                       |
| NFE61PT472C1H9 | 4700 +80%, -20%  | 50                  | 2                 | 1000                                 | -25 to +85                       |

### ■ Equivalent Circuit



### ■ Insertion Loss Characteristics (Typical)



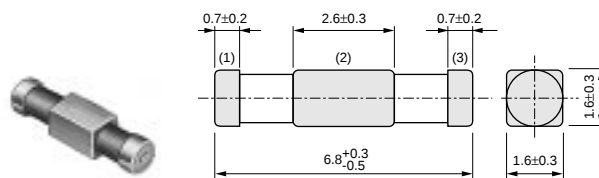
## NFE61H Series

The T-type chip EMI Filter NFE61H series consists of a feedthrough capacitor and ferrite beads.

Extending the operating conditions of NFE61P, NFE61H series can be used in an application set under severe operating conditions.

### ■ Features

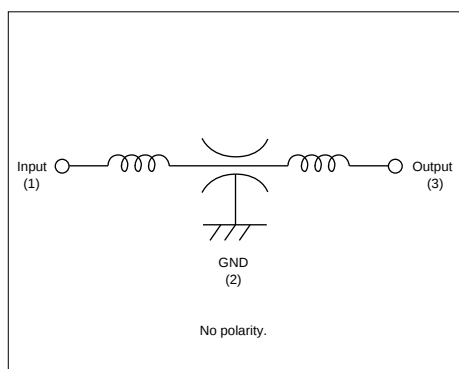
1. These filters have an extended operating temperature range of -55°C. to +125°C.
2. Its large rated current of 2A and low voltage drop due to small DC resistance are suitable for DC power line use.
3. The feedthrough capacitor realizes excellent high frequency characteristics.
4. The structure incorporates built-in ferrite beads which minimize resonance with surrounding circuits.
5. 33 to 3300pF lineups can be used signal lines.



(in mm)

| Part Number    | Capacitance (pF) | Rated Voltage (Vdc) | Rated Current (A) | Insulation Resistance (min.) (M ohm) | Operating Temperature Range (°C) |
|----------------|------------------|---------------------|-------------------|--------------------------------------|----------------------------------|
| NFE61HT330U2A9 | 33 +30%, -30%    | 100                 | 2                 | 1000                                 | -55 to +125                      |
| NFE61HT680R2A9 | 68 +30%, -30%    | 100                 | 2                 | 1000                                 | -55 to +125                      |
| NFE61HT101Z2A9 | 100 +30%, -30%   | 100                 | 2                 | 1000                                 | -55 to +125                      |
| NFE61HT181C2A9 | 180 +30%, -30%   | 100                 | 2                 | 1000                                 | -55 to +125                      |
| NFE61HT361C2A9 | 360 +20%, -20%   | 100                 | 2                 | 1000                                 | -55 to +125                      |
| NFE61HT681D2A9 | 680 +30%, -30%   | 100                 | 2                 | 1000                                 | -55 to +125                      |
| NFE61HT102F2A9 | 1000 +80%, -20%  | 100                 | 2                 | 1000                                 | -55 to +125                      |
| NFE61HT332Z2A9 | 3300 +80%, -20%  | 100                 | 2                 | 1000                                 | -55 to +125                      |

### ■ Equivalent Circuit



### ■ Insertion Loss Characteristics (Typical)

