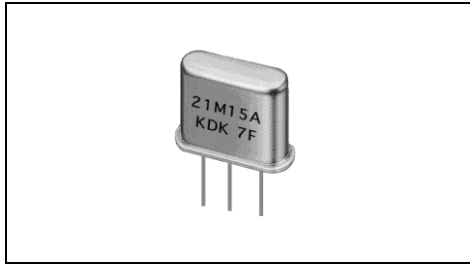


# Crystal Filters

水晶フィルタ

Resistance Welded Type 抵抗溶接タイプ

UM-1  
UM-5



## ■Features 特徴

- Resistance Welded Package  
電着封止パッケージ
- Excellent Temp. Characteristics  
優れた温度特性
- Excellent Solderability  
優れたハンダ付性

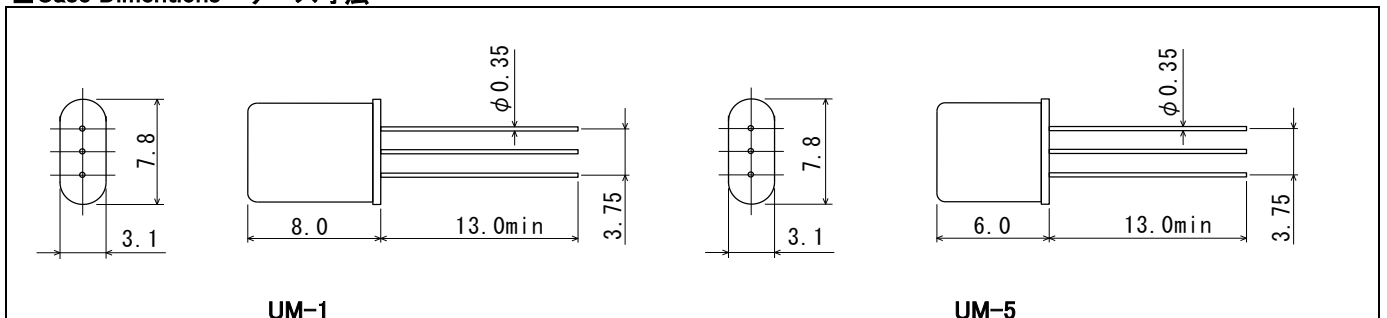
## ■Specification 仕様

Fundamental tone 基本波

| Series No.<br>シリーズ<br>ナンバー | Nominal Frequency<br>公称周波数<br>MHz | Pole<br>ポール<br>数 | Pass Band<br>通過帯域 |        | Attenuation Band<br>減衰帯域 |       | Ripple<br>リップル<br>max.<br>dB | Loss<br>損失<br>max.<br>dB | Attenuation Guaranteed<br>保証減衰 |                          | Terminal Impedance<br>終端インピーダンス<br>ohm//pF | Operating Temperature<br>動作温度<br>°C | Holder Quantity<br>ホルダー<br>数量 |
|----------------------------|-----------------------------------|------------------|-------------------|--------|--------------------------|-------|------------------------------|--------------------------|--------------------------------|--------------------------|--|-------------------------------------|-------------------------------|
|                            |                                   |                  | dB                | kHz    | dB                       | kHz   |                              |                          | dB                             | F0~kHz                   |  |                                     |                               |
| 21M7A                      | 21.400                            | 2                | 3                 | ±3.75  | 20                       | ±18.0 | 0.5                          | 1.5                      | 35<br>50                       | +350~+1000<br>-200~-1000 | 850//6.0                                   | -20~+70                             | 1                             |
| 21M7B                      | 21.400                            | 4                | 3                 | ±375   | 40                       | ±14.0 | 1.0                          | 2.5                      | 65<br>80                       | +350~+1000<br>-200~-1000 | 850//5.0                                   | -20~+70                             | 2                             |
| 21M12A                     | 21.400                            | 2                | 3                 | ±6.0   | 20                       | ±25.0 | 0.5                          | 1.5                      | 35<br>50                       | +350~+1000<br>-200~-1000 | 1200//3.0                                  | -20~+70                             | 1                             |
| 21M12B                     | 21.400                            | 4                | 3                 | ±6.0   | 40                       | ±20.0 | 1.0                          | 2.5                      | 65<br>80                       | +350~+1000<br>-200~-1000 | 1200//2.5                                  | -20~+70                             | 2                             |
| 21M15A                     | 21.400                            | 2                | 3                 | ±7.5   | 18                       | ±25.0 | 0.5                          | 1.5                      | 35<br>50                       | +350~+1000<br>-200~-1000 | 1500//2.0                                  | -20~+70                             | 1                             |
| 21M15B                     | 21.400                            | 4                | 3                 | ±7.5   | 40                       | ±25.0 | 1.0                          | 2.5                      | 65<br>80                       | +350~+1000<br>-200~-1000 | 1500//2.0                                  | -20~+70                             | 2                             |
| 21M20A                     | 21.400                            | 2                | 3                 | ±10.0  | 18                       | ±34.0 | 0.5                          | 2.0                      | 35<br>50                       | +350~+1000<br>-200~-1000 | 1800//1.5                                  | -20~+70                             | 1                             |
| 21M20B                     | 21.400                            | 4                | 3                 | ±710.0 | 40                       | ±34.0 | 1.0                          | 2.5                      | 65<br>80                       | +350~+1000<br>-200~-1000 | 1800//1.5                                  | -20~+70                             | 2                             |
| 21M30A                     | 21.400                            | 2                | 3                 | ±15.0  | 15                       | ±45.0 | 0.5                          | 1.5                      | 35<br>45                       | +350~+1000<br>-300~-1000 | 3000//0.5                                  | -20~+70                             | 1                             |
| 21M30B                     | 21.400                            | 4                | 3                 | ±15.0  | 40                       | ±50.0 | 1.0                          | 2.5                      | 65<br>80                       | +350~+1000<br>-300~-1000 | 3000//0.5                                  | -20~+70                             | 2                             |
| 21M30A2                    | 21.400                            | 2                | 3                 | ±15.0  | 15                       | ±45.0 | 0.5                          | 1.5                      | 35<br>45                       | +350~+1000<br>-300~-1000 | 1500//1.5                                  | -20~+70                             | 1                             |
| 21M30B2                    | 21.400                            | 4                | 3                 | ±15.0  | 40                       | ±50.0 | 1.0                          | 2.5                      | 65<br>80                       | +350~+1000<br>-300~-1000 | 2000//0.5                                  | -20~+70                             | 2                             |
| 45F7A                      | 45.000                            | 2                | 3                 | ±3.75  | 10                       | ±12.5 | 1.0                          | 2.5                      | 65                             | -910                     | 300//10.0                                  | -20~+70                             | 1                             |
| 45F7B                      | 45.000                            | 4                | 3                 | ±3.75  | 30                       | ±12.5 | 1.0                          | 4.0                      | 90                             | ±910                     | 300//8.0                                   | -20~+70                             | 2                             |
| 45F15A                     | 45.000                            | 2                | 3                 | ±7.5   | 15                       | ±25.0 | 1.0                          | 2.0                      | 35<br>40                       | +500~+1000<br>-200~-1000 | 650//4.5                                   | -20~+70                             | 1                             |
| 45F15B                     | 45.000                            | 4                | 3                 | ±7.5   | 30                       | ±25.0 | 1.0                          | 3.0                      | 70                             | +500~+1000<br>-200~-1000 | 650//1.5                                   | -20~+70                             | 2                             |
| 45F20A                     | 45.000                            | 2                | 3                 | ±10.0  | 15                       | ±34.0 | 1.0                          | 2.0                      | 35<br>40                       | +500~+1000<br>-200~-1000 | 700//2.5                                   | -20~+70                             | 1                             |
| 45F20B                     | 45.000                            | 4                | 3                 | ±10.0  | 40                       | ±48.0 | 1.0                          | 3.0                      | 70                             | +500~+1000<br>-200~-1000 | 700//1.5                                   | -20~+70                             | 2                             |
| 45F30A                     | 45.000                            | 2                | 3                 | ±15.0  | 15                       | ±50.0 | 1.0                          | 2.0                      | 35                             | +500~+1000<br>-300~-1000 | 800//1.5                                   | -20~+70                             | 1                             |
| 45F30B                     | 45.000                            | 4                | 3                 | ±15.0  | 40                       | ±60.0 | 1.0                          | 3.0                      | 70                             | +500~+1000<br>-300~-1000 | 800//1.0                                   | -20~+70                             | 2                             |
| 55F32A                     | 55.000                            | 2                | 3                 | ±16.0  | 15                       | ±65.0 | 0.5                          | 2.0                      | 35<br>65                       | +900~+920<br>-900~-920   | 1100//2.0                                  | -20~+70                             | 1                             |
| 55F32B                     | 55.000                            | 4                | 3                 | ±16.0  | 30                       | ±50.0 | 1.0                          | 2.5                      | 90                             | +900~+920<br>-900~-920   | 1100//1.0                                  | -20~+70                             | 2                             |

Please contact us for other frequency and bandwidth.  
他の周波数及び帯域についてはお問合せ下さい。

## ■Case Dimentions ケース寸法



All specification subjected to change without notices.  
仕様は変更になる場合があります



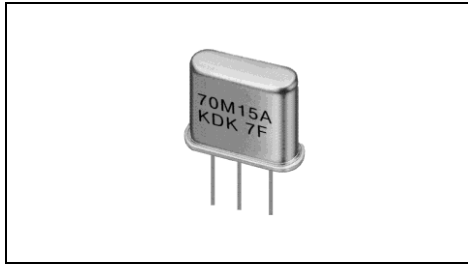
f\_UM-fund-24-001

# Crystal Filters

水晶フィルタ

Resistance Welded Type 抵抗溶接タイプ

UM-1  
UM-5



## ■Features 特徴

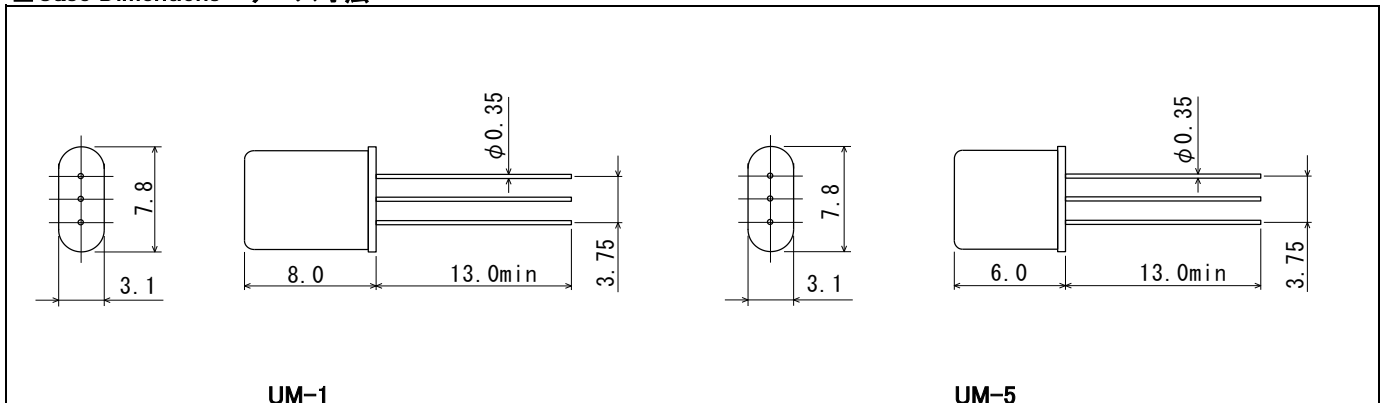
- Resistance Welded Package  
電着封止パッケージ
- Excellent Temp. Characteristics  
優れた温度特性
- Excellent Solderability  
優れたハンダ付性

## ■Specification 仕様 3rd overtone 3倍波

| Series No.<br>シリーズ<br>ナンバー | Nominal Frequency<br>公称周波数<br>MHz | Pole<br>ポール<br>数 | Pass Band<br>通過帯域 |       | Attenuation Band<br>減衰帯域 |       | Ripple<br>リップル<br>max.<br>dB | Loss<br>損失<br>max.<br>dB | Attenuation Guaranteed<br>保証減衰 |                          | Terminal Impedance<br>終端インピーダンス<br>ohm//pF | Operating Temperature<br>動作温度<br>°C | Holder Quantity<br>ホルダー<br>数量 |
|----------------------------|-----------------------------------|------------------|-------------------|-------|--------------------------|-------|------------------------------|--------------------------|--------------------------------|--------------------------|--|-------------------------------------|-------------------------------|
|                            |                                   |                  | dB                | kHz   | dB                       | kHz   |                              |                          | dB                             | F0~kHz                   |  |                                     |                               |
| 45M7A                      | 45.000                            | 2                | 3                 | ±3.75 | 10                       | ±12.5 | 1.0                          | 2.5                      | 35                             | ±910                     | 2500//−0.5                                 | −20~+70                             | 1                             |
| 45M7B                      | 45.000                            | 4                | 3                 | ±3.75 | 30                       | ±12.5 | 1.0                          | 4.0                      | 75                             | ±910                     | 2500//−0.5                                 | −20~+70                             | 2                             |
| 45M15A                     | 45.000                            | 2                | 3                 | ±7.5  | 18                       | ±28.0 | 1.0                          | 2.0                      | 35                             | +500~+1000<br>−200~−1000 | 4000//−1.0                                 | −20~+70                             | 1                             |
| 45M15B                     | 45.000                            | 4                | 3                 | ±7.5  | 40                       | ±30.0 | 1.0                          | 3.0                      | 70                             | +500~+1000<br>−200~−1000 | 4000//−1.0                                 | −20~+70                             | 2                             |
| 45M20A                     | 45.000                            | 2                | 3                 | ±10.0 | 15                       | ±30.0 | 1.0                          | 2.0                      | 35                             | +500~+1000<br>−200~−1000 | 5000//−1.0                                 | −20~+70                             | 1                             |
| 45M20B                     | 45.000                            | 4                | 3                 | ±10.0 | 35                       | ±40.0 | 1.0                          | 3.0                      | 70                             | +500~+1000<br>−200~−1000 | 5000//−1.0                                 | −20~+70                             | 2                             |
| 45M30A                     | 45.000                            | 2                | 3                 | ±15.0 | 15                       | ±50.0 | 1.0                          | 2.0                      | 30                             | +500~+1000<br>−300~−1000 | 8000//−1.0                                 | −20~+70                             | 1                             |
| 45M30B                     | 45.000                            | 4                | 3                 | ±15.0 | 30                       | ±50.0 | 1.0                          | 3.0                      | 70                             | +500~+1000<br>−300~−1000 | 8000//−1.0                                 | −20~+70                             | 2                             |
| 70M15A                     | 70.000                            | 2                | 3                 | ±7.5  | 15                       | ±30.0 | 1.0                          | 2.0                      | 35                             | +500~+1000<br>−200~−1000 | 2000//−1.0                                 | −20~+70                             | 1                             |
| 70M15B                     | 70.000                            | 4                | 3                 | ±7.5  | 25                       | ±25.0 | 1.0                          | 3.0                      | 70                             | +500~+1000<br>−200~−1000 | 2000//−1.0                                 | −20~+70                             | 2                             |
| 70M20A                     | 70.000                            | 2                | 3                 | ±10.0 | 15                       | ±40.0 | 1.0                          | 2.0                      | 35                             | +500~+1000<br>−200~−1000 | 2500//−1.0                                 | −20~+70                             | 1                             |
| 70M20B                     | 70.000                            | 4                | 3                 | ±10.0 | 35                       | ±40.0 | 1.0                          | 3.0                      | 70                             | +500~+1000<br>−200~−1000 | 2500//−1.0                                 | −20~+70                             | 2                             |
| 70M30A                     | 70.000                            | 2                | 3                 | ±15.0 | 15                       | ±50.0 | 1.0                          | 2.0                      | 35                             | +500~+1000<br>−300~−1000 | 4000//−1.0                                 | −20~+70                             | 1                             |
| 70M30B                     | 70.000                            | 4                | 3                 | ±15.0 | 30                       | ±50.0 | 1.0                          | 3.0                      | 70                             | +500~+1000<br>−300~−1000 | 4000//−1.0                                 | −20~+70                             | 2                             |
| 90M15A                     | 90.000                            | 2                | 3                 | ±7.5  | 15                       | ±30.0 | 1.0                          | 2.0                      | 35                             | +500~+1000<br>−200~−1000 | 1400//0                                    | −20~+70                             | 1                             |
| 90M15B                     | 90.000                            | 4                | 3                 | ±7.5  | 25                       | ±25.0 | 1.0                          | 3.5                      | 70                             | +500~+1000<br>−200~−1000 | 1400//0                                    | −20~+70                             | 2                             |
| 90M20A                     | 90.000                            | 2                | 3                 | ±10.0 | 15                       | ±40.0 | 1.0                          | 2.0                      | 35                             | +500~+1000<br>−200~−1000 | 1500//−1.0                                 | −20~+70                             | 1                             |
| 90M20B                     | 90.000                            | 4                | 3                 | ±10.0 | 35                       | ±40.0 | 1.0                          | 3.0                      | 70                             | +500~+1000<br>−200~−1000 | 1500//−1.0                                 | −20~+70                             | 2                             |
| 90M30A                     | 90.000                            | 2                | 3                 | ±15.0 | 15                       | ±50.0 | 1.0                          | 2.0                      | 35                             | +500~+1000<br>−300~−1000 | 4000//−1.0                                 | −20~+70                             | 1                             |
| 90M30B                     | 90.000                            | 4                | 3                 | ±15.0 | 25                       | ±50.0 | 1.0                          | 3.0                      | 70                             | +500~+1000<br>−300~−1000 | 4000//−1.0                                 | −20~+70                             | 2                             |

THIS IS STANDARD SPECIFICATION. PLEASE ASK KDK SALES FOR CUSTOM SPEC.  
本資料記載の内容は一般仕様です。特殊仕様に関しましては別途お問合せ下さい。

## ■Case Dimentions ケース寸法



All specification subjected to change without notices.

仕様は変更になる場合があります



f\_UM-3rd-24-001