

# • STANDARD MONOLITHIC CRYSTAL FILTERS

Type	Frequency MHz	Pole	Case	Pass Band dB kHz	Stop Band dB kHz	Ripple Max dB	Loss Max dB	Attenuation Guaranteed to ±kHz	Terminating Impedance ohms/pF
10M7A	10.700	2	49U	3 ±3.75	20 ±18	0.5	1.5	35 +300 ~ +1000 40 -200 ~ -1000	1.8K/6.0
10M7B	10.700	4	49Ux2	3 ±3.75	40 ±14	1.0	2.5	50 +300 ~ +1000 70 -200 ~ -1000	1.8K/5.0 Cc = 11pF
10M7C	10.700	6	C	3 ±3.75	45 ±8.75 65 ±12.5	2.0	3.5	65 ±12.5 ~ ±300	1.8K/5.0
10M7D	10.700	8	D	3 ±3.75	65 ±8.75 90 ±12.5	2.0	4.0	90 ±12.5 ~ ±300	1.8K/5.0
10M12A	10.700	2	49U	3 ±6.0	20 ±25	0.5	1.5	35 +300 ~ +1000 40 -200 ~ -1000	3.3K/1.5
10M12B	10.700	4	49Ux2	3 ±6.0	40 ±20	1.0	2.5	50 +300 ~ +1000 70 -200 ~ -1000	3.3K/1.5 Cc = 6pF
10M12C	10.700	6	C	3 ±6.0	50 ±14 65 ±20	2.0	3.0	65 ±20 ~ ±300	3.3K/2.0
10M12D	10.700	8	D	6 ±6.0	65 ±14 90 ±20	2.0	3.5	90 ±20 ~ ±300	3.3K/2.0
10M15A	10.700	2	49U	3 ±7.5	18 ±25	0.5	1.5	35 +300 ~ +1000 40 -200 ~ -1000	3.0K/2.0
10M15B	10.700	4	49Ux2	3 ±7.5	40 ±25	1.0	2.5	50 +300 ~ +1000 70 -200 ~ -1000	3.0K/2.0 Cc = 5pF
10M15C	10.700	6	C	3 ±7.5	50 ±17.5 65 ±25	2.0	3.0	65 ±25 ~ ±300	3.3K/1.5
10M15D	10.700	8	D	6 ±7.5	65 ±17.5 90 ±25	2.0	3.5	90 ±25 ~ ±300	3.3K/1.5
10M20A	10.700	2	49U	3 ±10.0	18 ±34	0.5	1.5	35 +300 ~ +1000 40 -200 ~ -1000	3.9K/1.0
10M20B	10.700	4	49Ux2	3 ±10.0	40 ±34	1.0	2.5	50 +300 ~ +1000 70 -200 ~ -1000	3.9K/1.0 Cc = 3pF
16M15A	16.900	2	49U	3 ±7.5	18 ±25	0.5	1.5	35 +300 ~ +1000 40 -200 ~ -1000	1.8K/2.0
16M15B	16.900	4	49Ux2	3 ±7.5	40 ±25	1.0	2.5	50 +300 ~ +1000 70 -200 ~ -1000	1.8K/1.5 Cc = 7.5pF
16M15C	16.900	6	C	3 ±7.5	45 ±17.5 65 ±25	2.0	3.0	65 ±25 ~ ±300	1.8K/1.5
16M15D	16.900	8	D	3 ±7.5	65 ±17.5 90 ±25	2.0	3.5	90 ±25 ~ ±300	1.8K/1.5
21M7A	21.400	2	HC80	3 ±3.75	20 ±18	0.5	1.5	35 +350 ~ +1000 50 -200 ~ -1000	850/6.0
21M7B	21.400	4	HC80x2	3 ±3.75	40 ±14	1.0	2.5	65 +350 ~ +1000 80 -200 ~ -1000	850/5.0 Cc = 16pF
21M7C	21.400	6	CN	3 ±3.75	45 ±8.75 65 ±12.5	2.0	3.0	65 ±12.5 ~ ±300	850/5.0
21M7D	21.400	8	CN	3 ±3.75	65 ±9.0 90 ±12.5	2.0	4.0	90 ±12.5 ~ ±300	850/5.0
21M12A	21.400	2	HC80	3 ±6.0	20 ±25	0.5	1.5	35 +350 ~ +1000 50 -200 ~ -1000	1.2K/3.0
21M12B	21.400	4	HC80x2	3 ±6.0	40 ±20	1.0	2.5	65 +350 ~ +1000 80 -200 ~ -1000	1.2K/2.5 Cc = 10.5pF
21M12C	21.400	6	CN	3 ±6.0	45 ±14 65 ±20	2.0	2.5	65 ±20 ~ ±300	1.2K/2.5
21M12D	21.400	8	CN	3 ±6.0	65 ±14 90 ±20	2.0	3.0	90 ±20 ~ ±300	1.2K/2.5
21M15A	21.400	2	HC80	3 ±7.5	18 ±25	0.5	1.5	35 +350 ~ +1000 50 -200 ~ -1000	1.5K/2.0
21M15B	21.400	4	HC80x2	3 ±7.5	40 ±25	1.0	2.5	65 +350 ~ +1000 80 -200 ~ -1000	1.5K/2.0 Cc = 8pF
21M15C	21.400	6	CN	3 ±7.5	45 ±17.5 65 ±25	2.0	2.5	65 ±25 ~ ±300	1.5K/2.0
21M15D	21.400	8	CN	3 ±7.5	65 ±17.5 90 ±25	2.0	3.0	90 ±25 ~ ±300	1.5K/2.0
21M20A	21.400	2	HC80	3 ±10.0	18 ±34	0.5	2.0	35 +350 ~ +1000 50 -200 ~ -1000	1.8K/1.5
21M20B	21.400	4	HC80x2	3 ±10.0	40 ±34	1.0	2.5	65 +350 ~ +1000 80 -200 ~ -1000	1.8K/1.5 Cc = 5pF
21M30A	21.400	2	HC80	3 ±15.0	15 ±45	0.5	1.5	35 +350 ~ +1000 50 -300 ~ -1000	3.0K/0.5
21M30B	21.400	4	HC80x2	3 ±15.0	40 ±50	1.0	2.5	65 +350 ~ +1000 80 -300 ~ -1000	3.0K/-0.5 Cc = 3pF
45F15A	45.000	2	HC80	3 ±7.5	15 ±25	1.0	2.0	35 +500 ~ +1000 40 -200 ~ -1000	650/4.5
45F15B	45.000	4	HC80x2	3 ±7.5	30 ±25	1.0	3.0	70 +500 ~ +1000 -200 ~ -1000	650/1.5 Cc = 9pF
45F20A	45.000	2	HC80	3 ±10.0	15 ±34	1.0	2.0	35 +500 ~ +1000 40 -200 ~ -1000	700/2.5
45F20B	45.000	4	HC80x2	3 ±10.0	40 ±48	1.0	3.0	70 +500 ~ +1000 -200 ~ -1000	700/1.5 Cc = 6.5pF
45F30A	45.000	2	HC80	3 ±15.0	15 ±50	1.0	2.0	35 +500 ~ +1000 -300 ~ -1000	800/1.5
45F30B	45.000	4	HC80x2	3 ±15.0	40 ±60	1.0	3.0	70 +500 ~ +1000 -300 ~ -1000	800/1.0 Cc = 5pF
45M15A	45.000	2	HC80	3 ±7.5	18 ±28	1.0	2.0	35 +500 ~ +1000 -200 ~ -1000	4K/-1.0
45M15B	45.000	4	HC80x2	3 ±7.5	40 ±30	1.0	3.0	70 +500 ~ +1000 -200 ~ -1000	4K/-1.0 Cc = -1pF
45M20A	45.000	2	HC80	3 ±10.0	15 ±30	1.0	2.0	35 +500 ~ +1000 -200 ~ -1000	5K/-1.0
45M20B	45.000	4	HC80x2	3 ±10.0	35 ±40	1.0	3.0	70 +500 ~ +1000 -200 ~ -1000	5K/-1.0 Cc = -1.5pF
70M15A	70.000	2	HC80	3 ±7.5	15 ±30	1.0	2.0	35 +500 ~ +1000 -200 ~ -1000	2.0K/-1.0
70M15B	70.000	4	HC80x2	3 ±7.5	25 ±25	1.0	3.0	70 +500 ~ +1000 -200 ~ -1000	2.0K/-1.0 Cc = -1pF
70M20A	70.000	2	HC80	3 ±10.0	15 ±40	1.0	2.0	35 +500 ~ +1000 -200 ~ -1000	2.5K/-1.0
70M20B	70.000	4	HC80x2	3 ±10.0	35 ±40	1.0	3.0	70 +500 ~ +1000 -200 ~ -1000	2.5K/-1.0 Cc = -1pF

All specifications subject to change without notice. Rev. 05/03/00 Note: Operating Temperature -20°C to +70°C

FILTERS