

Cylinder-Type Quartz Crystals

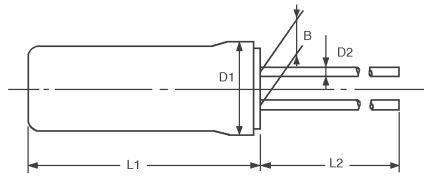
C-Type/C-2-Type

SPECIFICATIONS FOR C-TYPE (Characteristics):

- **Nominal Frequency:** 32.768KHz • **Operating Temperature:** -10°C ~ +60°C • **Maximum Drive Level:** 1.0μW Max. • **Frequency Tolerance (Standard):** ±20ppm • **Load Capacitance:** (SE3201, SE3202, SE3203) 12.5pF; (SE3204) 9pF • **Series Resistance:** C-001R ~ 35KΩ Max. (18KΩ Typ.); C-002RX and C-004R ~ 50KΩ Max. (30KΩ Typ.); and C-005R ~ 50KΩ Max. (37KΩ Typ.)

SPECIFICATIONS FOR C-2-TYPE (Characteristics):

- **Operating Temperature:** -10°C ~ +60°C • **Max. Drive Level:** 1.0μW Max. • **Crystal Load Capacitance/Tolerance:** All parts have 11 pfd. load capacitance, ±100 ppm except: (**SE3307**) C-2 31.200KI-AG, 7 pfd., ±200 ppm; (**SE3311**) C-2 32.560KH-AG, 7pfd., ±190 ppm; (**SE3314**) C-2 38.000KA-P 12.5 pfd., ±20 ppm • **Series Resistance Over 20KHz and Under 99KHz:** 35KΩ ~ 15KΩ • **Series Resistance Over 100KHz and Under 200KHz:** 12KΩ ~ 8KΩ.



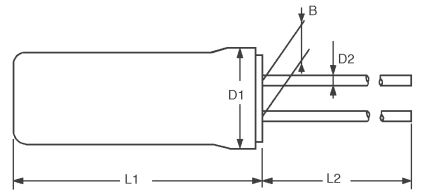
Model	L ₁	L ₂	D ₁	D ₂	B
C-2-Type	6.2 MAX	4.0 MIN	±0.2 MAX	±0.2	0.6
C-001R	8.0 MAX	9.0 MIN	±0.1 MAX	±0.3	1.1
C-002RX	6.0 MAX	4.0 MIN	±0.2 MAX	±0.2	0.6
C-004R	5.0 MAX	4.0 MIN	±1.5 MAX	±0.18	0.5
C-005R	4.6 MAX	4.0 MIN	±1.2 MAX	±0.15	0.3

CA-301 Type

SPECIFICATIONS

(Characteristics):

- **Operating Temperature:** -20°C ~ +70°C • **Maximum Drive Level:** 2mW Max. • **Recommended Level:** 10μW ~ 100μW Typ. • **Frequency Tolerance (Standard):** ±30ppm • **Load Capacitance:** 18 pfd • **Series Resistance:** As per table below.



Model	L ₁	L ₂	D ₁	D ₂	B
Under 5.3MHz	10.3 MAX	9.0 MIN	±3.1 MAX	±0.3	1.1
Over 5.5MHz	9.9 MAX	9.0 MIN	±3.1 MAX	±0.3	1.1

Frequency (MHz)	Series Resistance (Ω)	Mode
Over 4.0MHz	150 Ω MAX.	Fundamental
Under 5.3MHz		
Over 5.5MHz	100 Ω MAX.	
Under 6.0MHz		
Over 6.0MHz	80 Ω MAX.	
Under 10.0MHz		
Over 10.0MHz	60 Ω MAX.	
Under 12.0MHz		
Over 12.0MHz	50 Ω MAX.	
Under 16.0MHz		
Over 16.0MHz	3rd Overtone	
Under 26.0MHz		
Over 26.0MHz		
Under 36.0MHz		
Exceeding 36.0MHz		
Below 60.0MHz	80 Ω MAX.	

Series	Frequency	Digi-Key Part No.	Pricing					Epson Part No.
			1	10	50	100	1,000	
C-Type	32.768KHz	SE3201-ND	.42	3.50	12.00	22.00	180.00	C-001R 32.768K-A
	32.768KHz	SE3202-ND	.42	3.50	12.00	22.00	180.00	C-002RX 32.768K-A
	32.768KHz	SE3203-ND	1.38	11.50	41.00	74.00	620.00	C-004R 32.768K-A
	32.768KHz	SE3204-ND	5.64	47.00	166.50	300.00	2500.01	C-005R 32.768K-AC
C-2 Type	20.000KHz	SE3301-ND	1.23	10.25	36.50	66.00	550.00	C-2 20.000KC-P
	25.600KHz	SE3302-ND	1.23	10.25	36.50	66.00	550.00	C-2 25.600KC-P
	26.667KHz	SE3303-ND	1.23	10.25	36.50	66.00	550.00	C-2 26.667KC-P
	28.000KHz	SE3304-ND	1.23	10.25	36.50	66.00	550.00	C-2 28.000KC-P
	30.000KHz	SE3305-ND	1.23	10.25	36.50	66.00	550.00	C-2 30.000KC-P
	30.760KHz	SE3306-ND	1.23	10.25	36.50	66.00	550.00	C-2 30.760KC-P
	31.200KHz	SE3307-ND	1.23	10.25	36.50	66.00	550.00	C-2 31.200KI-AG
	31.250KHz	SE3308-ND	1.23	10.25	36.50	66.00	550.00	C-2 31.250KC-P
	31.500KHz	SE3309-ND	1.23	10.25	36.50	66.00	550.00	C-2 31.500KC-P
	32.000KHz	SE3310-ND	1.23	10.25	36.50	66.00	550.00	C-2 32.000KC-P
	32.560KHz	SE3311-ND	1.23	10.25	36.50	66.00	550.00	C-2 32.560KH-AG
	32.919KHz	SE3312-ND	1.23	10.25	36.50	66.00	550.00	C-2 32.919KC-P
	36.000KHz	SE3313-ND	1.23	10.25	36.50	66.00	550.00	C-2 36.000KC-P
	38.000KHz	SE3314-ND	1.35	11.25	36.50	66.00	550.00	C-2 38.000KA-P
	38.400KHz	SE3315-ND	1.23	10.25	36.50	66.00	550.00	C-2 38.400KC-P
	C-2 Type	40.000KHz	SE3316-ND	1.23	10.25	36.50	66.00	550.00
46.6084KHz		SE3317-ND	1.23	10.25	36.50	66.00	550.00	C-2 46.6084KC-P
50.000KHz		SE3318-ND	1.23	10.25	36.50	66.00	550.00	C-2 50.000KC-P
59.787KHz		SE3319-ND	1.23	10.25	36.50	66.00	550.00	C-2 59.787KC-P
60.000KHz		SE3320-ND	1.23	10.25	36.50	66.00	550.00	C-2 60.000KC-P
60.002KHz		SE3321-ND	1.23	10.25	36.50	66.00	550.00	C-2 60.002KC-P
65.535KHz		SE3322-ND	1.23	10.25	36.50	66.00	550.00	C-2 65.535KC-P
75.000KHz		SE3323-ND	1.23	10.25	36.50	66.00	550.00	C-2 75.000KC-P
76.800KHz		SE3324-ND	1.23	10.25	36.50	66.00	550.00	C-2 76.800KC-P
77.204KHz		SE3325-ND	1.23	10.25	36.50	66.00	550.00	C-2 77.204KC-P
77.287KHz		SE3326-ND	1.23	10.25	36.50	66.00	550.00	C-2 77.287KC-P
77.500KHz		SE3327-ND	1.23	10.25	36.50	66.00	550.00	C-2 77.500KC-P
77.503KHz		SE3328-ND	1.23	10.25	36.50	66.00	550.00	C-2 77.503KC-P
77.504KHz		SE3329-ND	1.23	10.25	36.50	66.00	550.00	C-2 77.504KC-P
83.000KHz		SE3330-ND	1.47	12.25	43.50	78.00	650.00	C-2 83.000KC-P
96.000KHz		SE3331-ND	1.47	12.25	43.50	78.00	650.00	C-2 96.000KC-P
96.006KHz		SE3332-ND	1.47	12.25	43.50	78.00	650.00	C-2 96.006KC-P
100.000KHz		SE3333-ND	1.47	12.25	43.50	78.00	650.00	C-2 100.000KC-P
111.000KHz		SE3334-ND	1.47	12.25	43.50	78.00	650.00	C-2 111.000KC-P
120.000KHz		SE3335-ND	1.47	12.25	43.50	78.00	650.00	C-2 120.000KC-P
120.8475KHz		SE3336-ND	1.47	12.25	43.50	78.00	650.00	C-2 120.8475KC-P
131.072KHz		SE3337-ND	1.77	14.75	52.00	94.00	780.00	C-2 131.072KC-P
149.475KHz		SE3338-ND	1.77	14.75	52.00	94.00	780.00	C-2 149.475KC-P
4.0000MHz		SE3404-ND	1.89	15.75	55.50	100.00	830.00	CA-301 4.0000M-C
4.194304MHz		SE3405-ND	1.89	15.75	55.50	100.00	830.00	CA-301 4.194304M-C
4.433619MHz		SE3406-ND	1.89	15.75	55.50	100.00	830.00	CA-301 4.433619M-C
4.9152MHz		SE3407-ND	1.89	15.75	55.50	100.00	830.00	CA-301 4.9152M-C
5.500MHz		SE3408-ND	1.17	9.75	34.00	62.00	520.00	CA-301 5.500M-C
6.000MHz		SE3409-ND	1.17	9.75	34.00	62.00	520.00	CA-301 6.000M-C
6.144MHz		SE3410-ND	1.17	9.75	34.00	62.00	520.00	CA-301 6.144M-C
6.757MHz		SE3411-ND	1.17	9.75	34.00	62.00	520.00	CA-301 6.757M-C
7.200MHz		SE3412-ND	1.17	9.75	34.00	62.00	520.00	CA-301 7.200M-C
7.3728MHz		SE3413-ND	1.17	9.75	34.00	62.00	520.00	CA-301 7.3728M-C
8.000MHz		SE3414-ND	1.17	9.75	34.00	62.00	520.00	CA-301 8.000M-C
8.388608MHz		SE3415-ND	1.17	9.75	34.00	62.00	520.00	CA-301 8.388608M-C
8.432MHz		SE3416-ND	1.17	9.75	34.00	62.00	520.00	CA-301 8.432M-C
8.6432MHz		SE3417-ND	1.17	9.75	34.00	62.00	520.00	CA-301 8.6432M-C
9.600MHz		SE3418-ND	1.17	9.75	34.00	62.00	520.00	CA-301 9.600M-C
9.8304MHz		SE3419-ND	1.17	9.75	34.00	62.00	520.00	CA-301 9.8304M-C
10.000MHz		SE3420-ND	1.17	9.75	34.00	62.00	520.00	CA-301 10.000M-C
10.240MHz	SE3421-ND	1.17	9.75	34.00	62.00	520.00	CA-301 10.240M-C	
10.6244MHz	SE3422-ND	1.17	9.75	34.00	62.00	520.00	CA-301 10.6244M-C	
11.0592MHz	SE3423-ND	1.17	9.75	34.00	62.00	520.00	CA-301 11.0592M-C	
12.000MHz	SE3424-ND	1.17	9.75	34.00	62.00	520.00	CA-301 12.000M-C	
12.096MHz	SE3425-ND	1.17	9.75	34.00	62.00	520.00	CA-301 12.096M-C	
12.288MHz	SE3426-ND	1.17	9.75	34.00	62.00	520.00	CA-301 12.288M-C	
13.500MHz	SE3427-ND	1.17	9.75	34.00	62.00	520.00	CA-301 13.500M-C	
14.000MHz	SE3428-ND	1.17	9.75	34.00	62.00	520.00	CA-301 14.000M-C	
14.31818MHz	SE3429-ND	1.17	9.75	34.00	62.00	520.00	CA-301 14.31818M-C	
14.500MHz	SE3430-ND	1.17	9.75	34.00	62.00	520.00	CA-301 14.500M-C	
14.7456MHz	SE3431-ND	1.17	9.75	34.00	62.00	520.00	CA-301 14.7456M-C	
15.000MHz	SE3432-ND	1.17	9.75	34.00	62.00	520.00	CA-301 15.000M-C	
16.000MHz	SE3433-ND	1.17	9.75	34.00	62.00	520.00	CA-301 16.000M-C	
16.257MHz	SE3434-ND	1.17	9.75	34.00	62.00	520.00	CA-301 16.257M-C	
18.000MHz	SE3435-ND	1.17	9.75	34.00	62.00	520.00	CA-301 18.000M-C	
18.432MHz	SE3436-ND	1.17	9.75	34.00	62.00	520.00	CA-301 18.432M-C	
19.6608MHz	SE3437-ND	1.17	9.75	34.00	62.00	520.00	CA-301 19.6608M-C	
20.000MHz	SE3438-ND	1.17	9.75	34.00	62.00	520.00	CA-301 20.000M-C	
22.1184MHz	SE3439-ND	1.17	9.75	34.00	62.00	520.00	CA-301 22.1184M-C	
24.000MHz	SE3440-ND	1.17	9.75	34.00	62.00	520.00	CA-301 24.000M-C	
25.000MHz	SE3441-ND	1.17	9.75	34.00	62.00	520.00	CA-301 25.000M-C	
25.175MHz	SE3442-ND	1.17	9.75	34.00	62.00	520.00	CA-301 25.175M-C	
27.000MHz	SE3443-ND	1.20	10.00	35.00	63.00	530.00	CA-301 27.000M-C	
28.000MHz	SE3444-ND	1.20	10.00	35.00	63.00	530.00	CA-301 28.000M-C	
28.322MHz	SE3445-ND	1.20	10.00	35.00	63.00	530.00	CA-301 28.322M-C	
32.000MHz	SE3446-ND	1.20	10.00	35.00	63.00	530.00	CA-301 32.000M-C	
32.768MHz	SE3447-ND	1.20	10.00	35.00	63.00	530.00	CA-301 32.768M-C	
33.000MHz	SE3448-ND	1.20	10.00	35.00	63.00	530.00	CA-301 33.000M-C	
33.333MHz	SE3449-ND	1.20	10.00	35.00	63.00	530.00	CA-301 33.333M-C	
36.000MHz	SE3450-ND	1.20	10.00	35.00	63.00	530.00	CA-301 36.000M-C	
40.000MHz	SE3451-ND	1.20	10.00	35.00	63.00	530.00	CA-301 40.000M-C	
42.000MHz	SE3452-ND	1.20	10.00	35.00	63.00	530.00	CA-301 42.000M-C	
46.000MHz	SE3453-ND	1.20	10.00					