CITIZEN™

Miniature Plastic Surface Mount 32.768KHz Crystals

CM130 and CM155

Specifications: • Frequency: 32.768kHz **• Operating Temperature:** -40°C ~ 85°C **• Load Capacitance:** 12.5pF **• Drive Level:** 1µW Max. **• Frequency Tolerance:** ±20ppm **• Equivalent Series Resistance (ESR):** 65kΩ

Fig.	Digi-Key Part No.	Cut Tape Price Each 1	10	50	Digi-Key Part No.	Tape and Reel Pricing 3,000	Citizen Part No.
1	300-8038-1-ND	1.24	1.02	.90	—	—	CM155-32.768KDZFTR
2	300-8039-1-ND	1.10	.90	.80	300-8039-2-ND	728.00/M	CM130-32.768KDZFTR

Fig. 1

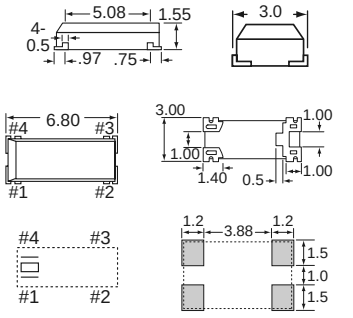
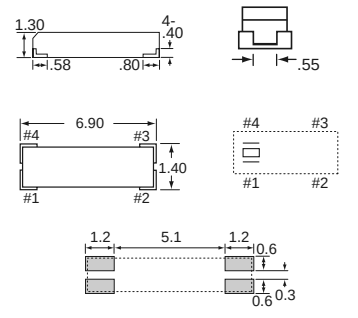


Fig. 2

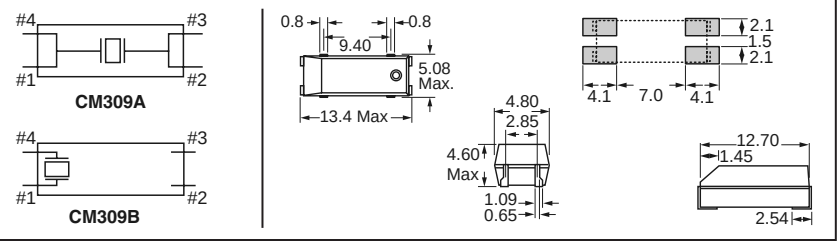


C

CM309 Series Crystals

Specifications:
• Frequency Tolerance: ±30ppm **• Frequency/Temp.:** ±50ppm, -10°C ~ 60°C **• Operating Temperature:** -40°C ~ 85°C **• Storage Temperature:** -55°C ~ 125°C **• Load Capacitance:** 18pF **• Shunt Capacitance:** 7pF **• Drive Level:** 50µW ~ 100µW **• Insulation Resistance:** 500MΩ Min. **• Aging (First Year):** ±5ppm Max.

Equivalent Series Resistance (ESR, R1)		
Frequency	ESR	Mode
3.5MHz ⩽ fo < 4MHz	200	Fundamental
4MHz ⩽ fo < 6MHz	150	
6MHz ⩽ fo < 10MHz	100	
10MHz ⩽ fo ⩽ 32MHz	50	
30MHz < fo < 36MHz	100	3rd OT
36MHz ⩽ fo < 66.6666MHz	80	



CM309A

Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each 1	10	50	Tape and Reel Pricing* 1,000	Citizen Part No.
4.800000	300-4005-1-ND	1.51	1.30	.98	—	CM309A4.800MABJT
5.120000	300-4007-1-ND	1.51	1.30	.98	756.00	CM309A5.120MABJT
6.144000	300-4010-1-ND	1.51	1.30	.98	756.00	CM309A6.144MABJT
7.680000	300-4012-1-ND	1.51	1.30	.98	756.00	CM309A7.680MABJT
8.000156	300-4014-1-ND	1.51	1.30	.98	756.00	CM309A8.000156MABJT
8.192000	300-4015-1-ND	1.51	1.30	.98	756.00	CM309A8.192MABJT
9.216000	300-4016-1-ND	1.51	1.30	.98	756.00	CM309A9.216MABJT
9.830400	300-4018-1-ND	1.51	1.30	.98	756.00	CM309A9.8304MABJT
10.240000	300-4020-1-ND	1.51	1.30	.98	—	CM309A10.240MABJT
11.000000	300-4021-1-ND	1.51	1.30	.98	756.00	CM309A11.000MABJT
11.289600	300-4023-1-ND	1.51	1.30	.98	756.00	CM309A11.2896MABJT
12.288000	300-4025-1-ND	1.51	1.30	.98	—	CM309A12.288MABJT
12.352000	300-4026-1-ND	1.51	1.30	.98	756.00	CM309A12.352MABJT
12.500000	300-4027-1-ND	1.51	1.30	.98	756.00	CM309A12.500MABJT
15.000000	300-4031-1-ND	1.51	1.30	.98	756.00	CM309A15.000MABJT
15.360000	300-4032-1-ND	1.51	1.30	.98	756.00	CM309A15.360MABJT
16.000312	300-4034-1-ND	1.51	1.30	.98	756.00	CM309A16.000312MABJT
16.257000	300-4035-1-ND	1.51	1.30	.98	756.00	CM309A16.257MABJT
16.667000	300-4037-1-ND	1.51	1.30	.98	—	CM309A16.667MABJT
18.000000	300-4040-1-ND	1.51	1.30	.98	756.00	CM309A18.000MABJT
20.480000	300-4045-1-ND	1.51	1.30	.98	756.00	CM309A20.480MABJT
24.000000	300-4047-1-ND	1.51	1.30	.98	—	CM309A24.000MABJT
25.175000	300-4050-1-ND	1.51	1.30	.98	—	CM309A25.175MABJT
27.000000	300-4051-1-ND	1.51	1.30	.98	—	CM309A27.000MABJT
28.000000	300-4052-1-ND	1.51	1.30	.98	756.00	CM309A28.000MABJT
28.322000	300-4053-1-ND	1.51	1.30	.98	756.00	CM309A28.322MABJT
28.636360	300-4054-1-ND	1.51	1.30	.98	756.00	CM309A28.63636MABJT
29.491200	300-4055-1-ND	1.51	1.30	.98	—	CM309A29.4912MABJT
32.000000	300-4057-1-ND	1.51	1.30	.98	756.00	CM309A32.000MABJT
32.768000	300-4058-1-ND	1.51	1.30	.98	756.00	CM309A32.768MABJT
33.000000	300-4059-1-ND	1.51	1.30	.98	—	CM309A33.000MABJT
33.333300	300-4060-1-ND	1.51	1.30	.98	756.00	CM309A33.3333MABJT
33.868800	300-4061-1-ND	1.51	1.30	.98	756.00	CM309A33.8688MABJT
40.000000	300-4063-1-ND	1.51	1.30	.98	756.00	CM309A40.000MABJT
49.152000	300-4065-1-ND	1.51	1.30	.98	756.00	CM309A49.152MABJT
50.000000	300-4066-1-ND	1.51	1.30	.98	756.00	CM309A50.000MABJT
53.125000	300-4067-1-ND	1.51	1.30	.98	756.00	CM309A53.125MABJT
60.000000	300-4068-1-ND	1.51	1.30	.98	756.00	CM309A60.000MABJT
64.000000	300-4069-1-ND	1.51	1.30	.98	756.00	CM309A64.000MABJT
66.666600	300-4070-1-ND	1.51	1.30	.98	756.00	CM309A66.6666MABJT

CM309B

Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each 1	10	50	Tape and Reel Pricing* 1,000	Citizen Part No.
3.579545	300-4101-1-ND	1.51	1.30	.98	—	CM309B3.579545MABJT
4.096000	300-4104-1-ND	1.51	1.30	.98	—	CM309B4.096MABJT
5.120000	300-4107-1-ND	1.51	1.30	.98	—	CM309B5.120MABJT
6.000000	300-4109-1-ND	1.51	1.30	.98	—	CM309B6.000MABJT
6.144000	300-4110-1-ND	1.51	1.30	.98	—	CM309B6.144MABJT
7.680000	300-4112-1-ND	1.51	1.30	.98	756.00	CM309B7.680MABJT
8.000156	300-4114-1-ND	1.51	1.30	.98	756.00	CM309B8.000156MABJT
8.192000	300-4115-1-ND	1.51	1.30	.98	—	CM309B8.192MABJT
9.600000	300-4117-1-ND	1.51	1.30	.98	—	CM309B9.600MABJT
9.830400	300-4118-1-ND	1.51	1.30	.98	756.00	CM309B9.8304MABJT
10.240000	300-4120-1-ND	1.51	1.30	.98	756.00	CM309B10.240MABJT
11.000000	300-4121-1-ND	1.51	1.30	.98	756.00	CM309B11.000MABJT
11.289600	300-4123-1-ND	1.51	1.30	.98	—	CM309B11.2896MABJT
12.352000	300-4126-1-ND	1.51	1.30	.98	756.00	CM309B12.352MABJT
12.500000	300-4127-1-ND	1.51	1.30	.98	756.00	CM309B12.500MABJT
15.360000	300-4132-1-ND	1.51	1.30	.98	756.00	CM309B15.360MABJT
16.000312	300-4134-1-ND	1.51	1.30	.98	756.00	CM309B16.000312MABJT
16.257000	300-4135-1-ND	1.51	1.30	.98	756.00	CM309B16.257MABJT
16.934400	300-4138-1-ND	1.51	1.30	.98	756.00	CM309B16.9344MABJT
17.734475	300-4139-1-ND	1.51	1.30	.98	—	CM309B17.734475MABJT
18.000000	300-4140-1-ND	1.51	1.30	.98	756.00	CM309B18.000MABJT
18.869000	300-4142-1-ND	1.51	1.30	.98	756.00	CM309B18.869MABJT
20.000000	300-4144-1-ND	1.51	1.30	.98	756.00	CM309B20.000MABJT
20.480000	300-4145-1-ND	1.51	1.30	.98	756.00	CM309B20.480MABJT
24.000000	300-4147-1-ND	1.51	1.30	.98	756.00	CM309B24.000MABJT
25.175000	300-4150-1-ND	1.51	1.30	.98	—	CM309B25.175MABJT
28.000000	300-4152-1-ND	1.51	1.30	.98	756.00	CM309B28.000MABJT
28.322000	300-4153-1-ND	1.51	1.30	.98	756.00	CM309B28.322MABJT
28.636360	300-4154-1-ND	1.51	1.30	.98	756.00	CM309B28.63636MABJT
32.000000	300-4157-1-ND	1.51	1.30	.98	756.00	CM309B32.000MABJT
32.768000	300-4158-1-ND	1.51	1.30	.98	—	CM309B32.768MABJT
33.000000	300-4159-1-ND	1.51	1.30	.98	756.00	CM309B33.000MABJT
33.333300	300-4160-1-ND	1.51	1.30	.98	756.00	CM309B33.3333MABJT
33.868800	300-4161-1-ND	1.51	1.30	.98	756.00	CM309B33.8688MABJT
40.000000	300-4163-1-ND	1.51	1.30	.98	—	CM309B40.000MABJT
48.000000	300-4164-1-ND	1.51	1.30	.98	756.00	CM309B48.000MABJT
49.152000	300-4165-1-ND	1.51	1.30	.98	756.00	CM309B49.152MABJT
50.000000	300-4166-1-ND	1.51	1.30	.98	756.00	CM309B50.000MABJT
53.125000	300-4167-1-ND	1.51	1.30	.98	756.00	CM309B53.125MABJT
60.000000	300-4168-1-ND	1.51	1.30	.98	756.00	CM309B60.000MABJT
64.000000	300-4169-1-ND	1.51	1.30	.98	756.00	CM309B64.000MABJT
66.666600	300-4170-1-ND	1.51	1.30	.98	756.00	CM309B66.6666MABJT

* For Tape & Reel Part No., change -1-ND to -2-ND