

## 4 Pole MCF (Built-in coupling capacitor) (Surface-mount Type)

### ■ Features

This four-pole crystal filter with a built-in coupling capacitor also supports surface mounting.

- Supports surface mounting. (Packed with embossed tape)
- Built-in coupling capacitor.
- Excellent shock-resistance.
- Frequency range Fundamental: 20 to 90 MHz



Pb Free

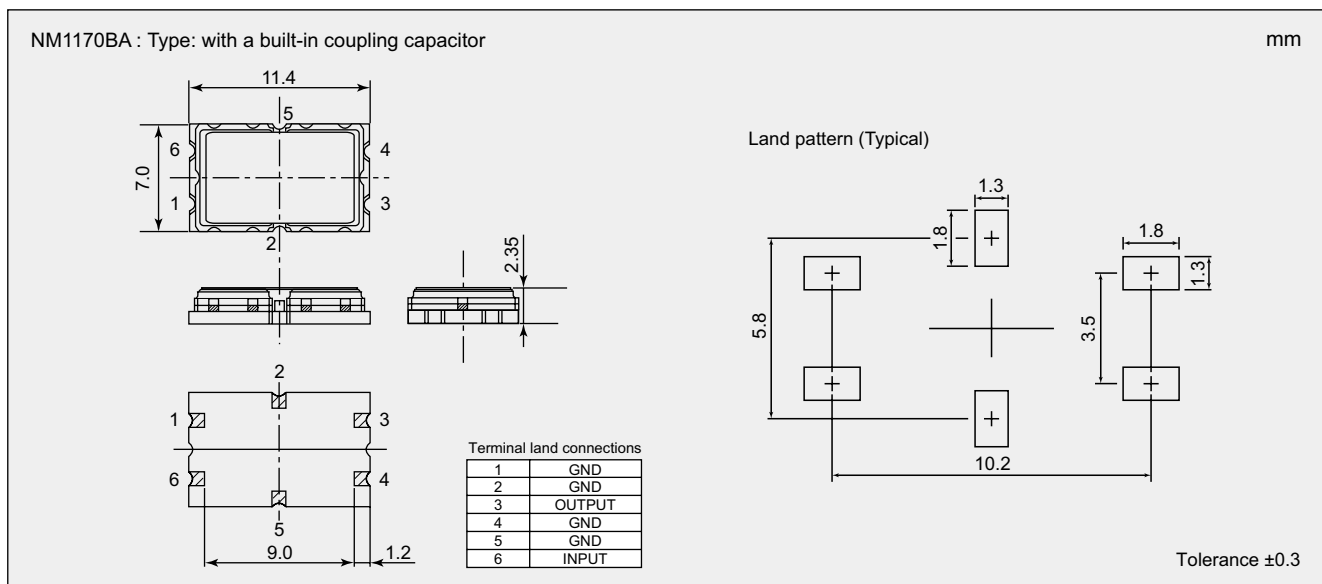
RoHS Compliant  
Directive 2011/65/EU

### ■ Specifications

Model	21SC15BB	45SC7.5BG	45SC15BE	45SC20BB	45SC30BD	70SC20BA	90SC15B
Number of Poles	4						
Nominal Frequency	21.4MHz	45 MHz				70.05 MHz	90 MHz
3 dB Passband Width	Min. $\pm 7.5$ kHz	Min. $\pm 3.75$ kHz	Min. $\pm 7.5$ kHz	Min. $\pm 10$ kHz	Min. $\pm 15$ kHz	Min. $\pm 10$ kHz	Min. $\pm 7.5$ kHz
Stop Bandwidth	Max. $\pm 25$ kHz at 40 dB	Max. $\pm 12.5$ kHz at 25 dB	Max. $\pm 25$ kHz at 35 dB	Max. $\pm 25$ kHz at 25 dB	Max. $\pm 60$ kHz at 20 dB	Max. $\pm 25$ kHz at 20 dB	Max. $\pm 25$ kHz at 25 dB
Ripple	Max. 1.5 dB	Max. 1 dB	Max. 2 dB	Max. 1 dB	Max. 1 dB	Max. 1 dB	Max. 1 dB
Insertion Attenuation (insertion Loss)	Max. 3 dB	Max. 5 dB	Max. 5 dB	Max. 3 dB	Max. 4 dB	Max. 4.5 dB	Max. 8 dB
Guaranteed Attenuation	Min. 80 dB at $-910$ kHz	Min. 80 dB at $-910$ kHz	Min. 80 dB at $-910$ kHz	Min. 80 dB at $-910$ kHz	Min. 70 dB at $-910$ kHz	Min. 70 dB at $-910$ kHz	Min. 75 dB at $-910$ kHz
Spurious Characteristics	Min. 40 dB Within $\pm 1$ MHz	Min. 50 dB Within $\pm 1$ MHz	Min. 50 dB Within $\pm 1$ MHz	Min. 25 dB Within $\pm 1$ MHz	Min. 30 dB Within $\pm 1$ MHz	Min. 35 dB Within $\pm 1$ MHz	Min. 40 dB Within $\pm 1$ MHz
Terminating Impedance	1500 $\Omega$ // 1.5 pF	350 $\Omega$ // 6 pF	650 $\Omega$ // 2 pF	800 $\Omega$ // 1.5 pF	1000 $\Omega$ // 1 pF	300 $\Omega$ // 2 pF	310 $\Omega$ // 2 pF
Operating Temperature Range	$-20$ to $+70$ °C	$-20$ to $+70$ °C	$-20$ to $+70$ °C	$-30$ to $+70$ °C	$-20$ to $+70$ °C	$-20$ to $+70$ °C	$-20$ to $+70$ °C
Package Type	NM1170BA						
Specification Number	MN15-395	MN15-368	MN15-319	MN15-372	MN15-371	MN15-317	MN15-320

Caution: Solder only the top surface of the filter before using it.

### ■ Dimensions



Please specify the model name, frequency, and specification number when you order products.  
For further questions regarding specifications, please feel free to contact us.