

M. C. F. [Monolithic Crystal Filters]

U1
[7.8 * 3.1 * 8.0 mm]

U5
[7.8 * 3.1 * 6.0 mm]

Dip Type
Jacket Type

Fund.

21.4 MHz

45.0 MHz

2 poles

4 poles

6 poles

8 poles

Thru - Hole Type (standard frequency 10.700 MHz) ; available frequency range (10.695 ~ 10.800 MHz)

Channel Spacing (KHz)	Model	No. of poles	Pass		Stop		Ripple dB (max.)	Insertion Loss dB (max.)	Guaranteed		Terminating Impedance ohms // pF	Package	
			Bandwidth		Bandwidth				Attenuation			Tandem set	One package
			dB	KHz (min.)	dB	KHz (max.)			dB	KHz			
12.5	21M7.5A	2	3	± 3.75	20	± 18	0.5	1.5	35	±300 ~ ±1000	850 // 6.0	U-1 , U-5	
	21M7.5B	4	3	± 3.75	40	± 15	1.0	2.5	65	±300 ~ ±1000	850 // 5.0	a pair (U -1,U-5)	
	21M7.5C	6	3	± 3.75	45	± 8.75	2.0	3.0	65	±12.5 ~ ±300	850 // 5.0	3 pcs	S1
	21M7.5D	8	3	± 3.75	65	± 8.75	2.0	4.0	90	±12.5 ~ ±300	850 // 5.0	4 pcs	S2
20.0	21M12A	2	3	± 6.0	20	± 25	0.5	1.5	35	±300 ~ ±1000	1.2K // 3.0	U-1 , U-5	
	21M12B	4	3	± 6.0	40	± 20	1.0	2.5	65	±300 ~ ±1000	1.2K // 2.5	a pair (U -1,U-5)	
	21M12C	6	3	± 6.0	45	± 15	2.0	3.0	65	±20 ~ ±300	1.2K // 2.5	3 pcs	S1
	21M12D	8	3	± 6.0	65	± 15	2.0	4.0	90	±20 ~ ±300	1.2K // 2.5	4 pcs	S2
25.0	21M15A	2	3	± 7.5	18	± 25	0.5	1.5	35	±300 ~ ±1000	1.5K // 2.0	U-1 , U-5	
	21M15B	4	3	± 7.5	40	± 25	1.0	2.5	65	±300 ~ ±1000	1.5K // 2.0	a pair (U -1,U-5)	
	21M15C	6	3	± 7.5	45	± 18	2.0	3.0	65	±25 ~ ±300	1.5K // 2.0	3 pcs	S1
	21M15D	8	3	± 7.5	65	± 18	2.0	4.0	90	±25 ~ ±300	1.5K // 2.0	4 pcs	S2
50.0	21M30A	2	3	± 15	15	± 45	0.5	1.5	35	±300 ~ ±1000	1.5K // 1.0	U-1 , U-5	
	21M30B	4	3	± 15	40	± 50	1.0	2.5	65	±300 ~ ±1000	2.2K // 0.5	a pair (U -1,U-5)	
	21M30C	6	3	± 15	45	± 35	2.0	3.0	65	±45 ~ ±300	2.2K // 0.5	3 pcs	S1
	21M30D	8	3	± 15	65	± 35	2.0	4.0	90	±50 ~ ±300	2.2K // 0.5	4 pcs	S2

Thru - Hole Type [standard frequency 45.000 MHz(Fundamental mode)] ; available frequency range (45.000 ~ 45.100 MHz)

Channel Spacing (KHz)	Model	No. of poles	Pass		Stop		Ripple dB (max.)	Insertion Loss dB (max.)	Guaranteed		Terminating Impedance ohms // pF	Package	
			Bandwidth		Bandwidth				Attenuation			U5	U1
			dB	KHz (min.)	dB	KHz (max.)			dB	KHz			
12.5	45M7.5A	2	3	± 3.75	10	± 12.5	1.0	2.0	65	±300 ~ ±1000	200 // 4.0	U5	U1
	45M7.5B	4	3	± 3.75	30	± 12.5	1.0	4.0	80	±300 ~ ±1000	350 // 6.5	U5 a pair	U1 a pair
25.0	45M15A	2	3	± 7.5	15	± 25	1.0	2.0	35	±300 ~ ±1000	650 // 3.0	U5	U1
	45M15B	4	3	± 7.5	30	± 25	1.0	3.0	80	±300 ~ ±1000	650 // 3.0	U5 a pair	U1 a pair
50.0	45M30A	2	3	± 15	15	± 60	1.5	2.5	35	±300 ~ ±1000	1.2K // 0	U5	U1
	45M30B	4	3	± 15	30	± 50	1.0	3.0	80	±300 ~ ±1000	1.2K // 0.7	U5 a pair	U1 a pair

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Part Number Format and Example

SMD Type Part Number Format			
[1]	[2]	[3]	[4]
Frequency Code	MQ	Width Code	Poles Code

Examples	45	MQ	30	A
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Dip Type Part Number Format				
[1]	[2]	[3]	[4]	[5]
Frequency Code	M	Width Code	Poles Code	Holder Type

Examples	21.7	M	7.5	D	U5SM
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[1]	Freq. code : " 10 " for 10.700MHz , " 21 " for 21.400MHz , " 21.7 " for 21.700MHz , " 45 " for 45.000MHz , Freq. code : If none standard freq. please show frequency with one decimal point .
[2]	" M " Dip Type series , " MQ " SMD Type (7.0 * 5.0 * 1.3 mm)
[3]	Pass band width (3dB) (min.) " 7.5 " for ± 3.75 KHz , " 15 " for ± 7.5 KHz , " 20 " for ± 10 KHz , " 30 " for ± 15 KHz ,
[4]	No. of poles " A " for 2 poles , " B " for 4 poles , " C " for 6 poles , " D " for 8 poles
[5]	Dip type holder type
[6]	Standard operating temperature range is -20°C to 70°C , If non-standard please enter the desired temp. range after " / " , for example " / -30+70 " : -30°C to 70°C

Package Dimensions (unit : mm)

