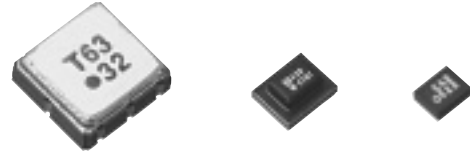


SAW Filters

Type: **EFCH**□□□□□**C**□□
EFCH□□□□□**D**□□
EFCH□□□**M**□□□□□



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

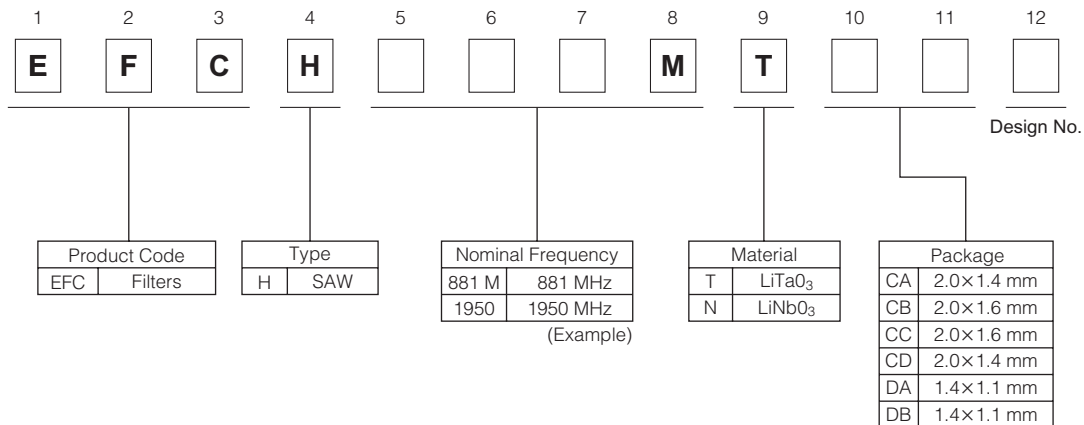
- Stable against severe conditions of vibration and shock thanks to the unique monolithic construction of the filter
- Low insertion loss and excellent selectivity
- Contributes to circuit simplification and adjustment free
- Saves the high on PC board

■ Recommended Applications

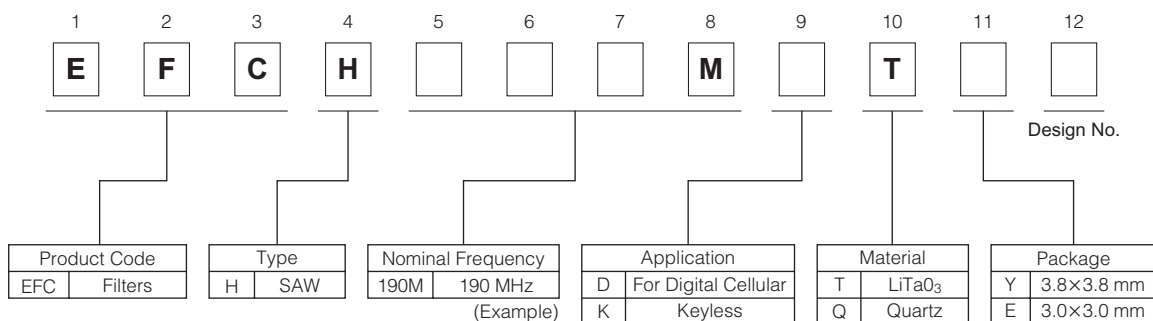
- The RF-stage band pass filter for cellular telephone or portable wireless equipment
- The IF-stage band pass filter for cellular telephone or portable wireless equipment
- Keyless entry system

■ Explanation of Part Numbers

- CSP Type



- Ceramic Package Type



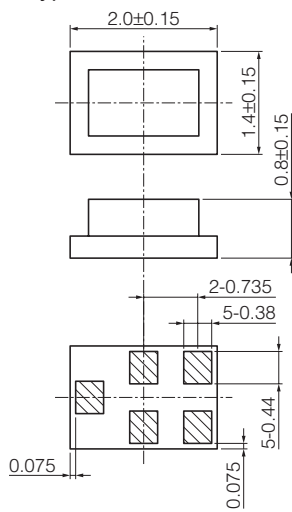
■ Ratings and Characteristics

Part No.	System	Nominal Center Frequency	Input/Output Impedance	Size	Package
EFCH881MTCA1	CDMA/GSM850 RX	881.5 MHz	UB-B(50 Ω-150 Ω)	2.0×1.4 mm	CA
EFCH881MTCC1				2.0×1.6 mm	CC
EFCH881MTCD1			UB-UB(50 Ω-50 Ω)	2.0×1.4 mm	CD
EFCH881MTDA1			UB-B(50 Ω-150 Ω)	1.4×1.1 mm	DA
EFCH881MTDB1			UB-UB(50 Ω-50 Ω)	1.4×1.1 mm	DB
EFCH881MTCA7	CDMA	881.5 MHz	UB-B(50 Ω-100 Ω)	2.0×1.4 mm	CA
EFCH836MTCB8	CDMA/GSM850 TX	836.5 MHz	UB-UB(50 Ω-50 Ω)	2.0×1.6 mm	CB
EFCH851MTCA6	J-CDMA RX	851.0 MHz	UB-B(50 Ω-100 Ω)	2.0×1.4 mm	CA
EFCH856MTCA1		856.5 MHz			
EFCH906MTCB6	J-CDMA TX	906.0 MHz	UB-UB(50 Ω-50 Ω)	2.0×1.6 mm	CB
EFCH911MTCB1		911.5 MHz			
EFCH942MTCA7	EGSM900 RX	942.5 MHz	UB-B(50 Ω-150 Ω)	2.0×1.4 mm	CA
EFCH942MTCC1				2.0×1.6 mm	CC
EFCH942MTCB1			UB-UB(50 Ω-50 Ω)	2.0×1.6 mm	CB
EFCH942MTCD1			UB-UB(50 Ω-50 Ω)	2.0×1.4 mm	CD
EFCH942MTDA1			UB-B(50 Ω-150 Ω)	1.4×1.1 mm	DA
EFCH942MTDB1			UB-UB(50 Ω-50 Ω)	1.4×1.1 mm	DB
EFCH897MTCC1	EGSM900 TX	897.5 MHz	B-UB(100 Ω-50 Ω)	2.0×1.6 mm	CC
EFCH1842TCA7	DCS1800 RX	1842.5 MHz	UB-B(50 Ω-150 Ω)	2.0×1.4 mm	CA
EFCH1842TCC1				2.0×1.6 mm	CC
EFCH1842TCB1			UB-UB(50 Ω-50 Ω)	2.0×1.6 mm	CB
EFCH1842TCD1			UB-UB(50 Ω-50 Ω)	2.0×1.4 mm	CD
EFCH1842TDA1			UB-B(50 Ω-150 Ω)	1.4×1.1 mm	DA
EFCH1842TDB1			UB-UB(50 Ω-50 Ω)	1.4×1.1 mm	DB
EFCH1960TCA1	PCS1900 RX	1960.0 MHz	UB-B(50 Ω-150 Ω)	2.0×1.4 mm	CA
EFCH1960TCC1				2.0×1.6 mm	CC
EFCH1960TCB7			UB-UB(50 Ω-50 Ω)	2.0×1.6 mm	CB
EFCH1960TCD1			UB-UB(50 Ω-50 Ω)	2.0×1.4 mm	CD
EFCH1960TDA1			UB-B(50 Ω-150 Ω)	1.4×1.1 mm	DA
EFCH1960TDB1			UB-UB(50 Ω-50 Ω)	1.4×1.1 mm	DB
EFCH2140TCA1	WCDMA RX	2140.0 MHz	UB-B(50 Ω-100 Ω)	2.0×1.4 mm	CA
EFCH1950TCA1	WCDMA TX	1950.0 MHz	B-UB(200 Ω-50 Ω)	2.0×1.4 mm	CA
EFCH1950TCD1			UB-UB(50 Ω-50 Ω)	2.0×1.4 mm	CD
EFCH1575TCA2	GPS	1575.42 MHz	UB-B(50 Ω-100 Ω)	2.0×1.4 mm	CA
EFCH1575TCB6			UB-UB(50 Ω-50 Ω)	2.0×1.6 mm	CB
EFCH1575TDB1			UB-UB(50 Ω-50 Ω)	1.4×1.1 mm	DB
EFCH190MDTY1	WCDMA IF	190.0 MHz	B-B(1000 Ω-1000 Ω)	3.8×3.8 mm	Y
EFCH315MKTE1	Keyless entry	315.0 MHz	UB-UB(50 Ω-50 Ω)	3.0×3.0 mm	E

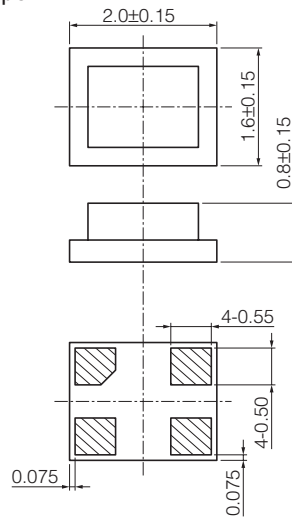
* UB : Unbalance, B : Balance

■ Dimensions in mm (not to scale)

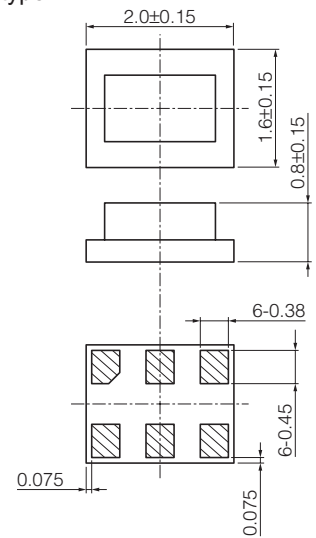
CA, CD type



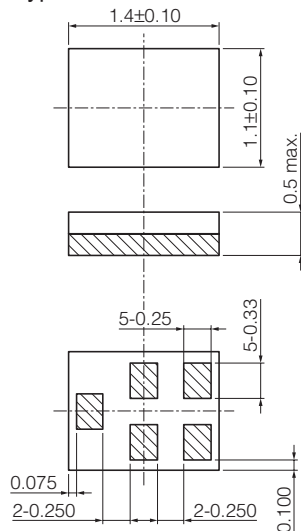
CB type



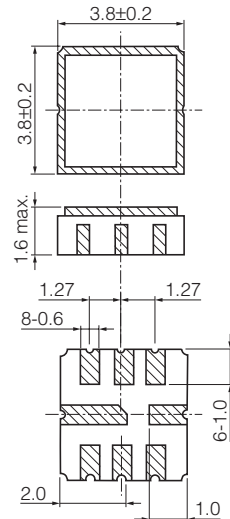
CC type



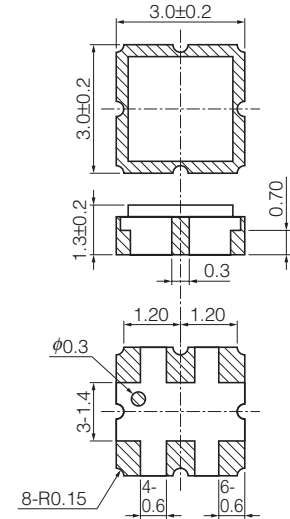
DA, DB type



Y type



E type

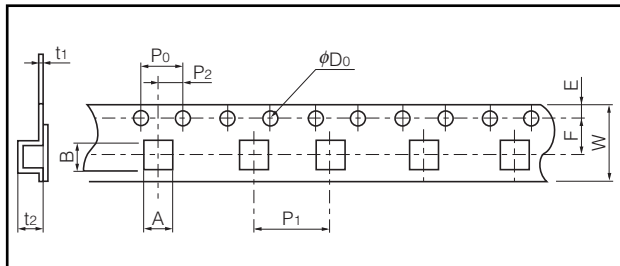


■ Packaging Methods (Taping)

- Minimum Quantity / Packing Unit

Part Number	Packaging Style	Quantity	Packaging Quantity in Carton	Carton Dimensions in mm (L×W×H)
EFCH□□□□□C□□	Embossed Carrier Taping	2000 pcs./reel	10000 pcs.	230×220× 73
EFCH□□□□□D□□	Embossed Carrier Taping	4000 pcs./reel	20000 pcs.	230×220× 73
EFCH□□□M□□□□	Embossed Carrier Taping	4000 pcs./reel	20000 pcs.	338×350×100

● Embossed Carrier Taping



CA, CD type

Symbol	W	F	E	P_0	P_1	P_2	D_0	t_1	t_2	A	B
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	$\phi 1.5^{+0.1}_0$	0.25±0.05	1.2±0.1	1.8±0.1	2.40±0.05

CB, CC type

Symbol	W	F	E	P_0	P_1	P_2	D_0	t_1	t_2	A	B
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	$\phi 1.5^{+0.1}_0$	0.25±0.05	1.2±0.1	2.0±0.1	2.40±0.05

DA, DB type

Symbol	W	F	E	P_0	P_1	P_2	D_0	t_1	t_2	A	B
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	$\phi 1.5^{+0.1}_0$	0.25±0.05	0.85±0.10	1.5±0.1	1.80±0.05

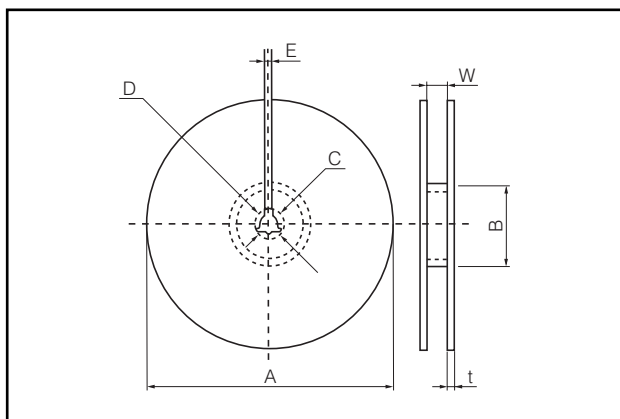
Y type

Symbol	W	F	E	P_0	P_1	P_2	D_0	t_1	t_2	A	B
Dim. (mm)	12.0±0.2	5.65±0.10	1.5±0.1	4.0±0.1	8.0±0.1	2.0±0.1	$\phi 1.5^{+0.1}_0$	0.30±0.05	1.8±0.1	4.9±0.1	4.5±0.1

E type

Symbol	W	F	E	P_0	P_1	P_2	D_0	t_1	t_2	A	B
Dim. (mm)	12.0±0.2	5.50±0.05	1.75±0.10	4.0±0.1	8.0±0.1	2.0±0.1	$\phi 1.5^{+0.1}_0$	0.30±0.05	1.8±0.1	3.6±0.1	3.6±0.1

● Taping Reel



CA, CB, CC, CD, DA, DB type

Symbol	A	B	C	D	E	W	t
Dim. (mm)	$\phi 180 \pm 3$	$\phi 60.0 \pm 1.0$	$\phi 13.0 \pm 0.5$	$\phi 21.0 \pm 1.0$	2.0±0.5	9.0±1.0	max. 3

Y, E type

Symbol	A	B	C	D	E	W	t
Dim. (mm)	$\phi 330 \pm 2$	$\phi 100 \pm 1$	$\phi 13.0 \pm 0.5$	$\phi 21.0 \pm 1.0$	2.0±0.5	13.5±1.0	max. 3