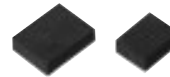


## SAW Filters

Type: **EFCH**□□□□□**D**□□



SAW Filter for Cellular Telephone which incorporates highly-precise interdigitated electrodes achieves low insertion loss, high selectivity. Thus the filter has wide applications to bandpass filtering circuits for cellular telephones and portable wireless equipment.

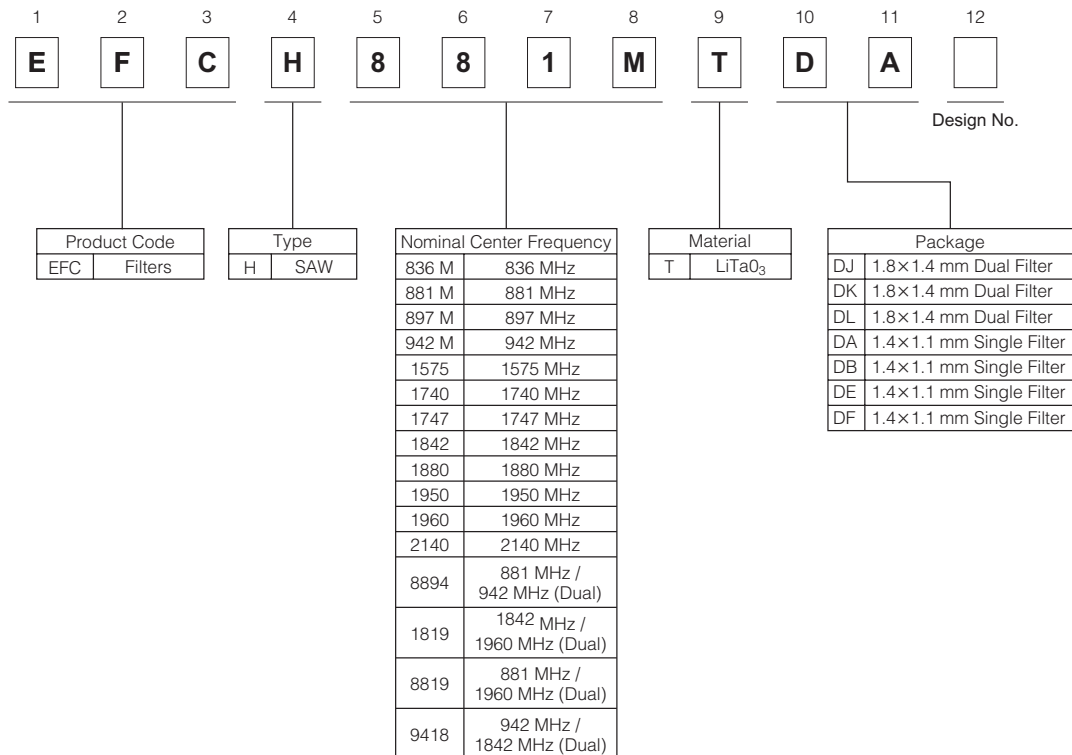
### ■ Features

- Stable against severe conditions of vibration and shock thanks to the unique monolithic construction of the filter
- Low insertion loss and excellent selectivity
- Contributes to circuit simplification and adjustment free
- Saves the hight on PC board

### ■ Recommended Applications

- The RF-stage band pass filter for cellular telephone or portable wireless equipment

### ■ Explanation of Part Numbers



### ■ Ratings and Characteristics

#### ● Single Filter

| Part No.     | System          | Nominal Center Frequency | Input/Output Impedance | Size       | Package |
|--------------|-----------------|--------------------------|------------------------|------------|---------|
| EFCH836MTDB1 | CDMA TX         | 836.5 MHz                | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DB      |
| EFCH836MTDE1 | GSM850 TX       |                          | B-UB(100 Ω-50 Ω)       | 1.4x1.1 mm | DE      |
| EFCH836MTDE6 | UMTS Band V Tx  |                          | B-UB(200 Ω-50 Ω)       | 1.4x1.1 mm | DE      |
| EFCH881MTDA1 | CDMA RX         | 881.5 MHz                | UB-B(50 Ω-150 Ω)       | 1.4x1.1 mm | DA      |
| EFCH881MTDAA | GSM850 RX       |                          | UB-B(50 Ω-100 Ω)       | 1.4x1.1 mm | DA      |
| EFCH881MTDB1 | UMTS Band V Rx  |                          | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DB      |
| EFCH897MTDB1 | EGSM900 TX      | 897.5 MHz                | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DB      |
| EFCH942MTDA1 | EGSM900 RX      | 942.5 MHz                | UB-B(50 Ω-150 Ω)       | 1.4x1.1 mm | DA      |
| EFCH942MTDB1 |                 |                          | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DB      |
| EFCH1747TDF1 | DCS1800 TX      | 1747.5 MHz               | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DF      |
| EFCH1842TDA1 | DCS1800 RX      | 1842.5 MHz               | UB-B(50 Ω-150 Ω)       | 1.4x1.1 mm | DA      |
| EFCH1842TDB1 |                 |                          | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DB      |
| EFCH1880TDF1 | PCS1900 TX      | 1880 MHz                 | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DF      |
| EFCH1960TDA1 | PCS1900 RX      | 1960 MHz                 | UB-B(50 Ω-150 Ω)       | 1.4x1.1 mm | DA      |
| EFCH1960TDB1 |                 |                          | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DB      |
| EFCH1950TDF1 | UMTS Band I TX  | 1950 MHz                 | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DF      |
| EFCH2140TDE1 | UMTS Band I RX  | 2140 MHz                 | UB-B(50 Ω-100 Ω)       | 1.4x1.1 mm | DE      |
| EFCH1740TDB1 | UMTS Band IV Tx | 1740 MHz                 | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DB      |
| EFCH1575TDA1 | GPS             | 1575.42 MHz              | UB-B(50 Ω-100 Ω)       | 1.4x1.1 mm | DA      |
| EFCH1575TDB1 |                 |                          | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DB      |
| EFCH1575TDB8 |                 |                          | UB-UB(50 Ω-50 Ω)       | 1.4x1.1 mm | DB      |

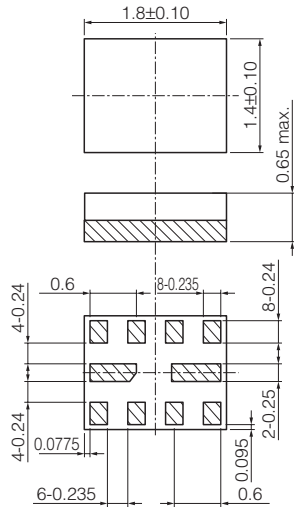
#### ● Dual Filter

| Part No.     | System             | Nominal Center Frequency | Input/Output Impedance | Size       | Package |
|--------------|--------------------|--------------------------|------------------------|------------|---------|
| EFCH8894TDJ1 | GSM850/EGSM900 RX  | 881.5 MHz                | UB-B(50 Ω-150 Ω)       | 1.8x1.4 mm | DJ      |
| EFCH8894TDJ6 |                    | 942.5 MHz                |                        |            |         |
| EFCH1819TDK1 | DCS1800/PCS1900 RX | 1842.5 MHz               | UB-B(50 Ω-150 Ω)       | 1.8x1.4 mm | DK      |
| EFCH1819TDK6 |                    | 1960 MHz                 |                        |            |         |
| EFCH8819TDL1 | GSM850/PCS1900 RX  | 881.5 MHz                | UB-B(50 Ω-150 Ω)       | 1.8x1.4 mm | DL      |
| EFCH8819TDL6 |                    | 1960 MHz                 |                        |            |         |
| EFCH9418TDL1 | EGSM900/DCS1800 RX | 942.5 MHz                | UB-B(50 Ω-150 Ω)       | 1.8x1.4 mm | DL      |
| EFCH9418TDL6 |                    | 1842.5 MHz               |                        |            |         |

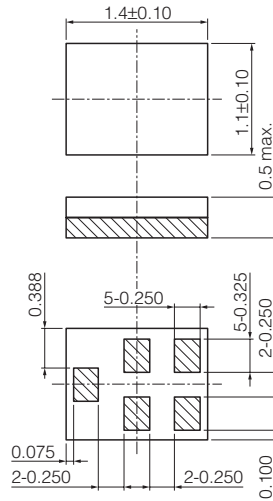
\* UB : Unbalance, B : Balance

### ■ Dimensions in mm (not to scale)

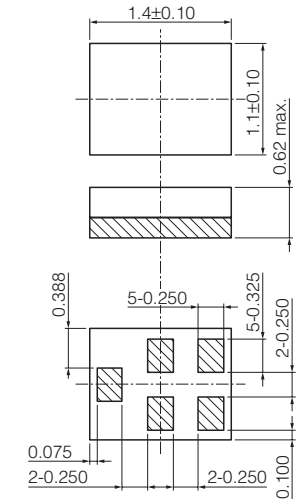
#### DJ, DK, DL type



#### DA, DB type



#### DE, DF type

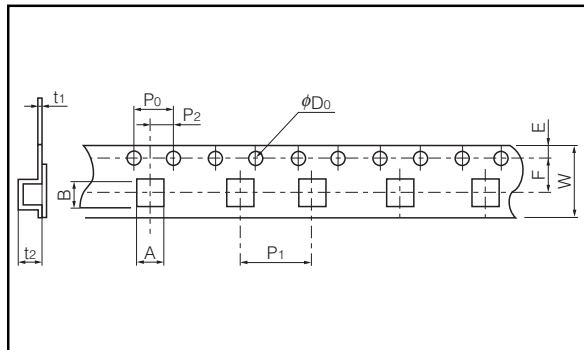


### ■ Packaging Methods (Taping)

#### ● Minimum Quantity / Packing Unit

| Part Number   | Packaging Style         | Quantity       | Packaging Quantity in Carton | Carton Dimensions in mm (LxWxH) |
|---------------|-------------------------|----------------|------------------------------|---------------------------------|
| EFCH□□□□□□D□□ | Embossed Carrier Taping | 4000 pcs./reel | 20000 pcs.                   | 230x220x 73                     |

#### ● Embossed Carrier Taping



#### DJ, DK, DL type

| Symbol    | W                                   | F              | E              | P <sub>0</sub> | P <sub>1</sub> | P <sub>2</sub> |
|-----------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Dim. (mm) | 8.0±0.2                             | 3.50±0.05      | 1.75±0.10      | 4.0±0.1        | 4.0±0.1        | 2.00±0.05      |
| Symbol    | D <sub>0</sub>                      | t <sub>1</sub> | t <sub>2</sub> | A              | B              |                |
| Dim. (mm) | φ1.50 <sup>+0.1</sup> <sub>-0</sub> | 0.25±0.05      | 0.8±0.05       | 1.7±0.1        | 2.1±0.1        |                |

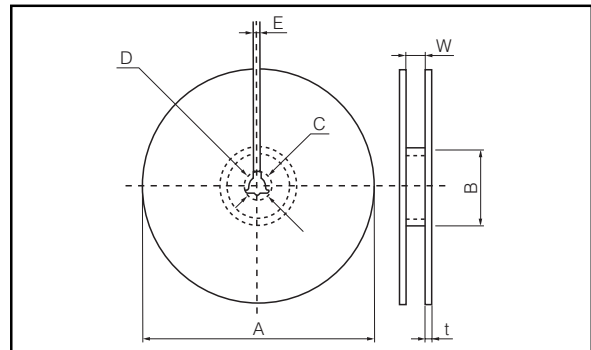
#### DA, DB type

| Symbol    | W                                   | F              | E              | P <sub>0</sub> | P <sub>1</sub> | P <sub>2</sub> |
|-----------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Dim. (mm) | 8.0±0.2                             | 3.50±0.05      | 1.75±0.10      | 4.0±0.1        | 4.0±0.1        | 2.00±0.05      |
| Symbol    | D <sub>0</sub>                      | t <sub>1</sub> | t <sub>2</sub> | A              | B              |                |
| Dim. (mm) | φ1.50 <sup>+0.1</sup> <sub>-0</sub> | 0.25±0.05      | 0.6±0.1        | 1.5±0.05       | 1.8±0.05       |                |

#### DE, DF type

| Symbol    | W                                   | F              | E              | P <sub>0</sub> | P <sub>1</sub> | P <sub>2</sub> |
|-----------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Dim. (mm) | 8.0±0.2                             | 3.50±0.05      | 1.75±0.10      | 4.0±0.1        | 4.0±0.1        | 2.00±0.05      |
| Symbol    | D <sub>0</sub>                      | t <sub>1</sub> | t <sub>2</sub> | A              | B              |                |
| Dim. (mm) | φ1.50 <sup>+0.1</sup> <sub>-0</sub> | 0.25±0.05      | 0.72±0.1       | 1.5±0.05       | 1.8±0.05       |                |

#### ● Taping Reel



#### DJ, DK, DL, DA, DB, DE, DF type

| Symbol    | A      | B         | C         | D         | E       | W       | t      |
|-----------|--------|-----------|-----------|-----------|---------|---------|--------|
| Dim. (mm) | φ178±3 | φ60.0±1.0 | φ13.0±0.5 | φ21.0±1.0 | 2.0±0.5 | 9.0±1.0 | max. 3 |

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.