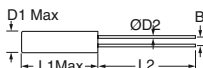


Cylinder Type Crystals

Specifications:

- **Frequency Tolerance:** CFS Series: $\pm 20\text{ppm}$; CFV and CSA Series: $\pm 30\text{ppm}$
- **Frequency Temperature Characteristics:** CSA Series: $\pm 50\text{ppm}$ ($-10^{\circ}\text{C} \sim 60^{\circ}\text{C}$)
- **Operating Temperature Range:** $-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$
- **Storage Temperature Range:** $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$
- **Drive Level:** CFS and CFV Series: $1\mu\text{W Max.}$; CSA Series: $100\mu\text{W}$
- **Insulation Resistance:** $500\text{M}\Omega$ Min.
- **Aging (first year):** CFS Series: $\pm 3\text{ppm Max.}$; CFV and CSA Series: $\pm 5\text{ppm Max.}$



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
CFS308	8.2	10	3.1	0.35	1.1
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

Equivalent Series Resistance (ESR, R1)

Frequency	ESR	Mode
3.5MHz $\leq$ fo < 4MHz	200	Fundamental
4MHz $\leq$ fo < 6MHz	150	
6MHz $\leq$ fo < 10MHz	100	
10MHz $\leq$ fo $\leq$ 30MHz	50	
30MHz < fo < 36MHz	100	3rd OT
36MHz $\leq$ fo < 66.6666MHz	80	

Series	Frequency	Load Cap.	Shunt Cap. (pF)	Digi-Key Part No.	Price Each			Citizen Part No.
					1	10	50	
CFV206	32.000000KHz	12.5pF	0.8 - 1.7	300-3007-ND	.78	.70	.50	CFV206-32.000KAZF
	60.000000KHz	12.5pF	0.8 - 1.7	300-3018-ND	.78	.70	.50	CFV206-60.000KAZF
	60.005000KHz	12.5pF	0.8 - 1.7	300-3019-ND	.78	.70	.50	CFV206-60.005KAZF
	65.536000KHz	12.5pF	0.8 - 1.7	300-3020-ND	.78	.70	.50	CFV206-65.536KAZF
	75.000000KHz	12.5pF	0.8 - 1.7	300-3021-ND	.78	.70	.50	CFV206-75.000KAZF
	76.790000KHz	12.5pF	0.8 - 1.7	300-3022-ND	.78	.70	.50	CFV206-76.790KAZF
	76.800000KHz	12.5pF	0.8 - 1.7	300-3023-ND	.78	.70	.50	CFV206-76.800KAZF
	76.810000KHz	12.5pF	0.8 - 1.7	300-3024-ND	.78	.70	.50	CFV206-76.810KAZF
	77.500000KHz	12.5pF	0.8 - 1.7	300-3025-ND	.78	.70	.50	CFV206-77.500KAZF
	77.503000KHz	12.5pF	0.8 - 1.7	300-3026-ND	.78	.70	.50	CFV206-77.503KAZF
96.000000KHz	12.5pF	0.8 - 1.7	300-3029-ND	.95	.85	.61	CFV206-96.000KAZF	
CSA309	5.120000MHz	18.0pF	5.0	300-5004-ND	.63	.54	.45	CSA309-5.120MABJ
	6.144000MHz	18.0pF	5.0	300-5007-ND	.63	.54	.45	CSA309-6.144MABJ
	7.680000MHz	18.0pF	5.0	300-5009-ND	.63	.54	.45	CSA309-7.680MABJ
	8.000156MHz	18.0pF	5.0	300-5011-ND	.63	.54	.45	CSA309-8.000156MABJ
	8.192000MHz	18.0pF	5.0	300-5012-ND	.63	.54	.45	CSA309-8.192MABJ
	9.216000MHz	18.0pF	5.0	300-5013-ND	.63	.54	.45	CSA309-9.216MABJ
	10.240000MHz	18.0pF	5.0	300-5017-ND	.63	.54	.45	CSA309-10.240MABJ
	11.000000MHz	18.0pF	5.0	300-5018-ND	.63	.54	.45	CSA309-11.000MABJ
	11.059200MHz	18.0pF	5.0	300-5019-ND	.63	.54	.45	CSA309-11.0592MABJ
	11.289600MHz	18.0pF	5.0	300-5020-ND	.63	.54	.45	CSA309-11.2896MABJ
	12.288000MHz	18.0pF	5.0	300-5022-ND	.63	.54	.45	CSA309-12.288MABJ
	12.352000MHz	18.0pF	5.0	300-5023-ND	.63	.54	.45	CSA309-12.352MABJ
	12.500000MHz	18.0pF	5.0	300-5024-ND	.63	.54	.45	CSA309-12.500MABJ
	14.318180MHz	18.0pF	5.0	300-5026-ND	.63	.54	.45	CSA309-14.31818MABJ
	14.745600MHz	18.0pF	5.0	300-5027-ND	.63	.54	.45	CSA309-14.7456MABJ
	15.000000MHz	18.0pF	5.0	300-5028-ND	.63	.54	.45	CSA309-15.000MABJ
	15.360000MHz	18.0pF	5.0	300-5029-ND	.63	.54	.45	CSA309-15.360MABJ
	16.000312MHz	18.0pF	5.0	300-5031-ND	.63	.54	.45	CSA309-16.000312MABJ
	16.257000MHz	18.0pF	5.0	300-5032-ND	.63	.54	.45	CSA309-16.257MABJ
	16.934400MHz	18.0pF	5.0	300-5035-ND	.63	.54	.45	CSA309-16.9344MABJ
	17.734475MHz	18.0pF	5.0	300-5036-ND	.63	.54	.45	CSA309-17.734475MABJ
	18.000000MHz	18.0pF	5.0	300-5037-ND	.63	.54	.45	CSA309-18.000MABJ
	18.869000MHz	18.0pF	5.0	300-5039-ND	.63	.54	.45	CSA309-18.869MABJ
	20.480000MHz	18.0pF	5.0	300-5042-ND	.63	.54	.45	CSA309-20.480MABJ
	24.000000MHz	18.0pF	5.0	300-5044-ND	.63	.54	.45	CSA309-24.000MABJ
	25.175000MHz	18.0pF	5.0	300-5047-ND	.63	.54	.45	CSA309-25.175MABJ
	28.000000MHz	18.0pF	5.0	300-5049-ND	.63	.54	.45	CSA309-28.000MABJ
	28.636360MHz	18.0pF	5.0	300-5051-ND	.63	.54	.45	CSA309-28.63636MABJ
29.491200MHz	18.0pF	5.0	300-5052-ND	.63	.54	.45	CSA309-29.4912MABJ	
32.000000MHz	18.0pF	5.0	300-5054-ND	.63	.54	.45	CSA309-32.000MABJ	
32.768000MHz	18.0pF	5.0	300-5055-ND	.63	.54	.45	CSA309-32.768MABJ	
33.000000MHz	18.0pF	5.0	300-5056-ND	.63	.54	.45	CSA309-33.000MABJ	
33.333300MHz	18.0pF	5.0	300-5057-ND	.63	.54	.45	CSA309-33.3333MABJ	
33.868800MHz	18.0pF	5.0	300-5058-ND	.63	.54	.45	CSA309-33.8688MABJ	
40.000000MHz	18.0pF	5.0	300-5060-ND	.63	.54	.45	CSA309-40.000MABJ	
48.000000MHz	18.0pF	5.0	300-5061-ND	.63	.54	.45	CSA309-48.000MABJ	
49.152000MHz	18.0pF	5.0	300-5062-ND	.63	.54	.45	CSA309-49.152MABJ	

				Shunt		Price Each			
Series	Frequency	Load Cap.	Cap. (pF)	Digi-Key Part No.	1	10	50	Citizen Part No.	
CSA309	53.125000MHz	18.0pF	5.0	300-5064-ND	.63	.54	.45	CSA309-53.125MABJ	
	60.000000MHz	18.0pF	5.0	300-5065-ND	.63	.54	.45	CSA309-60.000MABJ	
	64.000000MHz	18.0pF	5.0	300-5066-ND	.63	.54	.45	CSA309-64.000MABJ	
	66.666600MHz	18.0pF	5.0	300-5067-ND	.63	.54	.45	CSA309-66.666MABJ	
CSA310	3.579545MHz	18.0pF	5.0	300-1008-ND	.63	.54	.45	CSA310-3.579545MABJ	
	3.686400MHz	18.0pF	5.0	300-1009-ND	.63	.54	.45	CSA310-3.6864MABJ	
RoHS Compliant									
CFS145	32.768000kHz	12.5pF	1	300-8304-ND	.60	.52	.43	CFS145-32.768KDZF-UB	
CFS206	32.768000kHz	6.0pF	1.35	300-8301-ND	.22	.19	.13	CFS206-32.768KDZF-UB	
	32.768000kHz	12.5pF	1.35	300-8303-ND	.22	.19	.13	CFS206-32.768KDZF-UB	
CFS308	32.768000kHz	12.5pF	1.6	300-8302-ND	.22	.19	.13	CFS308-32.768KDZF-UB	
CFV206	32.000000kHz	12.5pF	0.8 - 1.7	300-8402-ND	.78	.70	.50	CFV206-32.000KAZF-UB	
	40.000000kHz	12.5pF	0.8 - 1.7	300-8403-ND	.78	.70	.50	CFV206-40.000KAZF-UB	
	60.000000kHz	12.5pF	0.8 - 1.7	300-8404-ND	.78	.70	.50	CFV206-60.000KAZF-UB	
	65.536000kHz	12.5pF	0.8 - 1.7	300-8405-ND	.78	.70	.50	CFV206-65.536KAZF-UB	
	75.000000kHz	12.5pF	0.8 - 1.7	300-8406-ND	.78	.70	.50	CFV206-75.000KAZF-UB	
	76.800000kHz	12.5pF	0.8 - 1.7	300-8407-ND	.78	.70	.50	CFV206-76.800KAZF-UB	
	77.503000kHz	12.5pF	0.8 - 1.7	300-8408-ND	.78	.70	.50	CFV206-77.503KAZF-UB	
	96.000000kHz	12.5pF	0.8 - 1.7	300-8409-ND	.95	.85	.61	CFV206-96.000KAZF-UB	
	100.000000kHz	12.5pF	0.8 - 1.7	300-8410-ND	.78	.70	.50	CFV206-100.000KAZF-UB	
	153.600000kHz	12.5pF	0.8 - 1.7	300-8411-ND	.78	.70	.50	CFV206-153.600KAZF-UB	
CSA309	4.096000MHz	18.0pF	5.0	300-8412-ND	.63	.54	.45	CSA309-4.096MABJ-UB	
	4.800000MHz	18.0pF	5.0	300-8413-ND	.63	.54	.45	CSA309-4.800MABJ-UB	
	4.915200MHz	18.0pF	5.0	300-8414-ND	.63	.54	.45	CSA309-4.9152MABJ-UB	
	5.120000MHz	18.0pF	5.0	300-8415-ND	.63	.54	.45	CSA309-5.120MABJ-UB	
	5.529600MHz	18.0pF	5.0	300-8416-ND	.63	.54	.45	CSA309-5.5296MABJ-UB	
	6.000000MHz	18.0pF	5.0	300-8417-ND	.63	.54	.45	CSA309-6.000MABJ-UB	
	6.144000MHz	18.0pF	5.0	300-8418-ND	.63	.54	.45	CSA309-6.144MABJ-UB	
	7.372800MHz	18.0pF	5.0	300-8419-ND	.63	.54	.45	CSA309-7.3728MABJ-UB	
	7.680000MHz	18.0pF	5.0	300-8420-ND	.63	.54	.45	CSA309-7.680MABJ-UB	
	8.000000MHz	18.0pF	5.0	300-8421-ND	.63	.54	.45	CSA309-8.000MABJ-UB	
	8.192000MHz	18.0pF	5.0	300-8422-ND	.63	.54	.45	CSA309-8.192MABJ-UB	
	9.216000MHz	18.0pF	5.0	300-8423-ND	.63	.54	.45	CSA309-9.216MABJ-UB	
	9.600000MHz	18.0pF	5.0	300-8424-ND	.63	.54	.45	CSA309-9.600MABJ-UB	
	9.830400MHz	18.0pF	5.0	300-8425-ND	.63	.54	.45	CSA309-9.8304MABJ-UB	
	10.000000MHz	18.0pF	5.0	300-8426-ND	.63	.54	.45	CSA309-10.000MABJ-UB	
	10.240000MHz	18.0pF	5.0	300-8427-ND	.63	.54	.45	CSA309-10.240MABJ-UB	
	11.059200MHz	18.0pF	5.0	300-8428-ND	.63	.54	.45	CSA309-11.0592MABJ-UB	
	11.289600MHz	18.0pF	5.0	300-8429-ND	.63	.54	.45	CSA309-11.2896MABJ-UB	
	12.000000MHz	18.0pF	5.0	300-8430-ND	.63	.54	.45	CSA309-12.000MABJ-UB	
	12.288000MHz	18.0pF	5.0	300-8431-ND	.63	.54	.45	CSA309-12.288MABJ-UB	
CSA309	12.500000MHz	18.0pF	5.0	300-8432-ND	.63	.54	.45	CSA309-12.500MABJ-UB	
	13.500000MHz	18.0pF	5.0	300-8433-ND	.63	.54	.45	CSA309-13.500MABJ-UB	
	14.318180MHz	18.0pF	5.0	300-8434-ND	.63	.54	.45	CSA309-14.31818MABJ-UB	
	14.745600MHz	18.0pF	5.0	300-8435-ND	.63	.54	.45	CSA309-14.7456MABJ-UB	
	15.000000MHz	18.0pF	5.0	300-8436-ND	.63	.54	.45	CSA309-15.000MABJ-UB	
	16.000000MHz	18.0pF	5.0	300-8437-ND	.63	.54	.45	CSA309-16.000MABJ-UB	
	16.000312MHz	18.0pF	5.0	300-8438-ND	.63	.54	.45	CSA309-16.000312MABJ-UB	
	16.384000MHz	18.0pF	5.0	300-8439-ND	.63	.54	.45	CSA309-16.384MABJ-UB	
	16.667000MHz	18.0pF	5.0	300-8440-ND	.63	.54	.45	CSA309-16.667MABJ-UB	
	16.934400MHz	18.0pF	5.0	300-8441-ND	.63	.54	.45	CSA309-16.9344MABJ-UB	
	17.73475MHz	18.0pF	5.0	300-8442-ND	.63	.54	.45	CSA309-17.73475MABJ-UB	
	18.000000MHz	18.0pF	5.0	300-8443-ND	.63	.54	.45	CSA309-18.000MABJ-UB	
	18.432000MHz	18.0pF	5.0	300-8444-ND	.63	.54	.45	CSA309-18.432MABJ-UB	
	19.668000MHz	18.0pF	5.0	300-8445-ND	.63	.54	.45	CSA309-19.668MABJ-UB	
	20.000000MHz	18.0pF	5.0	300-8446-ND	.63	.54	.45	CSA309-20.000MABJ-UB	
	20.480000MHz	18.0pF	5.0	300-8447-ND	.63	.54	.45	CSA309-20.480MABJ-UB	
	22.118000MHz	18.0pF	5.0	300-8448-ND	.63	.54	.45	CSA309-22.118MABJ-UB	
	24.000000MHz	18.0pF	5.0	300-8449-ND	.63	.54	.45	CSA309-24.000MABJ-UB	
	24.576000MHz	18.0pF	5.0	300-8450-ND	.63	.54	.45	CSA309-24.576MABJ-UB	
	25.000000MHz	18.0pF	5.0	300-8451-ND	.63	.54	.45	CSA309-25.000MABJ-UB	
CSA309	27.000000MHz	18.0pF	5.0	300-8452-ND	.63	.54	.45	CSA309-27.000MABJ-UB	
	28.000000MHz	18.0pF	5.0	300-8453-ND	.63	.54	.45	CSA309-28.000MABJ-UB	
	28.322000MHz	18.0pF	5.0	300-8454-ND	.63	.54	.45	CSA309-28.322MABJ-UB	
	28.636360MHz	18.0pF	5.0	300-8455-ND	.63	.54	.45	CSA309-28.63636MABJ-UB	
	29.491200MHz	18.0pF	5.0	300-8456-ND	.63	.54	.45	CSA309-29.4912MABJ-UB	
	30.000000MHz	18.0pF	5.0	300-8457-ND	.63	.54	.45	CSA309-30.000MABJ-UB	
	32.000000MHz	18.0pF	5.0	300-8458-ND	.63	.54	.45	CSA309-32.000MABJ-UB	
	32.768000MHz	18.0pF	5.0	300-8459-ND	.63	.54	.45	CSA309-32.768MABJ-UB	
	33.000000MHz	18.0pF	5.0	300-8460-ND	.63	.54	.45	CSA309-33.000MABJ-UB	
	33.333300MHz	18.0pF	5.0	300-8461-ND	.63	.54	.45	CSA309-33.3333MABJ-UB	
	33.868800MHz	18.0pF	5.0	300-8462-ND	.63	.54	.45	CSA309-33.8688MABJ-UB	
	40.000000MHz	18.0pF	5.0	300-8463-ND	.63	.54	.45	CSA309-40.000MABJ-UB	
	48.000000MHz	18.0pF	5.0	300-8464-ND	.63	.54	.45	CSA309-48.000MABJ-UB	
	49.152000MHz	18.0pF	5.0	300-8465-ND	.63	.54	.45	CSA309-49.152MABJ-UB	
64.000000MHz	18.0pF	5.0	300-8466-ND	.63	.54	.45	CSA309-64.000MABJ-UB		
CSA310	3.579545MHz	18.0pF	5.0	300-8306-ND	.63	.54	.45	CSA310-3.579545MABJ-UB	
	3.686400MHz	18.0pF	5.0	300-8307-ND	.63	.54	.45	CSA310-3.6864MABJ-UB	
	4.000000MHz	18.0pF	5.0	300-8308-ND	.63	.54	.45	CSA310-4.000MABJ-UB	