



PRODUCTS

Crystal Filter (Through Hole)

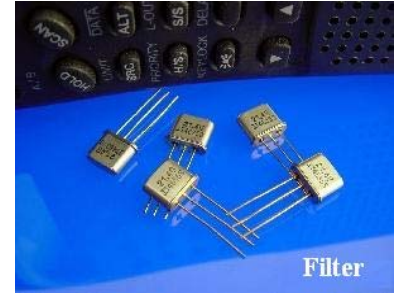
Typical Applications:

- FM Receivers
- Digital Transmission Systems
- Communication Applications

Crystal Filter (Through Hole Crystal Filter)

■ Specification Crystal Filter

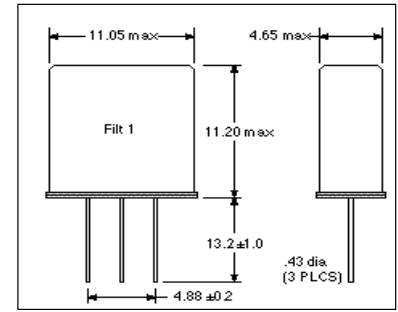
Model	Nominal Freq. (MHz)	Pole	Pass Bandwidth		Attenuation Bandwidth		Ripple	Insertion	Guaranteed	Terminating	Operating	Height (mm)
			(dB)	(KHz)	(dB)	(KHz)	(dB)	Loss	Attenuation	Impedance	temp. range	
45FA	45	4	3	±7.5	25	±22	1	4	80	650/3 Cc=9pF	-20 to +70	H6.0
45FB	45	4	3	±10	25	±25	1	3	80	800/2 Cc=6.5pF	-20 to +70	H6.0
45FC	45	2	3	±15	15	±50	1	2	40	1200/4.5	-20 to +70	H6.0
45FD	45	4	3	±15	35	±50	1	4	80	800/1.8Cc=6.5pF	-20 to +70	H6.0
45FE	45	2	3	±17	15	±60	1	2.5	65	870/-0.2	-20 to +70	H6.0



Model	Nominal Freq. (MHz)	Pole	Pass Bandwidth		Attenuation Bandwidth		Ripple	Insertion	Guaranteed	Terminating	Operating	Height (mm)		
			(dB)	(KHz)	(dB)	(KHz)	(dB)	Loss	Attenuation	Impedance	temp. range			
10.7A	10.7	4	3	±3.75	18	±15	-	0.7	2	-	1.5/5	-20 to +70	H11.0	
10.7B	10.7	4	3	±3.75	40	±12.5	-	1	2.5	-	1.5/4.5Cc=17pF	-20 to +70	H11.0	
10.7C	10.7	2	3	±7.5	18	±25	-	0.5	2	-	3/2.5	-20 to +70	H11.0	
10.7D	10.7	4	3	±7.5	40	±25	-	1	2.5	-	3/1.5Cc=5pF	-20 to +70	H11.0	
10.7E	10.7	6	3	±7.5	60	±22.5	-	2	3	-	3/0	-20 to +70	H11.0	
10.7F	10.7	8	3	±7.5	60	±15	80	±20	2	4	-	3/0	-20 to +70	H11.0
10.7G	10.7	2	3	±15	18	±50	-	0.5	2	-	5/-1	-20 to +70	H11.0	
10.7H	10.7	4	3	±15	40	±50	-	1	2.5	-	5/-1.8 Cc=1pF	-20 to +70	H11.0	
21.4A	21.4	8	3	±3.75	65	±9	90	±12.5	2	4	-	0.91/3	-20 to +70	H6.0
21.4B	21.4	8	3	±3.75	65	±9	90	±12.5	2	4	-	1.6/1	-20 to +70	H6.0
21.4C	21.4	8	3	±6	65	±14.5	90	±20	2	3	-	1.6/1	-20 to +70	H6.0
21.4D	21.4	8	3	±7.5	65	±17	90	±25	2	3	-	1.6/1	-20 to +70	H6.0
21.4E	21.4	8	3	±15	60	±35	90	±50	2	3	-	2.4/-2	-20 to +70	H6.0

■ Dimension (Unit:mm)

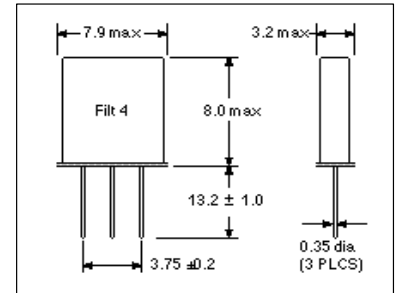
Filter-H11.0



* Note: Requires two matched filters of this package type.

Model	Nominal Freq. (MHz)	Pole	Pass Bandwidth		Attenuation Bandwidth		Ripple	Insertion	Guaranteed	Terminating	Operating	Height (mm)
			(dB)	(KHz)	(dB)	(KHz)	(dB)	Loss	Attenuation	Impedance	temp. range	
45TA	45	2	3	±3.75	18	±18	0.5	2	40	3/-0.5	-20 to +70	H8.0
45TB	45	4	3	±3.75	40	±15	1	4	80	3/-0.5Cc=0pF	-20 to +70	H8.0
45TC	45	2	3	±7.5	15	±22	0.5	1.5	40	2.5/-1.2	-20 to +70	H8.0
45TD	45	4	3	±7.5	25	±22	1	3	80	3/-1Cc=-1.2pF	-20 to +70	H8.0
45TE	45	2	3	±10	15	±28	0.5	1.5	40	3/-1	-20 to +70	H8.0
45TF	45	4	3	±10	25	±25	1	3	75	3/-1.3Cc=-1.5pF	-20 to +70	H8.0
45TG	45	2	3	±15	15	±50	1	2	30	8.5/0	-20 to +70	H8.0
45TH	45	4	6	±15	30	±50	1	3	67	6/-1.2Cc=-2pF	-20 to +70	H8.0

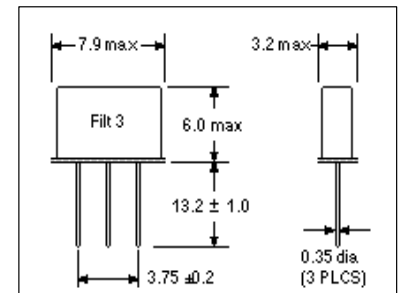
Filter-H8.0



* Note: Requires two matched filters of this package type.

Model	Nominal Freq. (MHz)	Pole	Pass Bandwidth		Attenuation Bandwidth		Ripple	Insertion	Guaranteed	Terminating	Operating	Height (mm)
			(dB)	(KHz)	(dB)	(KHz)	(dB)	Loss	Attenuation	Impedance	temp. range	
70A	70	2	3	±7.5	18	±30	1	2	40	2.5/-0.5	-20 to +70	H8.0
70B	70	4	3	±7.5	30	±25	1	3	80	2.5/-1 Cc=-0.5pF	-20 to +70	H8.0
70C	70	2	3	±10	13	±25	0.5	1.5	35	2.5/-1	-20 to +70	H8.0
70D	70	4	3	±10	25	±25	1	3	70	2.5/-1 Cc=-1pF	-20 to +70	H8.0
70E	70	2	3	±15	13	±50	1	2	3	4.0/-1	-20 to +70	H8.0
70F	70	4	3	±15	25	±50	1	3	70	4.1/-1Cc=-1.4pF	-20 to +70	H8.0
90A	90	4	3	±4.0	13	±12.5	1	5	70	1.5/-0.5Cc=-0.5pF	-20 to +70	H8.0
90B	90	2	3	±10	13	±25	0.5	1.5	35	2.3/-0.2	-20 to +70	H8.0
90C	90	4	3	±10	25	±25	1	3	80	2.0/-0.8Cc=-1pF	-20 to +70	H8.0
90D	90	4	3	±13	18	±25	1	3	80	2.3/-0.7Cc=-0.5pF	-20 to +70	H8.0

Filter-H6.0



RESONATOR & FILTER