

SPECIFICATIONS:

• Frequency: 32.768kHz • Operating Temperature: -40°C – 85°C • Storage Temperature: -55°C – 125°C • Drive Level: 1µW • Aging (First Year): ±3ppm Max. @ 25°C ±3°C

FEATURES:

CMR200T Series: • Lead formed SMD type with embossed tape • Automatic mounting and reflowable type • Most appropriate for clock source for portable and other various equipment with low power consumption

CMJ206T Series: • High-density mounting SMD with jacket • Automatic mounting and reflowable type • Most appropriate for clock source for portable and other various equipment with low power consumption

CM130 Series: • Most appropriate for high-density circuit board by the small surface mount type • Embedded with heat resistant cylinder type crystal bring highly stable characteristics • Suitable for small mobile telecommunications devices

CM315 and CM415 Series: • Tuning fork crystal with ceramic package type • High-density SMD type • High-stability assured with tight vacuum sealing • Most appropriate for portable devices and mobile telecommunications devices

CM519 Series: • Tuning fork crystal with ceramic package type • Small and thin packaging and light weight • Most appropriate for portable devices and mobile telecommunications devices

CM200S Series: • Embedded with heat resistant cylinder type crystal bring highly stable characteristics • Automatic mounting and reflowable type • Most appropriate for clock source for portable and automotive equipment with low power consumption.

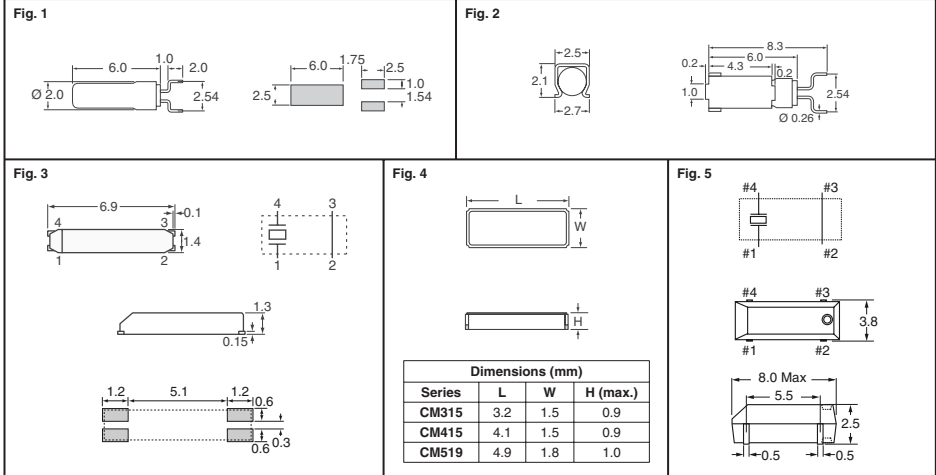


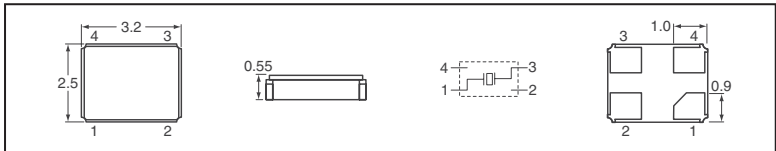
Fig.	Load Capacitance (pF)	Shunt Capacitance (pF)	Frequency Tolerance @ 25°C	ESR @ 25°C (Max.)	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		Citizen Part No.	
						1	50	10		Qty.	Pricing		
Cylinder Type Tuning Fork Crystals – SMT													
1	6.0	1.35	±20ppm	50kΩ	300-8341-1-ND	.46	.40	.30	300-8341-2-ND	2,000	182.95/M	CMR200T32.768KDZB-UT	
	7.0		±20ppm	50kΩ	300-8736-1-ND	.46	.40	.30	300-8736-2-ND	2,000	182.95/M	CMR200T32.768KDZY-UT	
	12.5		±20ppm	50kΩ	300-8340-1-ND	.46	.40	.30	300-8340-2-ND	2,000	182.95/M	CMR200T32.768KDFZ-UT	
2	6.0	1.35	±20ppm	50kΩ	300-8664-1-ND	.56	.48	.36	300-8664-2-ND	3,000	223.61/M	CMJ206T32.768KDZB-UT	
	12.5		±20ppm	50kΩ	300-8663-1-ND	.56	.48	.36	300-8663-2-ND	3,000	223.61/M	CMJ206T32.768KDFZ-UT	
Surface Mount Tuning Fork Crystals													
3	12.5	1.20	±20ppm	65kΩ	300-8633-1-ND	.68	.56	.50	300-8633-2-ND	3,000	449.40/M	CM130 32.768KDZF-UT	
4	7.0	1.05	±20ppm	70kΩ	300-8730-1-ND	1.66	1.42	1.07	300-8730-2-ND	3,000	858.86/M	CM315 32.768KDZY-UT	
	9.0		±20ppm	70kΩ	300-8729-1-ND	1.66	1.42	1.07	300-8729-2-ND	3,000	858.86/M	CM315 32.768KDZC-UT	
	12.5		±20ppm	70kΩ	300-8728-1-ND	1.66	1.42	1.07	300-8728-2-ND	3,000	858.86/M	CM315 32.768KDZF-UT	
	7.0	1.05	±20ppm	70kΩ	300-8732-1-ND	1.40	1.20	.90	300-8732-2-ND	3,000	726.73/M	CM415 32.768KDZY-UT	
	9.0		±20ppm	70kΩ	300-8731-1-ND	1.40	1.20	.90	300-8731-2-ND	3,000	726.73/M	CM415 32.768KDZC-UT	
	12.5		±20ppm	70kΩ	300-8193-1-ND	1.40	1.20	.90	300-8193-2-ND	3,000	726.73/M	CM415 32.768KDZF-UT	
	7.0	1.33	±20ppm	70kΩ	300-8734-1-ND	1.15	.98	.74	300-8734-2-ND	3,000	594.60/M	CM519 32.768KDZY-UT	
	9.0		±20ppm	70kΩ	300-8733-1-ND	1.15	.98	.74	300-8733-2-ND	3,000	594.60/M	CM519 32.768KDZC-UT	
	12.5		±20ppm	70kΩ	300-8194-1-ND	1.15	.98	.74	300-8194-2-ND	3,000	594.60/M	CM519 32.768KDZF-UT	
	5	6.0	1.35	±20ppm	50kΩ	300-8317-1-ND	.61	.53	.40	300-8317-2-ND	3,000	317.27/M	CM200S32.768KDZB-UT
		12.5		±20ppm	50kΩ	300-8305-1-ND	.61	.53	.40	300-8305-2-ND	3,000	317.27/M	CM200S32.768KDFZ-UT
		12.5		±30ppm	50kΩ	300-8735-1-ND	.51	.44	.33	300-8735-2-ND	3,000	264.27/M	CM200S32.768KAZF-UT

CS325 Series Miniature SMT Crystals



SPECIFICATIONS:

• Frequency Tolerance: ±30ppm @ 25°C • Frequency Stability: ±50ppm (-10°C – 60°C) • Operating Temperature Range: -40°C – 85°C • Storage Temperature Range: -55°C – 125°C • Load Capacitance: 18pF • Shunt Capacitance: 5.0pF Max. • Drive Level: 10µW (100µW Max.) • Insulation Resistance: 500MΩ Min.



Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		Citizen Part No.
		1	50	10		Pricing 3,000		
13.000	300-8665-1-ND	1.20	.98	.88	300-8665-2-ND	609.84/M	CS325 13.000MABJ-UT	
13.5600	300-8666-1-ND	1.20	.98	.88	300-8666-2-ND	609.84/M	CS325 13.560MABJ-UT	
14.31818	300-8667-1-ND	1.20	.98	.88	300-8667-2-ND	609.84/M	CS325 14.31818MABJ-UT	
16.0000	300-8668-1-ND	1.20	.98	.88	300-8668-2-ND	609.84/M	CS325 16.000MABJ-UT	
16.3840	300-8669-1-ND	1.20	.98	.88	300-8669-2-ND	609.84/M	CS325 16.384MABJ-UT	
18.4320	300-8670-1-ND	1.20	.98	.88	300-8670-2-ND	609.84/M	CS325 18.432MABJ-UT	
19.2000	300-8671-1-ND	1.20	.98	.88	300-8671-2-ND	609.84/M	CS325 19.200MABJ-UT	
24.0000	300-8672-1-ND	1.20	.98	.88	300-8672-2-ND	609.84/M	CS325 24.000MABJ-UT	
24.5760	300-8673-1-ND	1.20	.98	.88	300-8673-2-ND	609.84/M	CS325 24.576MABJ-UT	
25.0000	300-8674-1-ND	1.20	.98	.88	300-8674-2-ND	609.84/M	CS325 25.000MABJ-UT	
26.0000	300-8675-1-ND	1.20	.98	.88	300-8675-2-ND	609.84/M	CS325 26.000MABJ-UT	
27.0000	300-8676-1-ND	1.20	.98	.88	300-8676-2-ND	609.84/M	CS325 27.000MABJ-UT	
28.6363	300-8677-1-ND	1.20	.98	.88	300-8677-2-ND	609.84/M	CS325 28.6363MABJ-UT	
30.0000	300-8678-1-ND	1.20	.98	.88	300-8678-2-ND	609.84/M	CS325 30.000MABJ-UT	
32.0000	300-8679-1-ND	1.20	.98	.88	300-8679-2-ND	609.84/M	CS325 32.000MABJ-UT	
33.0000	300-8680-1-ND	1.20	.98	.88	300-8680-2-ND	609.84/M	CS325 33.000MABJ-UT	
33.3333	300-8681-1-ND	1.20	.98	.88	300-8681-2-ND	609.84/M	CS325 33.3333MABJ-UT	
40.0000	300-8682-1-ND	1.20	.98	.88	300-8682-2-ND	609.84/M	CS325 40.000MABJ-UT	
44.0000	300-8683-1-ND	1.20	.98	.88	300-8683-2-ND	609.84/M	CS325 44.000MABJ-UT	
48.0000	300-8684-1-ND	1.20	.98	.88	300-8684-2-ND	609.84/M	CS325 48.000MABJ-UT	
53.1250	300-8685-1-ND	1.20	.98	.88	300-8685-2-ND	609.84/M	CS325 53.125MABJ-UT	

Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

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CS10 Series Ceramic Surface Mount Crystals

Specifications: • Frequency/Temperature: ±50ppm, -10°C - 60°C • Operating Temperature: -40°C - 85°C • Drive Level: 50µW Maximum • Frequency Tolerance: ±30ppm • Load Capacitance: 18.0pF • Equivalent Series Resistance (ESR): 50Ω Maximum • Operating Mode: Fundamental

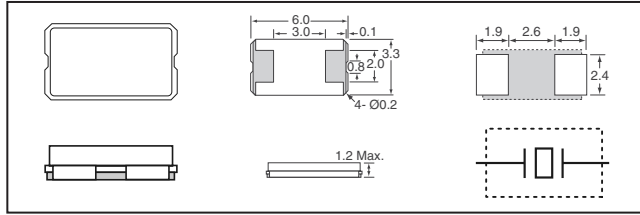


Table with columns: Frequency (MHz), Digi-Key Part No., Cut Tape Price Each (1, 10, 50), Digi-Key Part No., Tape & Reel Pricing (2,000), Citizen Part No.

CS20 Series Ceramic Surface Mount Crystals

Specifications: • Operating Temperature: -40°C - 85°C • Drive Level: 100µW Maximum • Frequency Tolerance: ±30ppm • Load Capacitance: 18.0pF • Frequency/Temperature: ±50ppm, -10°C - 60°C

Table with columns: Frequency, ESR, Mode. Includes Equivalent Series Resistance (ESR Ω Maximum) information.

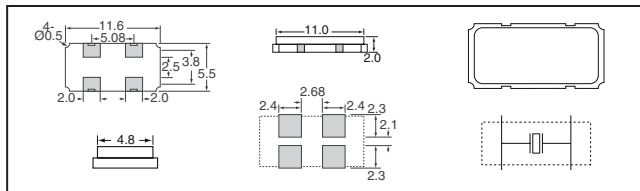


Table with columns: Frequency (MHz), Digi-Key Part No., Cut Tape Price Each (1, 10, 50), Digi-Key Part No., Tape & Reel Pricing (2,000), Citizen Part No.



CM250S Series Quartz Crystals



Specifications: • Frequency Tolerance: ±30ppm • Operating Temperature: -40°C - 85°C • Storage Temperature: -55°C - 125°C • Load Capacitance: 12.5pF • Shunt Capacitance: 8pF - 1.7pF • Drive Level: 1µW Maximum • Insulation Resistance: 500MΩ Minimum • Aging (First Year): ±5ppm Maximum

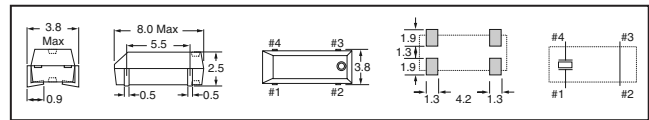


Table with columns: Frequency (kHz), Digi-Key Part No., Cut Tape Price Each (1, 10, 50), Digi-Key Part No., Tape & Reel Pricing (3,000), Citizen Part No.

RoHS Compliant

Table with columns: Frequency (kHz), Digi-Key Part No., Cut Tape Price Each (1, 10, 50), Digi-Key Part No., Tape & Reel Pricing (3,000), Citizen Part No.



CM309S Series Plastic Surface Mount Crystals



Specifications: • Operating Temperature: -40°C - 85°C • Drive Level: 100µW Maximum • Load Capacitance: 18.0pF • Frequency/Temperature: ±50ppm, -10°C - 60°C

Table with columns: Frequency, ESR (Ω Max.). Includes Equivalent Series Resistance (ESR, R1) information.

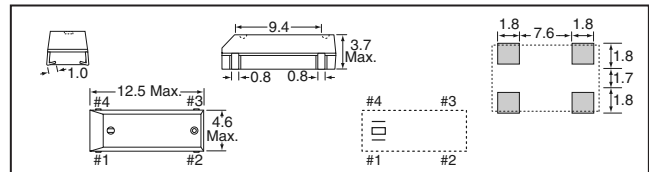


Table with columns: Frequency (MHz), Digi-Key Part No., Cut Tape Price Each (1, 10, 50), Digi-Key Part No., Tape & Reel Pricing (1,000), Citizen Part No.

RoHS Compliant

Table with columns: Frequency (MHz), Digi-Key Part No., Cut Tape Price Each (1, 10, 50), Digi-Key Part No., Tape & Reel Pricing (1,000), Citizen Part No.

(Continued)

Digi-Reel Most SMT cutdown parts are available on a Digi-Reel. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key Services on page 2 for additional information.

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Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each		Digi-Key Part No.	Tape & Reel Pricing* 1,000	Citizen Part No.
		1	50			
4.000000	300-8636-1-ND	.68	.56	300-8636-2-ND	409.46	CM309S4.000MABJ-UT
4.096000	300-8637-1-ND	.68	.56	300-8637-2-ND	409.46	CM309S4.096MABJ-UT
4.800000	300-8318-1-ND	.70	.58	300-8318-2-ND	421.81	CM309S4.800MABJ-UT
4.915200	300-8638-1-ND	.68	.56	300-8638-2-ND	409.46	CM309S4.9152MABJ-UT
5.120000	300-8319-1-ND	.70	.58	300-8319-2-ND	421.81	CM309S5.120MABJ-UT
5.529600	300-8320-1-ND	.70	.58	300-8320-2-ND	421.81	CM309S5.5296MABJ-UT
6.000000	300-8639-1-ND	.68	.56	300-8639-2-ND	409.46	CM309S6.000MABJ-UT
6.144000	300-8640-1-ND	.68	.56	300-8640-2-ND	409.46	CM309S6.144MABJ-UT
7.372800	300-8641-1-ND	.68	.56	300-8641-2-ND	409.46	CM309S7.3728MABJ-UT
8.000000	300-8642-1-ND	.68	.56	300-8642-2-ND	409.46	CM309S8.000MABJ-UT
8.001156	300-8321-1-ND	.70	.58	300-8321-2-ND	421.81	CM309S8.001156MABJ-UT
8.192000	300-8322-1-ND	.68	.56	300-8322-2-ND	409.46	CM309S8.192MABJ-UT
9.216000	300-8323-1-ND	.70	.58	300-8323-2-ND	421.81	CM309S9.216MABJ-UT
10.000000	300-8643-1-ND	.68	.56	300-8643-2-ND	409.46	CM309S10.000MABJ-UT
10.240000	300-8644-1-ND	.68	.56	300-8644-2-ND	409.46	CM309S10.240MABJ-UT
11.059200	300-8645-1-ND	.68	.56	300-8645-2-ND	409.46	CM309S11.0592MABJ-UT
12.000000	300-8646-1-ND	.68	.56	300-8646-2-ND	409.46	CM309S12.000MABJ-UT
12.288000	300-8647-1-ND	.68	.56	300-8647-2-ND	409.46	CM309S12.288MABJ-UT
12.352000	300-8324-1-ND	.70	.58	300-8324-2-ND	421.81	CM309S12.352MABJ-UT
12.500000	300-8325-1-ND	.68	.56	300-8325-2-ND	409.46	CM309S12.500MABJ-UT
13.500000	300-8326-1-ND	.68	.56	300-8326-2-ND	409.46	CM309S13.500MABJ-UT
14.318180	300-8648-1-ND	.68	.56	300-8648-2-ND	409.46	CM309S14.31818MABJ-UT
14.745600	300-8649-1-ND	.68	.56	300-8649-2-ND	409.46	CM309S14.7456MABJ-UT
15.000000	300-8650-1-ND	.68	.56	300-8650-2-ND	409.46	CM309S15.000MABJ-UT
16.000000	300-8651-1-ND	.68	.56	300-8651-2-ND	409.46	CM309S16.000MABJ-UT
16.384000	300-8327-1-ND	.68	.56	300-8327-2-ND	409.46	CM309S16.384MABJ-UT
16.934400	300-8328-1-ND	.70	.58	300-8328-2-ND	421.81	CM309S16.9344MABJ-UT
17.734475	300-8329-1-ND	.70	.58	300-8329-2-ND	421.81	CM309S17.734475MABJ-UT
18.000000	300-8330-1-ND	.68	.56	300-8330-2-ND	409.46	CM309S18.000MABJ-UT
18.432000	300-8652-1-ND	.68	.56	300-8652-2-ND	409.46	CM309S18.432MABJ-UT
19.660800	300-8653-1-ND	.68	.56	300-8653-2-ND	409.46	CM309S19.6608MABJ-UT
20.000000	300-8654-1-ND	.68	.56	300-8654-2-ND	409.46	CM309S20.000MABJ-UT
22.118400	300-8655-1-ND	.68	.56	300-8655-2-ND	409.46	CM309S22.1184MABJ-UT
24.000000	300-8656-1-ND	.68	.56	300-8656-2-ND	409.46	CM309S24.000MABJ-UT
24.576000	300-8331-1-ND	.68	.56	300-8331-2-ND	409.46	CM309S24.576MABJ-UT
25.000000	300-8657-1-ND	.68	.56	300-8657-2-ND	409.46	CM309S25.000MABJ-UT
25.175000	300-8332-1-ND	.70	.58	300-8332-2-ND	421.81	CM309S25.175MABJ-UT
27.000000	300-8658-1-ND	.68	.56	300-8658-2-ND	409.46	CM309S27.000MABJ-UT
28.322000	300-8333-1-ND	.70	.58	300-8333-2-ND	421.81	CM309S28.322MABJ-UT
29.491200	300-8659-1-ND	.68	.56	300-8659-2-ND	409.46	CM309S29.4912MABJ-UT
32.000000	300-8660-1-ND	.70	.58	300-8660-2-ND	421.81	CM309S32.000MABJ-UT
40.000000	300-8300-1-ND	.68	.56	300-8300-2-ND	409.46	CM309S40.000MABJ-UT
48.000000	300-8662-1-ND	.68	.56	300-8662-2-ND	409.46	CM309S48.000MABJ-UT

Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each			Tape & Reel Pricing* 1,000	Citizen Part No.
		1	10	50		
33.000000	300-4059-1-ND	1.10	.95	.71	—	CM309A33.000MABJ-UT
33.333300	300-4060-1-ND	1.10	.95	.71	548.86	CM309A33.3333MABJ-UT
33.868800	300-4061-1-ND	1.10	.95	.71	548.86	CM309A33.8688MABJ-UT
40.000000	300-4063-1-ND	1.10	.95	.71	548.86	CM309A40.000MABJ-UT
49.152000	300-4065-1-ND	1.10	.95	.71	548.86	CM309A49.152MABJ-UT
50.000000	300-4066-1-ND	1.10	.95	.71	548.86	CM309A50.000MABJ-UT
53.125000	300-4067-1-ND	1.10	.95	.71	548.86	CM309A53.125MABJ-UT
60.000000	300-4068-1-ND	1.10	.95	.71	548.86	CM309A60.000MABJ-UT
64.000000	300-4069-1-ND	1.10	.95	.71	548.86	CM309A64.000MABJ-UT
66.666600	300-4070-1-ND	1.10	.95	.71	548.86	CM309A66.6666MABJ-UT

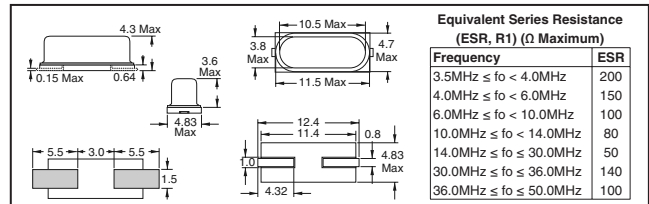
CM309B

Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each			Tape & Reel Pricing* 1,000	Citizen Part No.
		1	10	50		
4.096000	300-4104-1-ND	1.10	.95	.71	—	CM309B4.096MABJ-UT
5.120000	300-4107-1-ND	1.10	.95	.71	—	CM309B5.120MABJ-UT
7.680000	300-4112-1-ND	1.10	.95	.71	—	CM309B7.680MABJ-UT
8.001156	300-4114-1-ND	1.10	.95	.71	548.86	CM309B8.001156MABJ-UT
9.600000	300-4117-1-ND	1.10	.95	.71	—	CM309B9.600MABJ-UT
9.830400	300-4118-1-ND	1.10	.95	.71	548.86	CM309B9.8304MABJ-UT
10.240000	300-4120-1-ND	1.10	.95	.71	548.86	CM309B10.240MABJ-UT
11.000000	300-4121-1-ND	1.10	.95	.71	548.86	CM309B11.000MABJ-UT
12.352000	300-4126-1-ND	1.10	.95	.71	548.86	CM309B12.352MABJ-UT
12.500000	300-4127-1-ND	1.10	.95	.71	548.86	CM309B12.500MABJ-UT
15.360000	300-4132-1-ND	1.10	.95	.71	548.86	CM309B15.360MABJ-UT
16.003312	300-4134-1-ND	1.10	.95	.71	548.86	CM309B16.003312MABJ-UT
16.257000	300-4135-1-ND	1.10	.95	.71	548.86	CM309B16.257MABJ-UT
17.734475	300-4139-1-ND	1.10	.95	.71	—	CM309B17.734475MABJ-UT
18.000000	300-4140-1-ND	1.10	.95	.71	548.86	CM309B18.000MABJ-UT
18.869000	300-4142-1-ND	1.10	.95	.71	548.86	CM309B18.869MABJ-UT
20.400000	300-4145-1-ND	1.10	.95	.71	548.86	CM309B20.400MABJ-UT
24.000000	300-4147-1-ND	1.10	.95	.71	548.86	CM309B24.000MABJ-UT
25.175000	300-4150-1-ND	1.10	.95	.71	—	CM309B25.175MABJ-UT
28.000000	300-4152-1-ND	1.10	.95	.71	—	CM309B28.000MABJ-UT
32.000000	300-4157-1-ND	1.10	.95	.71	548.86	CM309B32.000MABJ-UT
32.768000	300-4158-1-ND	1.10	.95	.71	—	CM309B32.768MABJ-UT
33.000000	300-4159-1-ND	1.10	.95	.71	—	CM309B33.000MABJ-UT
33.868800	300-4161-1-ND	1.10	.95	.71	548.86	CM309B33.8688MABJ-UT
48.000000	300-4164-1-ND	1.10	.95	.71	548.86	CM309B48.000MABJ-UT
49.152000	300-4165-1-ND	1.10	.95	.71	548.86	CM309B49.152MABJ-UT
50.000000	300-4166-1-ND	1.10	.95	.71	548.86	CM309B50.000MABJ-UT
53.125000	300-4167-1-ND	1.10	.95	.71	548.86	CM309B53.125MABJ-UT
60.000000	300-4168-1-ND	1.10	.95	.71	548.86	CM309B60.000MABJ-UT
64.000000	300-4169-1-ND	1.10	.95	.71	—	CM309B64.000MABJ-UT
66.666600	300-4170-1-ND	1.10	.95	.71	548.86	CM309B66.6666MABJ-UT

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

HCM49 Series Surface Mount Crystals

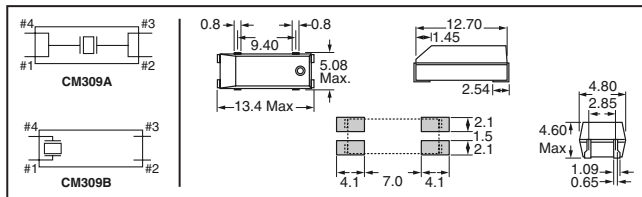
Specifications: • Frequency Tolerance: ±30ppm • Frequency Stability: ±50ppm, -10°C ~ 60°C • Operating Temperature: -40°C ~ 85°C • Storage Temperature: -55°C ~ 125°C • Load Capacitance: 18.0pF • Shunt Capacitance: 7pF Maximum • Insulation Resistance: 500MΩ Minimum • Aging (First Year): ±5ppm Maximum



CM309 Series Crystals

Specifications:
 • Frequency Tolerance: ±30ppm • Frequency/Temperature: ±50ppm, -10°C ~ 60°C • Operating Temperature: -40°C ~ 85°C • Storage Temperature: -55°C ~ 125°C • Load Capacitance: 18.0pF • Shunt Capacitance: 7pF • Drive Level: 50µW ~ 100µW • Insulation Resistance: 500MΩ Minimum • Aging (First Year): ±5ppm Maximum

Frequency	ESR	Mode
4.096MHz ≤ fo < 5.12MHz	150	Fundamental
7.68MHz ≤ fo < 9.8304MHz	100	
10.24MHz ≤ fo ≤ 28.63636MHz	50	
32MHz < fo < 33.8688MHz	100	3rd OT
40MHz ≤ fo < 66.6666MHz	80	



CM309A

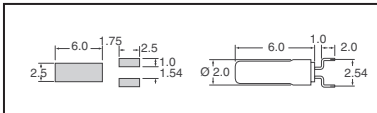
Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each		Tape & Reel Pricing* 1,000	Citizen Part No.	
		1	50			
5.120000	300-4007-1-ND	1.10	.95	.71	548.86	CM309A5.120MABJ-UT
7.680000	300-4012-1-ND	1.10	.95	.71	—	CM309A7.680MABJ-UT
8.001156	300-4014-1-ND	1.10	.95	.71	548.86	CM309A8.001156MABJ-UT
9.830400	300-4018-1-ND	1.10	.95	.71	548.86	CM309A9.8304MABJ-UT
12.352000	300-4026-1-ND	1.10	.95	.71	548.86	CM309A12.352MABJ-UT
12.500000	300-4027-1-ND	1.10	.95	.71	548.86	CM309A12.500MABJ-UT
15.000000	300-4031-1-ND	1.10	.95	.71	548.86	CM309A15.000MABJ-UT
15.360000	300-4032-1-ND	1.10	.95	.71	548.86	CM309A15.360MABJ-UT
16.003312	300-4034-1-ND	1.10	.95	.71	—	CM309A16.003312MABJ-UT
16.257000	300-4035-1-ND	1.10	.95	.71	548.86	CM309A16.257MABJ-UT
18.000000	300-4040-1-ND	1.10	.95	.71	—	CM309A18.000MABJ-UT
25.175000	300-4050-1-ND	1.10	.95	.71	—	CM309A25.175MABJ-UT
28.000000	300-4052-1-ND	1.10	.95	.71	548.86	CM309A28.000MABJ-UT
32.000000	300-4057-1-ND	1.10	.95	.71	548.86	CM309A32.000MABJ-UT
32.768000	300-4058-1-ND	1.10	.95	.71	548.86	CM309A32.768MABJ-UT

Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape & Reel Pricing 1,000	Citizen Part No.
		1	10	50			
4.433619	300-6107-1-ND	.65	.57	.49	—	—	HCM49-4.433619MABJ-UT
5.990400	300-6111-1-ND	.65	.57	.49	—	—	HCM49-5.9904MABJ-UT
9.000000	300-6118-1-ND	.65	.57	.49	—	—	HCM49-9.000MABJ-UT
11.000000	300-6123-1-ND	.65	.57	.49	—	—	HCM49-11.000MABJ-UT
11.520000	300-6125-1-ND	.65	.57	.49	—	304.92	HCM49-11.520MABJ-UT
12.003393	300-6128-1-ND	.65	.57	.49	—	304.92	HCM49-12.003393MABJ-UT
16.003312	300-6135-1-ND	.65	.57	.49	—	—	HCM49-16.003312MABJ-UT
16.257000	300-6136-1-ND	.65	.57	.49	—	—	HCM49-16.257MABJ-UT
21.477270	300-6143-1-ND	.65	.57	.49	—	—	HCM49-21.47727MABJ-UT
24.000140	300-6146-1-ND	.65	.57	.49	—	—	HCM49-24.00014MABJ-

Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each		Digi-Key Part No.	Tape & Reel Pricing 1,000	Citizen Part No.
		1	50			
7.680000	300-8539-1-ND	.54	.48	300-8539-2-ND	254.10	HCM49 7.680MABJ-UT
8.000000	300-8540-1-ND	.54	.48	300-8540-2-ND	254.10	HCM49 8.000MABJ-UT
9.000000	300-8541-1-ND	.65	.57	300-8541-2-ND	304.92	HCM49 9.000MABJ-UT
9.830400	300-8542-1-ND	.54	.48	300-8542-2-ND	254.10	HCM49 9.8304MABJ-UT
10.000000	300-8543-1-ND	.54	.48	300-8543-2-ND	254.10	HCM49 10.000MABJ-UT
10.240000	300-8544-1-ND	.54	.48	300-8544-2-ND	254.10	HCM49 10.240MABJ-UT
11.000000	300-8545-1-ND	.65	.57	300-8545-2-ND	304.92	HCM49 11.000MABJ-UT
11.059200	300-8546-1-ND	.54	.48	300-8546-2-ND	254.10	HCM49 11.0592MABJ-UT
11.520000	300-8547-1-ND	.65	.57	300-8547-2-ND	304.92	HCM49 11.520MABJ-UT
12.000000	300-8548-1-ND	.54	.48	300-8548-2-ND	254.10	HCM49 12.000MABJ-UT
12.000393	300-8549-1-ND	.65	.57	300-8549-2-ND	304.92	HCM49 12.000393MABJ-UT
12.288000	300-8550-1-ND	.54	.48	300-8550-2-ND	254.10	HCM49 12.288MABJ-UT
13.500000	300-8579-1-ND	.54	.48	300-8579-2-ND	254.10	HCM49 13.500MABJ-UT
14.318180	300-8551-1-ND	.54	.48	300-8551-2-ND	254.10	HCM49 14.31818MABJ-UT
14.745600	300-8552-1-ND	.54	.48	300-8552-2-ND	254.10	HCM49 14.7456MABJ-UT
15.000000	300-8553-1-ND	.54	.48	300-8553-2-ND	254.10	HCM49 15.000MABJ-UT
15.360000	300-8554-1-ND	.54	.48	300-8554-2-ND	254.10	HCM49 15.360MABJ-UT
16.000000	300-8555-1-ND	.54	.48	300-8555-2-ND	254.10	HCM49 16.000MABJ-UT
16.000312	300-8556-1-ND	.65	.57	300-8556-2-ND	304.92	HCM49 16.000312MABJ-UT
16.257000	300-8557-1-ND	.65	.57	300-8557-2-ND	304.92	HCM49 16.257MABJ-UT
16.384000	300-8558-1-ND	.54	.48	300-8558-2-ND	254.10	HCM49 16.384MABJ-UT
17.734475	300-8559-1-ND	.65	.57	300-8559-2-ND	304.92	HCM49 17.734475MABJ-UT
18.000000	300-8560-1-ND	.65	.57	300-8560-2-ND	304.92	HCM49 18.000MABJ-UT
18.432000	300-8561-1-ND	.54	.48	300-8561-2-ND	254.10	HCM49 18.432MABJ-UT
19.668000	300-8562-1-ND	.54	.48	300-8562-2-ND	254.10	HCM49 19.668MABJ-UT
20.000000	300-8563-1-ND	.54	.48	300-8563-2-ND	254.10	HCM49 20.000MABJ-UT
21.477270	300-8564-1-ND	.65	.57	300-8564-2-ND	304.92	HCM49 21.47727MABJ-UT
22.118400	300-8565-1-ND	.54	.48	300-8565-2-ND	254.10	HCM49 22.1184MABJ-UT
24.000000	300-8566-1-ND	.54	.48	300-8566-2-ND	254.10	HCM49 24.000MABJ-UT
24.000140	300-8567-1-ND	.65	.57	300-8567-2-ND	304.92	HCM49 24.00014MABJ-UT
24.576000	300-8568-1-ND	.54	.48	300-8568-2-ND	254.10	HCM49 24.576MABJ-UT
25.000000	300-8569-1-ND	.54	.48	300-8569-2-ND	254.10	HCM49 25.000MABJ-UT
25.175000	300-8570-1-ND	.65	.57	300-8570-2-ND	304.92	HCM49 25.175MABJ-UT
27.000000	300-8571-1-ND	.54	.48	300-8571-2-ND	254.10	HCM49 27.000MABJ-UT
28.636360	300-8572-1-ND	.65	.57	300-8572-2-ND	304.92	HCM49 28.63636MABJ-UT
32.000000	300-8573-1-ND	.54	.48	300-8573-2-ND	254.10	HCM49 32.000MABJ-UT
33.868800	300-8574-1-ND	.65	.57	300-8574-2-ND	304.92	HCM49 33.8688MABJ-UT
40.000000	300-8575-1-ND	.54	.48	300-8575-2-ND	254.10	HCM49 40.000MABJ-UT
48.000000	300-8576-1-ND	.54	.48	300-8576-2-ND	254.10	HCM49 48.000MABJ-UT
49.152000	300-8577-1-ND	.54	.48	300-8577-2-ND	254.10	HCM49 49.152MABJ-UT
50.000000	300-8578-1-ND	.54	.48	300-8578-2-ND	254.10	HCM49 50.000MABJ-UT

CMR250T Series Crystals

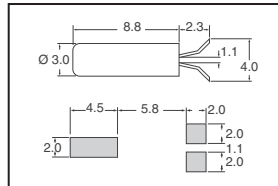
Specifications:
 • Frequency Tolerance: ±30ppm • Operating Temperature: -40°C ~ 85°C • Storage Temperature: -55°C ~ 125°C • Load Capacitance: 12.5pF • Shunt Capacitance: .8pF ~ .7pF • Drive Level: 1µW Max. • Insulation Resistance: 500MΩ Min. • Aging (First Year): ±5ppm Max.



Frequency (kHz)	Digi-Key Part No.	Cut Tape Price Each		Digi-Key Part No.	Tape & Reel Pricing 2,000	Citizen Part No.
		1	50			
40.000	300-2058-1-ND	1.27	1.09	300-2060-2-ND	508.20M	CMR250TB40.000KAZFR
65.535	300-2060-1-ND	1.27	1.09	300-2061-2-ND	508.20M	CMR250TB65.535KAZFR
75.000	300-2061-1-ND	1.27	1.09	300-2062-2-ND	508.20M	CMR250TB75.000KAZFR
96.000	300-2063-1-ND	1.27	1.09	300-2063-2-ND	508.20M	CMR250TB96.000KAZFR
RoHS Compliant						
60.000	300-8335-1-ND	1.27	1.09	300-8335-2-ND	508.20M	CMR250T60.000KAZF-UT
65.535	300-8336-1-ND	1.27	1.09	300-8337-2-ND	508.20M	CMR250T65.535KAZF-UT
75.000	300-8337-1-ND	1.27	1.09	300-8337-2-ND	508.20M	CMR250T75.000KAZF-UT
76.800	300-8338-1-ND	1.27	1.09	300-8339-2-ND	508.20M	CMR250T76.800KAZF-UT
100.000	300-8339-1-ND	1.27	1.09	300-8339-2-ND	508.20M	CMR250T100.000KAZF-UT

CMR309T Series Crystals

Specifications:
 • Frequency/Temperature: ±50ppm, -10°C ~ 60°C
 • Aging (first year): ±5ppm max. @ 25°C
 • Frequency Tolerance: ±30ppm
 • Operating Temperature: -40°C ~ 85°C
 • Storage Temperature: -55°C ~ 125°C
 • Load Capacitance: 18.0pF
 • Shunt Capacitance: 5pF
 • Drive Level: 100µW
 • Insulation Resistance: 500MΩ Min.
 • Mode of Oscillation: **Fundamental:** 4.096MHz to 27.000MHz; **Third Overtone:** 32.000MHz to 66.6660MHz



Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each		Digi-Key Part No.	Tape & Reel Pricing 1,000	Citizen Part No.
		1	50			
5.00000	300-2072-1-ND	.71	.61	300-2072-2-ND	355.74	CMR309T5.000MABJTR
9.83040	300-2076-1-ND	.71	.61	300-2076-2-ND	355.74	CMR309T9.8304MABJTR
10.00000	300-2077-1-ND	.71	.61	300-2077-2-ND	355.74	CMR309T10.000MABJTR
14.31818	300-2081-1-ND	.71	.61	300-2081-2-ND	355.74	CMR309T14.31818MABJTR
16.38400	300-2083-1-ND	.71	.61	300-2083-2-ND	355.74	CMR309T16.384MABJTR
18.43200	300-2084-1-ND	.71	.61	300-2084-2-ND	355.74	CMR309T18.432MABJTR
24.00000	300-2086-1-ND	.71	.61	300-2086-2-ND	355.74	CMR309T24.000MABJTR
24.57600	300-2087-1-ND	.71	.61	300-2087-2-ND	355.74	CMR309T24.576MABJTR
32.00000	300-2089-1-ND	.71	.61	300-2089-2-ND	355.74	CMR309T32.000MABJTR
40.00000	300-2090-1-ND	.71	.61	300-2090-2-ND	355.74	CMR309T40.000MABJTR

Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each		Digi-Key Part No.	Tape & Reel Pricing 1,000	Citizen Part No.
		1	50			
48.00000	300-2091-1-ND	.71	.61	300-2091-2-ND	355.74	CMR309T48.000MABJTR
49.15200	300-2092-1-ND	.71	.61	300-2092-2-ND	355.74	CMR309T49.152MABJTR
50.00000	300-2093-1-ND	.71	.61	300-2093-2-ND	355.74	CMR309T50.000MABJTR
60.00000	300-2094-1-ND	.71	.61	300-2094-2-ND	355.74	CMR309T60.000MABJTR
66.66600	300-2095-1-ND	.71	.61	300-2095-2-ND	355.74	CMR309T66.666MABJTR

RoHS Compliant

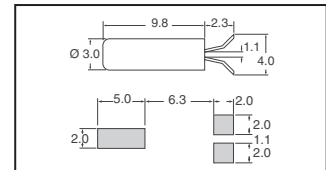
4.09600	300-8345-1-ND	.61	.53	300-8345-2-ND	304.92	CMR309T4.096MABJ-UT
4.91520	300-8346-1-ND	.61	.53	300-8346-2-ND	304.92	CMR309T4.9152MABJ-UT
5.00000	300-8347-1-ND	.61	.53	300-8347-2-ND	304.92	CMR309T5.000MABJ-UT
6.00000	300-8348-1-ND	.61	.53	300-8348-2-ND	304.92	CMR309T6.000MABJ-UT
7.37280	300-8349-1-ND	.61	.53	300-8349-2-ND	304.92	CMR309T7.3728MABJ-UT
8.00000	300-8350-1-ND	.61	.53	300-8350-2-ND	304.92	CMR309T8.000MABJ-UT
10.00000	300-8351-1-ND	.61	.53	300-8351-2-ND	304.92	CMR309T10.000MABJ-UT
11.05920	300-8352-1-ND	.61	.53	300-8352-2-ND	304.92	CMR309T11.0592MABJ-UT
12.00000	300-8353-1-ND	.61	.53	300-8353-2-ND	304.92	CMR309T12.000MABJ-UT
12.28800	300-8354-1-ND	.61	.53	300-8354-2-ND	304.92	CMR309T12.288MABJ-UT
14.31818	300-8355-1-ND	.61	.53	300-8355-2-ND	304.92	CMR309T14.31818MABJ-UT
16.00000	300-8356-1-ND	.61	.53	300-8356-2-ND	304.92	CMR309T16.000MABJ-UT
16.38400	300-8357-1-ND	.61	.53	300-8357-2-ND	304.92	CMR309T16.384MABJ-UT
18.43200	300-8358-1-ND	.61	.53	300-8358-2-ND	304.92	CMR309T18.432MABJ-UT
22.11840	300-8359-1-ND	.71	.61	300-8359-2-ND	355.74	CMR309T22.1184MABJ-UT
24.00000	300-8360-1-ND	.71	.61	300-8360-2-ND	355.74	CMR309T24.000MABJ-UT
24.57600	300-8361-1-ND	.71	.61	300-8361-2-ND	355.74	CMR309T24.576MABJ-UT
27.00000	300-8362-1-ND	.71	.61	300-8362-2-ND	355.74	CMR309T27.000MABJ-UT
40.00000	300-8363-1-ND	.71	.61	300-8363-2-ND	355.74	CMR309T40.000MABJ-UT
48.00000	300-8364-1-ND	.71	.61	300-8364-2-ND	355.74	CMR309T48.000MABJ-UT
50.00000	300-8365-1-ND	.71	.61	300-8365-2-ND	355.74	CMR309T50.000MABJ-UT



CMR310T Series Crystals



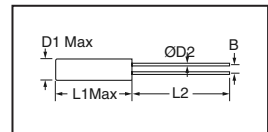
Specifications:
 • Frequency/Temperature: ±50ppm, -10°C ~ 60°C
 • Aging (first year): ±5ppm max. @ 25°C
 • Frequency Tolerance: ±30ppm
 • Operating Temperature: -40°C ~ 85°C
 • Storage Temperature: -55°C ~ 125°C
 • Load Capacitance: 18.0pF
 • Shunt Capacitance: 5pF
 • Drive Level: 100µW
 • Insulation Resistance: 500MΩ Min.



Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each		Digi-Key Part No.	Tape & Reel Pricing 1,000	Citizen Part No.
		1	50			
3.579545	300-8342-1-ND	.61	.53	300-8342-2-ND	304.92	CMR310T3.579545MABJ-UT
3.686400	300-8343-1-ND	.61	.53	300-8343-2-ND	304.92	CMR310T3.6864MABJ-UT
4.000000	300-8344-1-ND	.61	.53	300-8344-2-ND	304.92	CMR310T4.000MABJ-UT

Cylinder Type Crystals

Specifications:
 • Frequency Tolerance: CFS Series: ±20ppm; CFV and CSA Series: ±30ppm • Frequency Temperature Characteristics: CSA Series: ±50ppm (-10°C ~ 60°C) • Operating Temperature Range: -20°C ~ 70°C • Storage Temperature Range: -40°C ~ 85°C • Drive Level: CFS and CFV Series: 1µW Max.; CSA Series: 100µW • Insulation Resistance: 500MΩ Min.
 • Aging (first year): CFS Series: ±3ppm Max.; CFV and CSA Series: ±5ppm Max.



Frequency	ESR	Mode
4MHz ≤ fo < 6MHz	150	
6MHz ≤ fo < 10MHz	100	
10MHz ≤ fo ≤ 30MHz	50	
30MHz ≤ fo < 36MHz	100	
36MHz ≤ fo ≤ 66.666MHz	80	3rd OT

Series	Dimensions (mm)				
	L1 max.	L2	D1 max.	D2	B
CFS145	5.1	4.3	1.5	0.2	0.45
CFS206	6.2	10	2.1	0.26	0.7
CFV206	6.2	10	2.1	0.26	0.7
CSA310	10.5	10	3.2	0.32	1.1
CSA309	9	10	3.2	0.32	1.1

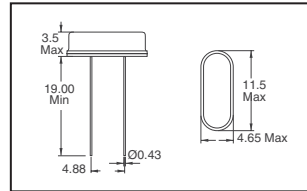
Series	Frequency	Load Cap. (pF)	Shunt Cap. (pF)	Digi-Key Part No.	Price Each			Citizen Part No.
					1	10	50	
CFV206	60.005000kHz	12.5	0.8 - 1.7	300-3019-ND	.73	.66	.47	CFV206 60.005KAZF
	75.000000kHz	12.5	0.8 - 1.7	300-3021-ND	.73	.66	.47	CFV206 75.000KAZF
	76.79000							

Series	Frequency	Load Cap.	Shunt Cap. (pF)	Digi-Key Part No.	Price Each			Citizen Part No.	
					1	10	50		
CSA309	16.257000MHz	18.0pF	5.0	300-5032-ND	.59	.51	.42	CSA309-16.257MABJ	
	17.34475MHz	18.0pF	5.0	300-5036-ND	.59	.51	.42	CSA309-17.34475MABJ	
	18.869000MHz	18.0pF	5.0	300-5039-ND	.59	.51	.42	CSA309-18.869MABJ	
	20.480000MHz	18.0pF	5.0	300-5042-ND	.59	.51	.42	CSA309-20.480MABJ	
	25.175000MHz	18.0pF	5.0	300-5047-ND	.59	.51	.42	CSA309-25.175MABJ	
	28.000000MHz	18.0pF	5.0	300-5049-ND	.59	.51	.42	CSA309-28.000MABJ	
	32.000000MHz	18.0pF	5.0	300-5054-ND	.59	.51	.42	CSA309-32.000MABJ	
	33.000000MHz	18.0pF	5.0	300-5056-ND	.59	.51	.42	CSA309-33.000MABJ	
	33.333300MHz	18.0pF	5.0	300-5057-ND	.59	.51	.42	CSA309-33.3333MABJ	
	33.868800MHz	18.0pF	5.0	300-5058-ND	.59	.51	.42	CSA309-33.8688MABJ	
	40.000000MHz	18.0pF	5.0	300-5060-ND	.59	.51	.42	CSA309-40.000MABJ	
	48.000000MHz	18.0pF	5.0	300-5061-ND	.59	.51	.42	CSA309-48.000MABJ	
	53.125000MHz	18.0pF	5.0	300-5064-ND	.59	.51	.42	CSA309-53.125MABJ	
	60.000000MHz	18.0pF	5.0	300-5065-ND	.59	.51	.42	CSA309-60.000MABJ	
66.666600MHz	18.0pF	5.0	300-5067-ND	.59	.51	.42	CSA309-66.6666MABJ		
RoHS Compliant									
CFS145	32.768000kHz	12.5pF	1	300-8304-ND	.56	.48	.40	CFS145 32.768KDFZ-UB	
CFS206	32.768000kHz	6.0pF	1.35	300-8301-ND	.20	.18	.12	CFS206 32.768KDFZ-UB	
	32.768000kHz	12.5pF	1.35	300-8303-ND	.20	.18	.12	CFS206 32.768KDFZ-UB	
CFV206	32.000000kHz	12.5pF	0.8 - 1.7	300-8402-ND	.54	.49	.36	CFV206 32.000KAZF-UB	
	40.000000kHz	12.5pF	0.8 - 1.7	300-8403-ND	.54	.49	.36	CFV206 40.000KAZF-UB	
	60.000000kHz	12.5pF	0.8 - 1.7	300-8404-ND	.54	.49	.36	CFV206 60.000KAZF-UB	
	65.536000kHz	12.5pF	0.8 - 1.7	300-8405-ND	.73	.66	.47	CFV206 65.536KAZF-UB	
	75.000000kHz	12.5pF	0.8 - 1.7	300-8406-ND	.54	.49	.36	CFV206 75.000KAZF-UB	
	76.800000kHz	12.5pF	0.8 - 1.7	300-8407-ND	.54	.49	.36	CFV206 76.800KAZF-UB	
	77.503000kHz	12.5pF	0.8 - 1.7	300-8408-ND	.73	.66	.47	CFV206 77.503KAZF-UB	
	96.000000kHz	12.5pF	0.8 - 1.7	300-8409-ND	.66	.60	.43	CFV206 96.000KAZF-UB	
	100.000000kHz	12.5pF	0.8 - 1.7	300-8410-ND	.54	.49	.36	CFV206 100.000KAZF-UB	
	CSA309	4.096000MHz	18.0pF	5.0	300-8412-ND	.46	.40	.33	CSA309 4.096MABJ-UB
4.800000MHz		18.0pF	5.0	300-8413-ND	.59	.51	.42	CSA309 4.800MABJ-UB	
4.915200MHz		18.0pF	5.0	300-8414-ND	.46	.40	.33	CSA309 4.9152MABJ-UB	
5.120000MHz		18.0pF	5.0	300-8415-ND	.59	.51	.42	CSA309 5.120MABJ-UB	
5.529600MHz		18.0pF	5.0	300-8416-ND	.59	.51	.42	CSA309 5.5296MABJ-UB	
6.000000MHz		18.0pF	5.0	300-8417-ND	.46	.40	.33	CSA309 6.000MABJ-UB	
6.144000MHz		18.0pF	5.0	300-8418-ND	.46	.40	.33	CSA309 6.144MABJ-UB	
7.372800MHz		18.0pF	5.0	300-8419-ND	.46	.40	.33	CSA309 7.3728MABJ-UB	
7.680000MHz		18.0pF	5.0	300-8420-ND	.46	.40	.33	CSA309 7.680MABJ-UB	
8.000000MHz		18.0pF	5.0	300-8421-ND	.46	.40	.33	CSA309 8.000MABJ-UB	
CSA309	8.192000MHz	18.0pF	5.0	300-8422-ND	.46	.40	.33	CSA309 8.192MABJ-UB	
	9.216000MHz	18.0pF	5.0	300-8423-ND	.59	.51	.42	CSA309 9.216MABJ-UB	
	9.600000MHz	18.0pF	5.0	300-8424-ND	.59	.51	.42	CSA309 9.600MABJ-UB	
	9.830400MHz	18.0pF	5.0	300-8425-ND	.46	.40	.33	CSA309 9.8304MABJ-UB	
	10.000000MHz	18.0pF	5.0	300-8426-ND	.46	.40	.33	CSA309 10.000MABJ-UB	
	10.240000MHz	18.0pF	5.0	300-8427-ND	.59	.51	.42	CSA309 10.240MABJ-UB	
	11.059200MHz	18.0pF	5.0	300-8428-ND	.46	.40	.33	CSA309 11.0592MABJ-UB	
	11.289600MHz	18.0pF	5.0	300-8429-ND	.46	.40	.33	CSA309 11.2896MABJ-UB	
	12.000000MHz	18.0pF	5.0	300-8430-ND	.46	.40	.33	CSA309 12.000MABJ-UB	
	12.288000MHz	18.0pF	5.0	300-8431-ND	.46	.40	.33	CSA309 12.288MABJ-UB	
CSA309	12.500000MHz	18.0pF	5.0	300-8432-ND	.46	.40	.33	CSA309 12.500MABJ-UB	
	13.500000MHz	18.0pF	5.0	300-8433-ND	.46	.40	.33	CSA309 13.500MABJ-UB	
	14.318180MHz	18.0pF	5.0	300-8434-ND	.46	.40	.33	CSA309 14.31818MABJ-UB	
	14.745600MHz	18.0pF	5.0	300-8435-ND	.46	.40	.33	CSA309 14.7456MABJ-UB	
	15.000000MHz	18.0pF	5.0	300-8436-ND	.46	.40	.33	CSA309 15.000MABJ-UB	
	16.000000MHz	18.0pF	5.0	300-8437-ND	.46	.40	.33	CSA309 16.000MABJ-UB	
	16.000312MHz	18.0pF	5.0	300-8438-ND	.46	.40	.33	CSA309 16.000312MABJ-UB	
	16.384000MHz	18.0pF	5.0	300-8439-ND	.46	.40	.33	CSA309 16.384MABJ-UB	
	16.667000MHz	18.0pF	5.0	300-8440-ND	.59	.51	.42	CSA309 16.667MABJ-UB	
	16.934400MHz	18.0pF	5.0	300-8441-ND	.59	.51	.42	CSA309 16.9344MABJ-UB	
CSA309	17.734475MHz	18.0pF	5.0	300-8442-ND	.59	.51	.42	CSA309 17.734475MABJ-UB	
	18.000000MHz	18.0pF	5.0	300-8443-ND	.46	.40	.33	CSA309 18.000MABJ-UB	
	18.432000MHz	18.0pF	5.0	300-8444-ND	.46	.40	.33	CSA309 18.432MABJ-UB	
	19.668000MHz	18.0pF	5.0	300-8445-ND	.46	.40	.33	CSA309 19.668MABJ-UB	
	20.000000MHz	18.0pF	5.0	300-8446-ND	.46	.40	.33	CSA309 20.000MABJ-UB	
	20.480000MHz	18.0pF	5.0	300-8447-ND	.46	.40	.33	CSA309 20.480MABJ-UB	
	22.118000MHz	18.0pF	5.0	300-8448-ND	.56	.48	.40	CSA309 22.118MABJ-UB	
	24.000000MHz	18.0pF	5.0	300-8449-ND	.56	.48	.40	CSA309 24.000MABJ-UB	
	24.576000MHz	18.0pF	5.0	300-8450-ND	.56	.48	.40	CSA309 24.576MABJ-UB	
	25.000000MHz	18.0pF	5.0	300-8451-ND	.56	.48	.40	CSA309 25.000MABJ-UB	
CSA309	27.000000MHz	18.0pF	5.0	300-8452-ND	.56	.48	.40	CSA309 27.000MABJ-UB	
	28.000000MHz	18.0pF	5.0	300-8453-ND	.59	.51	.42	CSA309 28.000MABJ-UB	
	28.322000MHz	18.0pF	5.0	300-8454-ND	.59	.51	.42	CSA309 28.322MABJ-UB	
	28.636360MHz	18.0pF	5.0	300-8455-ND	.56	.48	.40	CSA309 28.63636MABJ-UB	
	29.491200MHz	18.0pF	5.0	300-8456-ND	.56	.48	.40	CSA309 29.4912MABJ-UB	
	30.000000MHz	18.0pF	5.0	300-8457-ND	.56	.48	.40	CSA309 30.000MABJ-UB	
	32.000000MHz	18.0pF	5.0	300-8458-ND	.56	.48	.40	CSA309 32.000MABJ-UB	
	32.768000MHz	18.0pF	5.0	300-8459-ND	.56	.48	.40	CSA309 32.768MABJ-UB	
	33.000000MHz	18.0pF	5.0	300-8460-ND	.56	.48	.40	CSA309 33.000MABJ-UB	
	33.333300MHz	18.0pF	5.0	300-8461-ND	.56	.48	.40	CSA309 33.3333MABJ-UB	
CSA309	33.868800MHz	18.0pF	5.0	300-8462-ND	.59	.51	.42	CSA309 33.8688MABJ-UB	
	40.000000MHz	18.0pF	5.0	300-8463-ND	.56	.48	.40	CSA309 40.000MABJ-UB	
	48.000000MHz	18.0pF	5.0	300-8464-ND	.56	.48	.40	CSA309 48.000MABJ-UB	
	49.152000MHz	18.0pF	5.0	300-8465-ND	.56	.48	.40	CSA309 49.152MABJ-UB	
	64.000000MHz	18.0pF	5.0	300-8466-ND	.56	.48	.40	CSA309 64.000MABJ-UB	
	CSA310	3.579545MHz	18.0pF	5.0	300-8306-ND	.46	.40	.33	CSA310 3.579545MABJ-UB
		3.686400MHz	18.0pF	5.0	300-8307-ND	.46	.40	.33	CSA310 3.6864MABJ-UB
		4.000000MHz	18.0pF	5.0	300-8308-ND	.46	.40	.33	CSA310 4.000MABJ-UB

HC49US Series Through-Hole Crystals

Specifications:

- Frequency Tolerance: ±30ppm
- Operating Temperature: -20°C ~ 70°C
- Storage Temperature: -40°C ~ 85°C
- Load Capacitance: 18.0pF
- Shunt Capacitance: 7pF Maximum
- Drive Level: 100µW Maximum
- Insulation Resistance: 500MΩ Minimum
- Aging (First Year): ±5ppm Maximum



Equivalent Series Resistance (ESR, R1) (Ω Maximum)

Frequency	ESR
3.579545MHz ≤ fo < 3.6864MHz	200
4.0MHz ≤ fo < 5.9904MHz	150
6.0MHz ≤ fo < 9.8304MHz	100
10.0MHz ≤ fo < 13.5MHz	80
14.31818MHz ≤ fo ≤ 28.63636MHz	50
32.0MHz ≤ fo ≤ 33.8688MHz	140
40.0MHz ≤ fo ≤ 50.0MHz	100

Frequency (MHz)	Digi-Key Part No.	Price Each			Citizen Part No.
		1	10	50	
4.032000	300-6004-ND	.51	.44	.40	HC49US4.032MABJ
5.990400	300-6011-ND	.51	.44	.40	HC49US5.9904MABJ
6.500000	300-6014-ND	.51	.44	.40	HC49US6.500MABJ
7.680000	300-6016-ND	.51	.44	.40	HC49US7.680MABJ
9.216000	300-6019-ND	.51	.44	.40	HC49US9.216MABJ
10.240000	300-6022-ND	.51	.44	.40	HC49US10.240MABJ
12.000393	300-6028-ND	.51	.44	.40	HC49US12.000393MABJ
16.000312	300-6035-ND	.51	.44	.40	HC49US16.000312MABJ
16.257000	300-6036-ND	.51	.44	.40	HC49US16.257MABJ
21.477270	300-6043-ND	.51	.44	.40	HC49US21.47727MABJ
24.000140	300-6046-ND	.51	.44	.40	HC49US24.00014MABJ
25.175000	300-6049-ND	.51	.44	.40	HC49US25.175MABJ
33.868800	300-6056-ND	.51	.44	.40	HC49US33.8688MABJ

RoHS Compliant

3.579545	300-8467-ND	.46	.40	.36	HC49US3.579545MABJ-UB
3.686400	300-8468-ND	.46	.40	.36	HC49US3.6864MABJ-UB
4.000000	300-8469-ND	.46	.40	.36	HC49US4.000MABJ-UB
4.032000	300-8470-ND	.51	.44	.40	HC49US4.032MABJ-UB
4.096000	300-8471-ND	.46	.40	.36	HC49US4.096MABJ-UB
4.194304	300-8472-ND	.46	.40	.36	HC49US4.194304MABJ-UB
4.433619	300-8473-ND	.51	.44	.40	HC49US4.433619MABJ-UB
4.915200	300-8474-ND	.46	.40	.36	HC49US4.9152MABJ-UB
5.000000	300-8475-ND	.46	.40	.36	HC49US5.000MABJ-UB
5.068800	300-8476-ND	.51	.		