



32.768kHz Crystals and Oscillators



Dim. in mm.

Specifications: • Frequency: 32.768kHz • Frequency Tolerance: ±20ppm

Fig.	Load Cap. (pF)	Operating Temperature (°C)	Digi-Key Part No.	Cut Tape Price Each			Tape & Reel†		Abracon Part No.
				1	10	50	Qty.	Pricing	
Through Hole Tuning Fork Crystals									
1	12.5	-20 ~ 70	535-9031-ND‡	.74	.63	.53	—	—	AB15T-32.768KHZ
	12.5	-10 ~ 60	535-9032-ND‡	.25	.21	.18	—	—	AB26T-32.768KHZ
	12.5	-10 ~ 60	535-9034-ND‡	.25	.21	.18	—	—	AB38T-32.768KHZ
Surface Mount Tuning Fork Crystals									
2	12.5	-40 ~ 85	535-9033-1-ND	.64	.56	.49	2,000	238.00/M	AB26TRB-32.768KHZ-T
3	12.5	-40 ~ 85	535-9165-1-ND	1.09	.95	.83	3,000	391.50/M	ABS13-32.768KHZ-T
4	12.5	-40 ~ 85	535-9166-1-ND	.71	.62	.55	3,000	256.50/M	ABS25-32.768KHZ-T
5	12.5	-40 ~ 85	535-9536-1-ND	1.13	.98	.86	3,000	405.00/M	ABS10-32.768KHZ-T
	7.0	-40 ~ 85	535-9537-1-ND	1.13	.98	.86	3,000	405.00/M	ABS10-32.768KHZ-7-T
	9.0	-40 ~ 85	535-9538-1-ND	1.13	.98	.86	3,000	405.00/M	ABS10-32.768KHZ-9-T
	12.5	-40 ~ 85	535-9539-1-ND	1.31	1.14	1.00	3,000	472.50/M	ABS09-32.768KHZ-T
	7.0	-40 ~ 85	535-9540-1-ND	1.31	1.14	1.00	3,000	472.50/M	ABS09-32.768KHZ-7-T
	9.0	-40 ~ 85	535-9541-1-ND	1.31	1.14	1.00	3,000	472.50/M	ABS09-32.768KHZ-9-T
	12.5	-40 ~ 85	535-9542-1-ND	1.58	1.37	1.20	3,000	567.00/M	ABS07-32.768KHZ-T
	7.0	-40 ~ 85	535-9543-1-ND	1.58	1.37	1.20	3,000	567.00/M	ABS07-32.768KHZ-7-T
	9.0	-40 ~ 85	535-9544-1-ND	1.58	1.37	1.20	3,000	567.00/M	ABS07-32.768KHZ-9-T

Specifications: • Frequency: 32.768kHz • Operating Temperature: -40°C ~ 85°C

Fig.	Supply Voltage (V)	Frequency Stability (ppm)	Digi-Key Part No.	Cut Tape Price Each			Tape & Reel†		Abracon Part No.
				1	10	50	Qty.	Pricing	
32.768kHz Surface Mount Oscillators									
6	3.3	±20	535-9545-1-ND	4.13	3.58	3.14	1,000	1540.00	ASVK-32.768KHZ-LJT
7	3.3	±20	535-9546-1-ND	4.69	4.07	3.57	1,000	1750.00	ASFLK-32.768KHZ-LJT
8	3.3	-140 ~ 10	535-9717-1-ND	4.69	4.07	3.57	1,000	1750.00	ASHK-32.768KHZ-LT
1	1.8	-140 ~ 10	535-9718-1-ND	4.69	4.07	3.57	1,000	1750.00	ASHK4-32.768KHZ-LT
1	1.5	-140 ~ 0	535-9719-1-ND	4.69	4.07	3.57	1,000	1750.00	ASHK5-32.768KHZ-LT

† For Tape and Reel part number, change 1-ND to 2-ND. ‡ Bulk Pricing

Fig. 1 Dimensions: A, B, C, D, E. Table: Dim. A, B (Max.), C, D, E. Values: AB15T (ø1.4, 5.1, 4.3 (Typ.), 0.45, ø0.2), AB26T (ø2.1, 6.2, 9.0 (Min.), 0.80, ø0.26), AB38T (ø3.2, 8.3, 9.0 (Min.), 1.10, ø0.35).

Fig. 2 Dimensions: 6.0, 1.0, 1.9, 2.0, 1.25, 1.54.

Fig. 3 Dimensions: 1.3, 0.58, 0.8, 0.4 X4, 1.4, 1.1, 1.2.

Fig. 4 Dimensions: 8.0 Max., 5.5, 1.25 Max., 1.05, 0.5.

Fig. 5 Connections diagram.

Fig. 6 Dimensions: 7.0, 1.6, 5.08, 2.6, 1.2, 1.4. Pin Function: 1 Tri-state or NC, 2 GND, 3 Output, 4 Vcc.

Fig. 7 Dimensions: 1.30, 0.75, 5.0, 3.2, 1.0, 2.54, 1.2, 1.1. Pin Function: 1 E/D, 2 GND, 3 Output, 4 Vcc.

Fig. 8 Dimensions: 2.5, 4.0, 0.9, 2.0, 0.9, 0.65. Pin Function: 1 Tri-state, 2 GND, 3 Output, 4 Vcc.

Oscillators

ACH and ACO Series Oscillators

Specifications: • Frequency Stability: ±30ppm; -20°C ~ 70°C • Operating Temperature: -20°C ~ 70°C

Features: • HCMOS and TTL compatible

Fig. 1 Dimensions: 0.79 Max., 5.6 Max., 5.08 Min., ø0.46 x4, 12.7 Max., 5.08, 7.62, 7.62, 8, 7.62, 5. Pin Function: 1 NC, 4 GND/Case, 5 Output, 8 Vdd.

Fig. 2 Dimensions: 5.08 Max., 0.79 Max., 5.08 Min., ø0.457, 7.62, 14, 10.7, 15.24, 7, 5.35, 12.6, 20.2 Max. Pin Function: 1 NC, 7 GND/Case, 8 Output, 14 Vdd.

Fig.	Frequency (MHz)	Digi-Key Part No.	1	Price Each	10	100	500	Abracon Part No.
ACH Series Half Size Oscillators — 5.0V								
1	14.31818	535-9170-5-ND	1.82	1.56	1.04	.87		ACH-14.31818MHZ-EK
	40.00000	535-9180-5-ND	1.30	1.17	.94	.84		ACH-40.000MHZ-EK
ACHL Series Half Size Oscillators — 3.3V								
1	3.68640	535-9197-5-ND	1.82	1.56	1.04	.87		ACHL-3.6864MHZ-EK
	32.00000	535-9195-5-ND	1.82	1.56	1.04	.87		ACHL-32.000MHZ-EK
ACO Series Full Size Oscillators — 5.0V								
2	4.00000	535-9218-5-ND	1.30	1.17	.94	.84		ACO-4.000MHZ-EK
	14.31818	535-9206-5-ND	1.30	1.17	.94	.84		ACO-14.31818MHZ-EK
ACOL Series Full Size Oscillators — 3.3V								
2	25.00000	535-9229-5-ND	1.82	1.56	1.04	.87		ACOL-25.000MHZ-EK
	50.00000	535-9237-5-ND	1.82	1.56	1.04	.87		ACOL-50.000MHZ-EK

ASD Series 2.5 x 2.0 SMD Oscillators

Specifications: • Frequency Stability: ±50ppm • Operating Temperature: -20°C ~ 70°C

Note: For nonstandard frequencies, please reference AP2S Series Programmable Oscillators.

Dimensions: 0.8, 2.5, 2.0, 0.6, 0.8, 0.9, 0.8, 0.7, 0.7, 0.65. Pin Function: 1 Enable/Disable (STBY)*, 2 GND/Case, 3 Output, 4 Vdd. * H or Open = Oscillation, L = Oscillation stops/Hi impedance.

Frequency (MHz)	Digi-Key Part No.	1	Price Each	10	100	Digi-Key Part No.	Tape & Reel Pricing 1,000	Abracon Part No.
ASD1 Series — 3.0V								
1.54400	535-9579-1-ND	6.19	5.37	4.71	3.72	535-9579-2-ND	2310.00	ASD1-1.544MHZ-ECT
3.68640	535-9580-1-ND	6.19	5.37	4.71	3.72	535-9580-2-ND	2310.00	ASD1-3.6864MHZ-ECT
4.00000	535-9581-1-ND	6.19	5.37	4.71	3.72	535-9581-2-ND	2310.00	ASD1-4.000MHZ-ECT
7.37280	535-9582-1-ND	6.19	5.37	4.71	3.72	535-9582-2-ND	2310.00	ASD1-7.3728MHZ-ECT
8.00000	535-9583-1-ND	6.19	5.37	4.71	3.72	535-9583-2-ND	2310.00	ASD1-8.000MHZ-ECT
10.00000	535-9584-1-ND	6.19	5.37	4.71	3.72	535-9584-2-ND	2310.00	ASD1-10.000MHZ-ECT
11.05920	535-9585-1-ND	6.19	5.37	4.71	3.72	535-9585-2-ND	2310.00	ASD1-11.0592MHZ-ECT
12.00000	535-9586-1-ND	6.19	5.37	4.71	3.72	535-9586-2-ND	2310.00	ASD1-12.000MHZ-ECT
14.31818	535-9587-1-ND	6.19	5.37	4.71	3.72	535-9587-2-ND	2310.00	ASD1-14.31818MHZ-ECT
14.74560	535-9588-1-ND	6.19	5.37	4.71	3.72	535-9588-2-ND	2310.00	ASD1-14.7456MHZ-ECT
18.43200	535-9589-1-ND	6.19	5.37	4.71	3.72	535-9589-2-ND	2310.00	ASD1-18.432MHZ-ECT
20.00000	535-9590-1-ND	6.19	5.37	4.71	3.72	535-9590-2-ND	2310.00	ASD1-20.000MHZ-ECT
24.00000	535-9591-1-ND	6.19	5.37	4.71	3.72	535-9591-2-ND	2310.00	ASD1-24.000MHZ-ECT
24.57600	535-9592-1-ND	6.19	5.37	4.71	3.72	535-9592-2-ND	2310.00	ASD1-24.576MHZ-ECT
25.00000	535-9593-1-ND	6.19	5.37	4.71	3.72	535-9593-2-ND	2310.00	ASD1-25.000MHZ-ECT
27.00000	535-9594-1-ND	6.19	5.37	4.71	3.72	535-9594-2-ND	2310.00	ASD1-27.000MHZ-ECT
30.00000	535-9595-1-ND	6.19	5.37	4.71	3.72	535-9595-2-ND	2310.00	ASD1-30.000MHZ-ECT
32.00000	535-9596-1-ND	6.19	5.37	4.71	3.72	535-9596-2-ND	2310.00	ASD1-32.000MHZ-ECT
33.00000	535-9597-1-ND	6.19	5.37	4.71	3.72	535-9597-2-ND	2310.00	ASD1-33.000MHZ-ECT

(Continued)

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