# Crystal Filter

## 10.7 MHz- and 21.4 MHz-Series MCF Type: with a Built-in Transformer

### ■ Features

This is an integrated MCF with a built-in transformer which matched terminating impedance with MCF impedance.

- This product can be manufactured according to your requested terminating impedance.
- It can be designed and manufactured so that no adjustment is needed in the field.
- It has stable temperature characteristics.

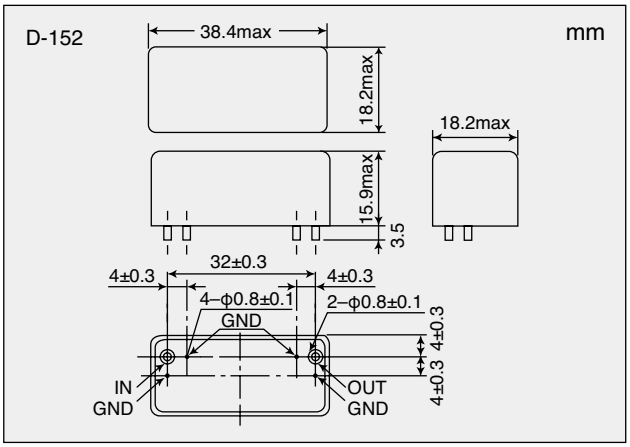
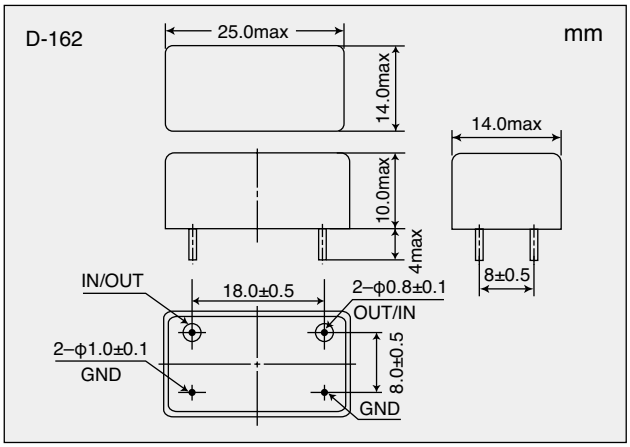
RoHS Compliant
Directive 2011/65/EU

D-152

D-162

### ■ Specifications

| Model | 10A7.5CB | 10A7.5DG | 10A15CB | 10A15DB | 10A30CB | 10A30DB |
|---|---|---|---|---|---|---|
| Number of poles | 6 | 8 | 6 | 8 | 6 | 8 |
| Nominal frequency | 10.7 MHz | | | | | |
| 3 dB Passband width | Min. ±3.75 kHz | | Min. ±7.5 kHz | | Min. ±15 kHz | |
| Stop bandwidth | Max. ±8.75 kHz at 45 dB | Max. ±8.75 kHz at 70 dB | Max. ±17.5 kHz at 45 dB | Max. ±17.5 kHz at 70 dB | Max. ±35 kHz at 45 dB | Max. ±35 kHz at 70 dB |
| | Max. ±12.5 kHz at 65 dB | Max. ±12.5 kHz at 90 dB | Max. ±25 kHz at 65 dB | Max. ±25 kHz at 90 dB | Max. ±50 kHz at 65 dB | Max. ±50 kHz at 80 dB |
| Ripple | Max. 2 dB | Max. 2 dB | Max. 2 dB | Max. 2 dB | Max. 2 dB | Max. 2 dB |
| Insertion loss (insertion attenuation) | Max. 3.5 dB | Max. 4 dB | Max. 3 dB | Max. 3.5 dB | Max. 3 dB | Max. 3.5 dB |
| Guaranteed attenuation | Min. 65 dB Within ±300 kHz | Min. 90 dB Within ±300 kHz | Min. 65 dB Within ±300 kHz | Min. 90 dB Within ±300 kHz | Excluding Spurious Min. 65 dB Within ±300 kHz | Min. 80 dB Within ±300 kHz |
| Terminating impedance | 50 Ω//0 pF | | | | | |
| Operating temperature range | –20 to +70 °C | | | | | |
| Package type | D-152 | | | | | |
| Ordering code | 10A7.5CB-10.7M-FN15-835 | 10A7.5DG-10.7M-FN15-836 | 10A15CB-10.7M-FN15-837 | 10A15DB-10.7M-FN15-838 | 10A30CB-10.7M-FN15-758 | 10A30DB-10.7M-FN15-839 |

| Model | 21C7.5DD | 21C15DCA | 21C30DG |
|---|---|---|---|
| Number of poles | 8 | | |
| Nominal frequency | 21.4MHz | | |
| 3 dB Passband width | Min. ±3.75 kHz | Min. ±7.5 kHz | Min. ±15 kHz |
| Stop bandwidth | Max. ±9 kHz at 65 dB | Max. ±17.5 kHz at 65 dB | Max. ±35 kHz at 65 dB |
| | Max. ±12.5 kHz at 90 dB | Max. ±25 kHz at 90 dB | Max. ±50 kHz at 80 dB |
| Ripple | Max. 2 dB | Max. 2 dB | Max. 2 dB |
| Insertion loss (insertion attenuation) | Max. 4.5 dB | Max. 4 dB | Max. 4 dB |
| Guaranteed attenuation | Min. 90 dB Within ±300 kHz | Min. 90 dB Within ±300 kHz | Min. 80 dB Within ±300 kHz |
| Terminating impedance | 50 Ω // 0 pF | | |
| Operating temperature range | –20 to +70 °C | | |
| Package type | D-162 | | |
| Ordering code | 21C7.5DD-21.4M-FN15-747 | 21C15DCA-21.4M-FN15-699 | 21C30DG-21.4M-FN15-594 |

### ■ Dimensions