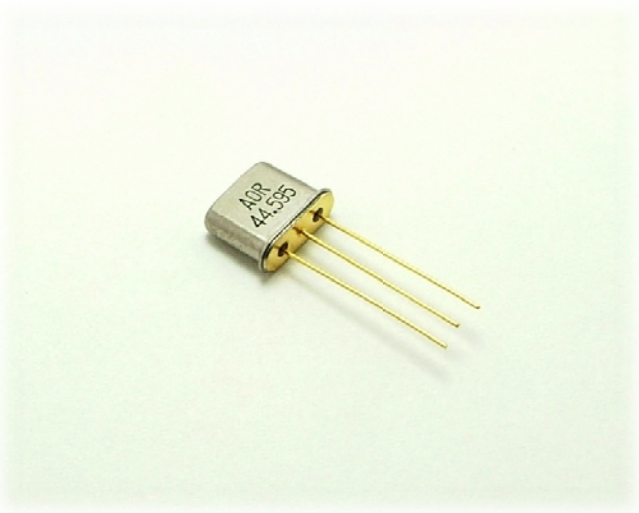
MONOLITHIC CRYSTAL FILTER, THROUGH-HOLE TYPE

AOR Offers high performance MCF in popular through-hole metal package for the frequency up to 120MHz region. Metal jacket, Lead Forming and T/R options are available.

- 10.7MHz FUNDAMENTAL
- 16.9MHz FUNDAMENTAL
- 21.4MHz FUNDAMENTAL
- 45.0MHz FUNDAMENTAL & 3RD OVERTONE
- 70.0MHz 3rd OVERTONE
- 90.0MHz 3rd OVERTONE
- OUTLINE DRAWINGS



AOR, LTD.

Tokyo, Japan

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MONOLITHIC CRYSTAL FILTER Through-Hole & SMD (Metal Jacket)

RoHS COMPLIANT 2002/95/EC

❑ Electrical Specifications (10.7MHz Fundamental Series)

Model	Nominal Frequency	Pole	Pass Bandwidth		Stop Bandwidth		Ripple	Loss	Ultimate Attenuation		Terminating Impedance	Coupling Capacitance	Case
	(MHz)		(dB)	(kHz)	(dB)	(kHz)	(dB)	(dB)	(dB)	(Fo±kHz)	Zt (Ω // pF)	Zc (pF)	
10M7.5A	10.700	2	3	±3.75	20	±18	0.5	1.5	35 50	+300 ~ +1000 -200 ~ -1000	1800 // 5	-	HC-49/U HC-49/T
10M7.5B	10.700	4	3	±3.75	40	±14	1.0	2.5	65 80	+300 ~ +1000 -200 ~ -1000	1800 // 4.5	12	HC-49/UMJ HC-49/TMJ
10M7.5C	10.700	6	3	±3.75	45	±8.75	2.0	3.5	65	+12.5 ~ +300	1800 // 3.5	-	ACF-3
10M7.5D	10.700	8	3	±3.75	65	±8.75	2.0	4.0	90	+12.5 ~ +300	1800 // 3.5	-	ACF-4
10M12A	10.700	2	3	±6.0	20	±25	0.5	1.5	35 40	+300 ~ +1000 -200 ~ -1000	2500 // 2.5	-	HC-49/U HC-49/T
10M12B	10.700	4	3	±6.0	40	±20	1.0	2.5	65 80	+300 ~ +1000 -200 ~ -1000	1800 // 2.5	7	HC-49/UMJ HC-49/TMJ
10M12C	10.700	6	3	±6.0	45	±14	2.0	3.0	65	+20 ~ +300	2800 // 1	-	ACF-3
10M12D	10.700	8	6	±6.0	65	±14	2.0	4.0	90	+20 ~ +300	2800 // 1	-	ACF-4
10M15A	10.700	2	3	±7.5	18	±25	0.5	1.5	35 40	+300 ~ +1000 -200 ~ -1000	3000 // 2	-	HC-49/U HC-49/T
10M15B	10.700	4	3	±7.5	40	±25	1.0	2.5	65 80	+300 ~ +1000 -200 ~ -1000	3000 // 1.5	5	HC-49/UMJ HC-49/TMJ
10M15C	10.700	6	3	±7.5	45	±17.5	2.0	3.0	65	+25 ~ +300	2800 // 1	-	ACF-3
10M15D	10.700	8	6	±7.5	60	±17	2.0	3.5	90	+25 ~ +300	2800 // 1	-	ACF-4
10M20A	10.700	2	3	±10	15	±30	0.5	1.5	35 40	+300 ~ +1000 -200 ~ -1000	3900 // 0.5	-	HC-49/U HC-49/T
10M20B	10.700	4	3	±10	40	±34	1.0	2.5	65 80	+300 ~ +1000 -200 ~ -1000	3900 // 0.4	3.5	HC-49/UMJ HC-49/TMJ
10M20C	10.700	6	3	±10.0	60	±34	2.0	3.0	60	+34 ~ +300	3900 // 1	-	ACF-3
10M20D	10.700	8	6	±10.0	80	±30	2.0	3.5	80	+34 ~ +300	3900 // 1	-	ACF-4
10M30A	10.700	2	3	±15	15	±50	0.5	1.5	30 40	+300 ~ +1000 -300 ~ -1000	5000 // 0	-	HC-49/U HC-49/T
10M30B	10.700	4	3	±15	30	±40	1.0	2.5	65 80	+300 ~ +1000 -250 ~ -1000	5500 // -1	0	HC-49/UMJ HC-49/TMJ
10M30C	10.700	6	3	±15	60	±45	2.0	3.0	60	+45 ~ +300	5500 // -1	-	ACF-3
10M30D	10.700	8	6	±15	60	±30	2.0	3.5	80	+45 ~ +300	5500 // -1	-	ACF-4

NOTE: Please consult us for other specifications. Please see MCF Drawing for case dimensions.

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MONOLITHIC CRYSTAL FILTER Through-Hole & SMD (Metal Jacket)

RoHS COMPLIANT 2002/95/EC

❑ Electrical Specifications (16.9MHz Fundamental Series)

Model	Nominal Frequency	Pole	Pass Bandwidth		Stop Bandwidth		Ripple	Loss	Ultimate Attenuation		Terminating Impedance	Coupling Capacitance	Case
	(MHz)		(dB)	(kHz)	(dB)	(kHz)	(dB)	(dB)	(dB)	(Fo±kHz)	Zt (Ω // pF)	Zc (pF)	
16.9M7.5A	16.900	2	3	±3.75	20	±18	0.5	1.5	35 50	+350～+1000 -200～-1000	850 // 5	-	HC-49/U (MJ) HC-49/T (MJ)
16.9M7.5A2	16.900	2	3	±3.75	20	±18	0.5	2.0	35 50	+350～+1000 -200～-1000	1000 // 7	-	UM-1 / 1S (MJ)
16.9M7.5B	16.900	4	3	±3.75	40	±14	1.0	2.5	65 80	+350～+1000 -200～-1000	850 // 5	20	HC-49/U (MJ) HC-49/T (MJ)
16.9M7.5B2	16.900	4	3	±3.75	30	±12.5	1.0	2.5	65 80	+350～+1000 -200～-1000	1000 // 4	18	UM-1 / 1S (MJ)
16.9M7.5C	16.900	6	3	±3.75	65	±12.5	2.0	3.0	65	±12.5～±300	850 // 5	-	ACF-3
16.9M7.5C2	16.900	6	3	±3.75	65	±12.5	2.0	3.0	65	±12.5～±300	1000 // 5	-	ACF-1
16.9M7.5D	16.900	8	3	±3.75	90	±12.5	2.0	4.0	90	±12.5～±300	850 // 5	-	ACF-4
16.9M7.5D2	16.900	8	3	±3.75	90	±12.5	2.0	4.0	90	±12.5～±300	1000 // 5	-	ACF-1
16.9M12A	16.900	2	3	±6.0	20	±25	0.5	1.5	35 50	+300～+1000 -200～-1000	1500 // 2.5	-	HC-49/U (MJ) HC-49/T (MJ)
16.9M12A2	16.900	2	3	±6.0	20	±25	0.5	1.5	35 50	+350～+1000 -200～-1000	1500 // 3.5	-	UM-1 / 1S (MJ)
16.9M12B	16.900	4	3	±6.0	40	±20	1.0	2.5	65 80	+300～+1000 -200～-1000	1500 // 2	9	HC-49/U (MJ) HC-49/T (MJ)
16.9M12B2	16.900	4	3	±6.0	40	±20	1.0	2.5	65 80	+300～+1000 -200～-1000	1500 // 3	8	UM-1 / 1S (MJ)
16.9M12C	16.900	6	3	±6.0	65	±20	2.0	3.0	65	±20～±300	1500 // 2	-	ACF-1 / 3
16.9M12D	16.900	8	3	±7.5	90	±20	2.0	3.5	90	±20～±300	1500 // 2	-	ACF-1 / 4
16.9M15A	16.900	2	3	±7.5	18	±25	0.5	1.5	35 50	+300～+1000 -200～-1000	1500 // 2	-	HC-49/U (MJ) HC-49/T (MJ)
16.9M15A2	16.900	2	3	±7.5	18	±25	0.5	1.5	35 50	+300～+1000 -200～-1000	1500 // 2	-	UM-1 / 1S (MJ)
16.9M15B	16.900	4	3	±7.5	40	±25	1.0	2.5	65 80	+300～+1000 -200～-1000	1800 // 1.5	7.5	HC-49/U (MJ) HC-49/T (MJ)
16.9M15B2	16.900	4	3	±7.5	40	±25	1.0	2.5	65 80	+300～+1000 -200～-1000	1800 // 1.5	7.5	UM-1 / 1S (MJ)
16.9M15C	16.900	6	3	±7.5	65	±25	2.0	3.0	65	±20～±300	1800 // 1.5	-	ACF-1 / 3
16.9M15D	16.900	8	3	±7.5	90	±25	2.0	3.5	90	±25～±300	1800 // 1.5	-	ACF-4
16.9M15D2	16.900	8	3	±7.5	90	±25	2.0	3.5	90	±20～±300	1800 // 1.5	-	ACF-1

NOTE: Please consult us for other specifications. Please see MCF Drawing for case dimensions.

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MONOLITHIC CRYSTAL FILTER Through-Hole & SMD (Metal Jacket)

RoHS COMPLIANT 2002/95/EC

❑ Electrical Specifications (21.4MHz Fundamental Series)

Model	Nominal Frequency	Pole	Pass Bandwidth		Stop Bandwidth		Ripple	Loss	Ultimate Attenuation		Terminating Impedance	Coupling Capacitance	Case
	(MHz)		(dB)	(kHz)	(dB)	(kHz)	(dB)	(dB)	(dB)	(Fo±kHz)	Zt (Ω // pF)	Zc (pF)	
21M7.5A	21.400	2	3	±3.75	20	±18	0.5	1.5	35 50	+350～+1000 -200～-1000	850 // 6	-	UM-1 / 1S (MJ) UM-5 / 5S (MJ)
21M7.5A2	21.400	2	3	±3.75	20	±18	0.5	2.0	35 50	+350～+1000 -200～-1000	850 // 5.5	-	UM-4 / 4S (MJ)
21M7.5B	21.400	4	3	±3.75	40	±14	1.0	2.5	65 80	+350～+1000 -200～-1000	850 // 5	16	UM-1 / 1S (MJ) UM-5 / 5S (MJ)
21M7.5B2	21.400	4	3	±3.75	40	±14	1.0	3.0	65 80	+350～+1000 -200～-1000	1000 // 4.5	12	UM-4 / 4S (MJ)
21M7.5C	21.400	6	3	±3.75	45	±8.75	2.0	3.0	65	±12.5～±300	850 // 5	-	ACF-1 / 3
21M7.5D	21.400	8	3	±3.75	65	±9	2.0	4.0	90	±12.5～±300	850 // 5	-	ACF-1 / 4
21M12A	21.400	2	3	±6.0	20	±25	0.5	1.5	35 50	+350～+1000 -200～-1000	1200 // 3	-	UM-1 / 1S (MJ) UM-5 / 5S (MJ)
21M12A2	21.400	2	3	±6.0	20	±25	0.5	2.0	35 50	+350～+1000 -200～-1000	1200 // 3	-	UM-4 / 4S (MJ)
21M12B	21.400	4	3	±6.0	40	±20	1.0	2.0	65 80	+350～+1000 -200～-1000	1200 // 2.5	10.5	UM-1 / 1S (MJ) UM-5 / 5S (MJ)
21M12B2	21.400	4	3	±6.0	40	±20	1.0	3.0	65 80	+350～+1000 -200～-1000	1600 // 2.5	7	UM-4 / 4S (MJ)
21M12C	21.400	6	3	±6.0	45	±14	2.0	2.5	65	±20～±300	1200 // 2.5	-	ACF-1 / 3
21M12D	21.400	8	3	±6.0	65	±14	2.0	3.0	90	±20～±300	1200 // 2.5	-	ACF-1 / 4
21M15A	21.400	2	3	±7.5	18	±25	0.5	1.5	35 50	+350～+1000 -200～-1000	1500 // 2.5	-	UM-1 / 1S (MJ) UM-5 / 5S (MJ)
21M15A2	21.400	2	3	±7.5	15	±25	0.5	2.0	35 50	+350～+1000 -200～-1000	1500 // 2	-	UM-4 / 4S (MJ)
21M15B	21.400	4	3	±7.5	40	±25	1.0	2.0	65 80	+350～+1000 -200～-1000	1500 // 2	8	UM-1 / 1S (MJ) UM-5 / 5S (MJ)
21M15B2	21.400	4	3	±7.5	40	±25	1.0	4.0	65 80	+350～+1000 -200～-1000	1900 // 2	5	UM-4 / 4S (MJ)
21M15C	21.400	6	3	±7.5	45	±17.5	2.0	2.5	65	±25～±300	1500 // 2	-	ACF-1 / 3
21M15D	21.400	8	3	±7.5	65	±17.5	2.0	3.0	90	±25～±300	1500 // 2	-	ACF-1 / 4
21M20A	21.400	2	3	±10	15	±30	0.5	2.0	35 50	+350～+1000 -350～-1000	1800 // 2.5	-	UM-1 / 1S (MJ) UM-5 / 5S (MJ)
21M20B	21.400	4	3	±10	45	±35	1.0	2.0	65 80	+350～+1000 -200～-1000	1500 // 1.5	5	UM-1 / 1S (MJ) UM-5 / 5S (MJ)
21M20C	21.400	6	3	±10	60	±34	2.0	2.5	60	±34～±300	1800 // 1.5	-	ACF-1 / 3
21M20D	21.400	8	3	±10	80	±30	2.0	3.0	80	±34～±300	1800 // 1.5	-	ACF-1 / 4
21M30A	21.400	2	3	±15	15	±45	0.5	1.5	35 45	+350～+1000 -350～-1000	1500 // 1	-	UM-1 / 1S (MJ) UM-5 / 5S (MJ)
21M30B	21.400	4	3	±15	40	±50	1.0	2.0	65 80	+350～+1000 -250～-1000	2000 // 0.5	3	UM-1 / 1S (MJ) UM-5 / 5S (MJ)
21M30C	21.400	6	3	±15	65	±50	2.0	2.5	65	±50～±300	2200 // 0.5	-	ACF-1 / 3
21M30D	21.400	8	3	±15	80	±50	2.0	3.0	80	±50～±300	2200 // 0.5	-	ACF-1 / 4

NOTE: Please consult us for other specifications. Please see MCF Drawing for case dimensions.

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MONOLITHIC CRYSTAL FILTER Through-Hole & SMD (Metal Jacket)

RoHS COMPLIANT 2002/95/EC

❑ Electrical Specifications (45.0MHz Fundamental Series)

Model	Nominal Frequency	Pole	Pass Bandwidth		Stop Bandwidth		Ripple	Loss	Ultimate Attenuation		Terminating Impedance	Coupling Capacitance	Case
	(MHz)		(dB)	(kHz)	(dB)	(kHz)	(dB)	(dB)	(dB)	(Fo±kHz)	Zt (Ω // pF)	Zc (pF)	
45M7.5AF	45.000	2	3	±3.75	10	±12.5	1.0	2.0	65	-910	200 // 4	-	UM-1/4/5 (MJ)
45M7.5BF	45.000	4	3	±3.75	30	±12.5	1.0	4.0	90	±900～±1000	350 // 6.5	18	UM-1S/4S/5S (MJ)
45M7.5CF	45.000	6	3	±3.75	50	±12.5	2.0	6.0	80	±900	350 // 5	-	ACF-1
45M7.5DF	45.000	8	3	±3.75	70	±12.5	2.0	7.0	80	±900	350 // 5	-	
45M12AF	45.000	2	3	±6.0	15	±22	1.0	2.0	65	-910	650 // 5	-	UM-1/4/5 (MJ)
45M12BF	45.000	4	3	±6.0	30	±20	1.0	3.0	90	±900～±1000	500 // 4	12	UM-1S/4S/5S (MJ)
45M12CF	45.000	6	3	±6.0	50	±20	2.0	6.0	80	±900	600 // 3	-	ACF-1
45M12DF	45.000	8	3	±6.0	70	±20	2.0	7.0	80	±900	600 // 3	-	
45M15AF	45.000	2	3	±7.5	15	±25	1.0	2.0	35 65	+900～+1000 -900～-1000	650 // 3	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
45M15BF	45.000	4	3	±7.5	30	±25	1.0	3.0	90	±900～±1000	650 // 3	9	
45M15CF	45.000	6	3	±7.5	60	±25	2.0	5.0	80	±900	650 // 1.5	-	ACF-1
45M15DF	45.000	8	3	±7.5	80	±25	2.0	6.0	80	±900	650 // 1.5	-	
45M20AF	45.000	2	3	±10	15	±35	1.0	2.0	35 65	+900～+1000 -900～-1000	800 // 3	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
45M20BF	45.000	4	3	±10	30	±40	1.0	3.0	90	±900～±1000	800 // 2	6.5	
45M30AF	45.000	2	3	±15	15	±60	1.0	2.0	35 65	+900～+1000 -900～-1000	1200 // 0	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
45M30BF	45.000	4	3	±15	30	±50	1.0	3.0	90	±900～±1000	1200 // 0.7	3.5	
45M30CF	45.000	6	3	±15	60	±50	2.0	5.0	80	±900	1200 // 0.3	-	ACF-1
45M30DF	45.000	8	3	±15	80	±50	2.0	6.0	80	±900	1200 // 0.3	-	

NOTE: Please consult us for other specifications. Please see MCF Drawing for case dimensions.

❑ Electrical Specifications (45.0MHz 3rd Overtone Series)

Model	Nominal Frequency	Pole	Pass Bandwidth		Stop Bandwidth		Ripple	Loss	Ultimate Attenuation		Terminating Impedance	Coupling Capacitance	Case
	(MHz)		(dB)	(kHz)	(dB)	(kHz)	(dB)	(dB)	(dB)	(Fo±kHz)	Zt (Ω // pF)	Zc (pF)	
45M7.5A	45.000	2	3	±3.75	10	±12.5	1.0	2.0	35	±900	2000 // -4	-	UM-1 / 1S (MJ)
45M7.5B	45.000	4	3	±3.75	30	±12.5	1.0	4.0	75	±900	3000 // -0.3	-0.1	
45M12A	45.000	2	3	±6	15	±22	1.0	2.0	35	±900	3000 // 0.1	-	
45M12B	45.000	4	3	±6	30	±22	1.0	4.0	75	±900	3600 // -0.7	-1	
45M15A	45.000	2	3	±7.5	15	±28	1.0	2.0	35	±900	4000 // -0.7	-	
45M15B	45.000	4	3	±7.5	30	±28	1.0	4.0	75	±900	4000 // -0.8	-1	
45M20A	45.000	2	3	±10	15	±35	1.0	2.0	35	±900	4000 // -0.1	-	
45M20B	45.000	4	3	±10	30	±35	1.0	4.0	75	±900	4000 // -0.7	-1.2	

NOTE: Please consult us for other specifications. Please see MCF Drawing for case dimensions.

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MONOLITHIC CRYSTAL FILTER Through-Hole & SMD (Metal Jacket)

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❑ Electrical Specifications (70.0MHz 3rd Overtone Series)

Model	Nominal Frequency	Pole	Pass Bandwidth		Stop Bandwidth		Ripple	Loss	Ultimate Attenuation		Terminating Impedance	Coupling Capacitance	Case
	(MHz)		(dB)	(kHz)	(dB)	(kHz)	(dB)	(dB)	(dB)	(Fo±kHz)	Zt (Ω // pF)	Zc (pF)	
70M7.5A	70.000	2	3	±3.75	10	±12.5	1.0	2.0	35 35	+500～+1000 -200～-1000	2000 // 0	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
70M7.5B	70.000	4	3	±3.75	30	±12.5	1.0	4.0	70 75	+500～+1000 -200～-1000	1800 // 0	0.5	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
70M12A	70.000	2	3	±6.0	15	±25	1.0	2.0	35 35	+500～+1000 -200～-1000	2000 // -0.4	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
70M12B	70.000	4	3	±6.0	30	±25	1.0	3.0	70 75	+500～+1000 -200～-1000	2000 // -0.2	0	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
70M15A	70.000	2	3	±7.5	15	±30	1.0	2.0	35 35	+500～+1000 -200～-1000	2000 // -0.9	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
70M15B	70.000	4	3	±7.5	25	±25	1.0	3.0	70 75	+500～+1000 -200～-1000	2000 // -0.4	-0.5	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
70M20A	70.000	2	3	±10	15	±40	1.0	2.0	35 35	+500～+1000 -200～-1000	2500 // -1	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
70M20B	70.000	4	3	±10	35	±40	1.0	3.0	70 75	+500～+1000 -200～-1000	2500 // -0.8	-1.0	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
70M30A	70.000	2	3	±15	15	±60	1.0	2.0	35 35	+500～+1000 -200～-1000	4000 // -0.7	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
70M30B	70.000	4	3	±15	30	±60	1.0	3.0	70 75	+500～+1000 -200～-1000	4000 // -0.8	-1.1	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)

NOTE: Please consult us for other specifications. Please see MCF Drawing for case dimensions.

❑ Electrical Specifications (90.0MHz 3rd Overtone Series)

Model	Nominal Frequency	Pole	Pass Bandwidth		Stop Bandwidth		Ripple	Loss	Ultimate Attenuation		Terminating Impedance	Coupling Capacitance	Case
	(MHz)		(dB)	(kHz)	(dB)	(kHz)	(dB)	(dB)	(dB)	(Fo±kHz)	Zt (Ω // pF)	Zc (pF)	
90M7.5A	90.000	2	3	±3.75	10	±12.5	1.0	2.0	35 35	+500～+1000 -200～-1000	2000 // 0.3	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
90M7.5B	90.000	4	3	±3.75	30	±12.5	1.0	4.0	70 75	+500～+1000 -200～-1000	1200 // 0.1	0.7	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
90M12A	90.000	2	3	±6.0	15	±25	1.0	2.0	35 35	+500～+1000 -200～-1000	2000 // 0	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
90M12B	90.000	4	3	±6.0	30	±25	1.0	3.0	70 75	+500～+1000 -200～-1000	1800 // -0.3	-0.2	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
90M15A	90.000	2	3	±7.5	15	±30	1.0	2.0	35 35	+500～+1000 -200～-1000	2000 // -0.1	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
90M15B	90.000	4	3	±7.5	25	±25	1.0	3.0	70 75	+500～+1000 -200～-1000	2000 // -0.5	-0.5	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
90M20A	90.000	2	3	±10	15	±40	1.0	2.0	35 35	+500～+1000 -200～-1000	2500 // -0.4	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
90M20B	90.000	4	3	±10	35	±40	1.0	3.0	70 75	+500～+1000 -200～-1000	2500 // -0.6	-0.8	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
90M30A	90.000	2	3	±15	15	±60	1.0	2.0	35 35	+500～+1000 -200～-1000	4000 // -0.7	-	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)
90M30B	90.000	4	3	±15	30	±60	1.0	3.0	70 75	+500～+1000 -200～-1000	4000 // -0.7	-1.3	UM-1/4/5 (MJ) UM-1S/4S/5S (MJ)

NOTE: Please consult us for other specifications. Please see MCF Drawing for case dimensions.

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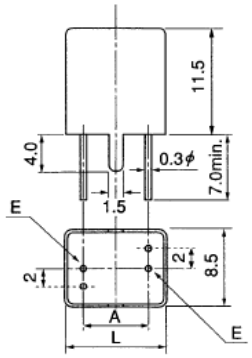
MONOLITHIC CRYSTAL FILTER Through-Hole & SMD (Metal Jacket)

RoHS COMPLIANT 2002/95/EC

❑ OUTLINE DRAWINGS

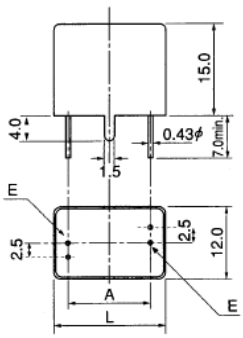
Dimensions in mm. Do not scale.

ACF-1

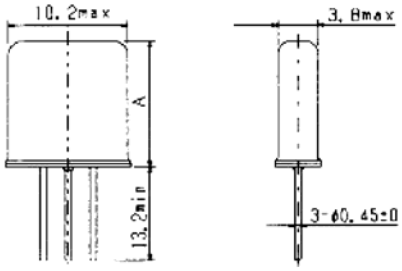


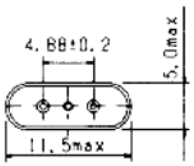
Case	L (mm)	A (mm)
ACF-1	11.0	7.4
ACF-3	15.0	9.0
ACF-4	18.5	13.4

ACF-3, ACF-4



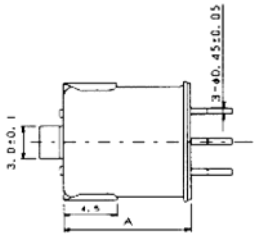
HC-49/U, HC-49/T

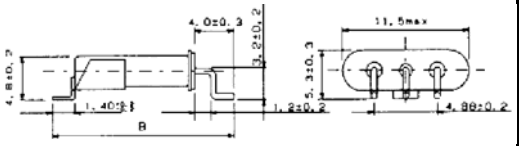




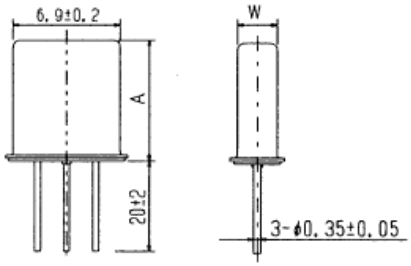
Case	A (mm)	B (mm)
HC-49/U	13.5 max.	-
HC-49/T	11.2 max.	-
HC-49/UMJ	13.2 ± 0.2	18.8 ± 0.3
HC-49/T MJ	11.2 ± 0.2	16.8 ± 0.3

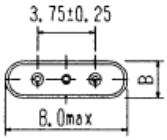
HC-49/UMJ, HC-49/TMJ





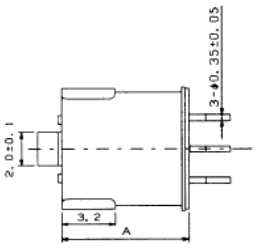
UM-1 / 4 / 5, UM-1S / 4S / 5S

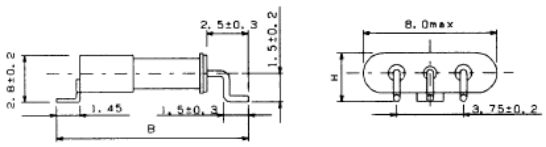




Case	A (mm)	B (mm)	W (mm)
UM-1	8.0 max.	3.0 ± 0.2	2.2 ± 0.2
UM-4	4.5 max.	3.0 ± 0.2	2.2 ± 0.2
UM-5	6.0 max.	3.0 ± 0.2	2.2 ± 0.2
UM-1S	8.0 max.	2.5 ± 0.2	1.8 ± 0.2
UM-4S	4.5 max.	2.5 ± 0.2	1.8 ± 0.2
UM-5S	6.0 max.	2.5 ± 0.2	1.8 ± 0.2

UM-1MJ / 4MJ / 5MJ, UM-1SMJ / 4SMJ / 5SMJ





Case	A (mm)	B (mm)	H (mm)
UM-1MJ	7.8 ± 0.2	11.5 ± 0.3	3.1 ± 0.2
UM-4MJ	4.4 ± 0.2	8.3 ± 0.3	3.1 ± 0.2
UM-5MJ	5.8 ± 0.2	9.7 ± 0.3	3.1 ± 0.2
UM-1SMJ	7.8 ± 0.2	11.5 ± 0.3	2.8 ± 0.2
UM-4SMJ	4.4 ± 0.2	8.3 ± 0.3	2.8 ± 0.2
UM-5SMJ	5.8 ± 0.2	9.7 ± 0.3	2.8 ± 0.2

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