

## 4 Pole MCF

(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: 30 to 90 MHz



Pb  
Free

RoHS Compliant  
Directive 2002/95/EC

### ■ Specifications

| Model                                     | 45SC7.5BG                        | 45SC15BE                         | 45SC20BB                         | 45SC30BD                         | 70SC20BA                         | 90SC15B                          |
|-------------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Number of poles                           | 4                                |                                  |                                  |                                  |                                  |                                  |
| Nominal frequency                         | 45 MHz                           |                                  |                                  |                                  | 70.05 MHz                        | 90 MHz                           |
| 3 dB Passband width                       | 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. $\pm 12.5$ kHz<br>at 25 dB  | Max. $\pm 25$ kHz<br>at 35 dB    | Max. $\pm 25$ kHz<br>at 25 dB    | Max. $\pm 60$ kHz<br>at 40 dB    | Max. $\pm 25$ kHz<br>at 20 dB    | Max. $\pm 25$ kHz<br>at 25 dB    |
| Ripple                                    | Max. 1 dB                        | Max. 2 dB                        | Max. 1 dB                        | Max. 1 dB                        | Max. 1 dB                        | Max. 1 dB                        |
| Insertion loss<br>(insertion attenuation) | Max. 5 dB                        | Max. 5 dB                        | Max. 3 dB                        | Max. 4 dB                        | Max. 4.5 dB                      | Max. 8 dB                        |
| Guaranteed<br>attenuation                 | Min. 80 dB<br>at $-910$ kHz      | Min. 80 dB<br>at $-910$ kHz      | Min. 80 dB<br>at $-910$ kHz      | Min. 70 dB<br>at $-910$ kHz      | Min. 70 dB<br>at $-910$ kHz      | Min. 75 dB<br>at $-910$ kHz      |
| Spurious<br>characteristics               | Min. 50 dB<br>Within $\pm 1$ MHz | Min. 50 dB<br>Within $\pm 1$ MHz | Min. 25 dB<br>Within $\pm 1$ MHz | Min. 30 dB<br>Within $\pm 1$ MHz | Min. 35 dB<br>Within $\pm 1$ MHz | Min. 40 dB<br>Within $\pm 1$ MHz |
| Terminating impedance                     | $350 \Omega // 6$ 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                | $-30$ to $+70$ °C                | $-20$ to $+70$ °C                | $-20$ to $+70$ °C                | $-20$ to $+70$ °C                |
| Package type                              | NM1170BA                         |                                  |                                  |                                  |                                  |                                  |
| Ordering code                             | 45SC7.5BG-45M-<br>MN15-368       | 45SC15BE-45M-<br>MN15-319        | 45SC20BB-45M-<br>MN15-372        | 45SC30BD-45M-<br>MN15-371        | 70SC20BA-70.05M-<br>MN15-317     | 90SC15B-90M-<br>MN15-320         |

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

### ■ Dimensions

