

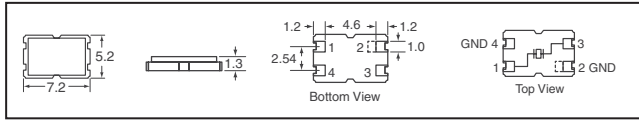


Crystals (Cont.)



ABMM Series — 7.0 x 5.0 SMD Crystals

Dim. in mm.

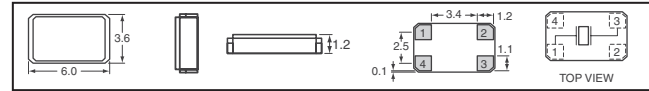


Specifications: • Frequency Stability: ±50ppm, -20°C - 70°C • Frequency Tolerance: ±20ppm • Operating Temperature Range: -20°C - 70°C • Load Capacitance: 18.0pF

Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each	Digi-Key Part No.	T & R Pricing 1,000	Abracon Part No.
6.000	535-10156-1-ND	.96 .84 .74	535-10156-2-ND	358.76	ABMM-6.000MHZ-B2-T
7.37280	535-9825-1-ND	.96 .84 .74	535-9825-2-ND	358.76	ABMM-7.3728MHZ-B2-T
8.00000	535-9164-1-ND	.96 .84 .74	535-9164-2-ND	358.76	ABMM-8.000MHZ-B2-T
10.00000	535-9150-1-ND	.96 .84 .74	535-9150-2-ND	358.76	ABMM-10.000MHZ-B2-T
11.05920	535-9151-1-ND	.96 .84 .74	535-9151-2-ND	358.76	ABMM-11.0592MHZ-B2-T
12.00000	535-9152-1-ND	.96 .84 .74	535-9152-2-ND	358.76	ABMM-12.000MHZ-B2-T
14.31818	535-9153-1-ND	.96 .84 .74	535-9153-2-ND	358.76	ABMM-14.31818MHZ-B2-T
14.74560	535-9154-1-ND	.96 .84 .74	535-9154-2-ND	358.76	ABMM-14.7456MHZ-B2-T
16.00000	535-9155-1-ND	.96 .84 .74	535-9155-2-ND	358.76	ABMM-16.000MHZ-B2-T
16.93440	535-9156-1-ND	.96 .84 .74	535-9156-2-ND	358.76	ABMM-16.9344MHZ-B2-T
19.66080	535-9157-1-ND	.70 .61 .52	535-9157-2-ND	333.13	ABMM-19.6608MHZ-B2-T
20.00000	535-9158-1-ND	.96 .84 .74	535-9158-2-ND	358.76	ABMM-20.000MHZ-B2-T
24.00000	535-9159-1-ND	.96 .84 .74	535-9159-2-ND	358.76	ABMM-24.000MHZ-B2-T
24.57600	535-9160-1-ND	.96 .84 .74	535-9160-2-ND	358.76	ABMM-24.576MHZ-B2-T
25.00000	535-9161-1-ND	.96 .84 .74	535-9161-2-ND	358.76	ABMM-25.000MHZ-B2-T
27.00000	535-9162-1-ND	.96 .84 .74	535-9162-2-ND	358.76	ABMM-27.000MHZ-B2-T
32.00000	535-9163-1-ND	.96 .84 .74	535-9163-2-ND	358.76	ABMM-32.000MHZ-B2-T

ABMM2 Series — 6.0 x 3.6 SMD Crystals

Dim. in mm.



Specifications: • Frequency Stability: ±20ppm, -20°C - 70°C • Frequency Tolerance: ±20ppm • Operating Temperature Range: -20°C - 70°C • Load Capacitance: 18.0pF

Frequency (MHz)	Digi-Key Part No.	Cut Tape Price Each	Digi-Key Part No.	T & R Pricing 1,000	Abracon Part No.
7.3728	535-10157-1-ND	1.03 .89 .78	535-10157-2-ND	381.18	ABMM2-7.3728MHZ-E2-T
8.00000	535-9628-1-ND	1.03 .89 .78	535-9628-2-ND	381.18	ABMM2-8.000MHZ-E2-T
10.00000	535-9629-1-ND	1.03 .89 .78	535-9629-2-ND	381.18	ABMM2-10.000MHZ-E2-T
11.05920	535-9630-1-ND	1.03 .89 .78	535-9630-2-ND	381.18	ABMM2-11.0592MHZ-E2-T
12.00000	535-9631-1-ND	1.03 .89 .78	535-9631-2-ND	381.18	ABMM2-12.000MHZ-E2-T
14.31818	535-9632-1-ND	1.03 .89 .78	535-9632-2-ND	381.18	ABMM2-14.31818MHZ-E2-T
14.74560	535-9633-1-ND	1.03 .89 .78	535-9633-2-ND	381.18	ABMM2-14.7456MHZ-E2-T
16.00000	535-9634-1-ND	1.03 .89 .78	535-9634-2-ND	381.18	ABMM2-16.000MHZ-E2-T
16.93440	535-9635-1-ND	1.03 .89 .78	535-9635-2-ND	381.18	ABMM2-16.9344MHZ-E2-T
19.66080	535-9636-1-ND	1.03 .89 .78	535-9636-2-ND	381.18	ABMM2-19.6608MHZ-E2-T
20.00000	535-9637-1-ND	1.03 .89 .78	535-9637-2-ND	381.18	ABMM2-20.000MHZ-E2-T
24.00000	535-9638-1-ND	1.03 .89 .78	535-9638-2-ND	381.18	ABMM2-24.000MHZ-E2-T
24.57600	535-9639-1-ND	1.03 .89 .78	535-9639-2-ND	381.18	ABMM2-24.576MHZ-E2-T
25.00000	535-9640-1-ND	1.03 .89 .78	535-9640-2-ND	381.18	ABMM2-25.000MHZ-E2-T
27.00000	535-9641-1-ND	1.03 .89 .78	535-9641-2-ND	381.18	ABMM2-27.000MHZ-E2-T
32.00000	535-9642-1-ND	1.03 .89 .78	535-9642-2-ND	381.18	ABMM2-32.000MHZ-E2-T
32.76800	535-9643-1-ND	1.03 .89 .78	535-9643-2-ND	381.18	ABMM2-32.768MHZ-E2-T
40.00000	535-9644-1-ND	1.35 1.18 1.03	535-9644-2-ND	381.18	ABMM2-40.000MHZ-E2-T
48.00000	535-9645-1-ND	1.35 1.18 1.03	535-9645-2-ND	504.50	ABMM2-48.000MHZ-E2-T
50.00000	535-9646-1-ND	1.35 1.18 1.03	535-9646-2-ND	504.50	ABMM2-50.000MHZ-E2-T
64.00000	535-9648-1-ND	1.35 1.18 1.03	535-9648-2-ND	504.50	ABMM2-64.000MHZ-E2-T

D

32.768kHz Crystals and Oscillators



Fig.	Load Capacitance	Operating Temperature	Frequency Tolerance	Digi-Key Part No.	Cut Tape Price Each	Tape and Reels Qty.	Pricing	Abracon Part No.		
Surface Mount Tuning Fork Crystals										
1	9.0pF	-40°C - 85°C	±20ppm	535-10246-1-ND	2.04	1.77	1.56	3,000	735.14/M	ABS06-32.768KHZ-9-T
	9.0pF	-40°C - 85°C	±10ppm	535-10247-1-ND	2.25	1.96	1.72	3,000	810.81/M	ABS06-32.768KHZ-9-1-T
	12.5pF	-40°C - 85°C	±10ppm	535-10248-1-ND	2.25	1.96	1.72	3,000	810.81/M	ABS06-32.768KHZ-1-T
	12.5pF	-40°C - 85°C	±20ppm	535-10104-1-ND	2.04	1.77	1.56	3,000	735.14/M	ABS06-32.768KHZ-T
	12.5pF	-40°C - 85°C	±20ppm	535-9542-1-ND	1.27	1.10	.96	3,000	454.06/M	ABS07-32.768KHZ-T
	12.5pF	-40°C - 85°C	±10ppm	535-9808-1-ND	1.41	1.23	1.08	3,000	508.11/M	ABS07-32.768KHZ-1-T
	9.0pF	-40°C - 85°C	±20ppm	535-9544-1-ND	1.27	1.10	.96	3,000	454.06/M	ABS07-32.768KHZ-9-T
	7.0pF	-40°C - 85°C	±20ppm	535-9543-1-ND	1.27	1.10	.96	3,000	454.06/M	ABS07-32.768KHZ-7-T
	12.5pF	-40°C - 85°C	±20ppm	535-9539-1-ND	1.05	.92	.80	3,000	378.38/M	ABS09-32.768KHZ-T
	12.5pF	-40°C - 85°C	±10ppm	535-9807-1-ND	1.20	1.05	.92	3,000	432.44/M	ABS09-32.768KHZ-1-T
2	9.0pF	-40°C - 85°C	±20ppm	535-9541-1-ND	1.05	.92	.80	3,000	378.38/M	ABS09-32.768KHZ-9-T
	7.0pF	-40°C - 85°C	±20ppm	535-9540-1-ND	1.05	.92	.80	3,000	378.38/M	ABS09-32.768KHZ-7-T
	12.5pF	-40°C - 85°C	±20ppm	535-9536-1-ND	.90	.79	.69	3,000	324.33/M	ABS10-32.768KHZ-T
	12.5pF	-40°C - 85°C	±10ppm	535-9806-1-ND	1.05	.92	.80	3,000	378.38/M	ABS10-32.768KHZ-1-T
	9.0pF	-40°C - 85°C	±20ppm	535-9538-1-ND	.90	.79	.69	3,000	324.33/M	ABS10-32.768KHZ-9-T
	7.0pF	-40°C - 85°C	±20ppm	535-9537-1-ND	.90	.79	.69	3,000	324.33/M	ABS10-32.768KHZ-7-T
3	6.0pF	-40°C - 85°C	±20ppm	535-10240-1-ND	.57	.50	.44	3,000	213.02/M	ABS25-32.768KHZ-6-T
	6.0pF	-40°C - 85°C	±10ppm	535-10241-1-ND	.81	.71	.62	3,000	291.89/M	ABS25-32.768KHZ-6-1-T
	12.5pF	-40°C - 85°C	±20ppm	535-9166-1-ND	.57	.50	.44	3,000	205.41/M	ABS25-32.768KHZ-T
	12.5pF	-40°C - 85°C	±10ppm	535-9809-1-ND	.81	.71	.62	3,000	291.89/M	ABS25-32.768KHZ-1-T
4	12.5pF	-40°C - 85°C	±20ppm	535-9165-1-ND	.87	.76	.67	3,000	313.52/M	ABS13-32.768KHZ-T
	12.5pF	-40°C - 85°C	±20ppm	535-9033-1-ND	.51	.45	.39	2,000	190.59/M	AB26TRB-32.768KHZ-T
Through Hole Tuning Fork Crystals										
5	12.5pF	-20°C - 70°C	±20ppm	535-9031-ND‡	.59	.51	.43	—	—	AB15T-32.768KHZ
	12.5pF	-10°C - 60°C	±20ppm	535-9032-ND‡	.20	.17	.15	—	—	AB26T-32.768KHZ
	12.5pF	-10°C - 60°C	±20ppm	535-9034-ND‡	.20	.17	.15	—	—	AB38T-32.768KHZ

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

Fig.	Frequency (KHz)	Load Capacitance	Operating Temperature	Frequency Tolerance	Digi-Key Part No.	Cut Tape Price Each	Digi-Key Part No.	T & R Pricing 3,000	Abracon Part No.	
Surface Mount KHz Crystals										
2	32.000	12.5pF	-45°C - 85°C	±20ppm	535-10242-1-ND	1.35	1.18	1.03	486.49/M	ABS25-32.000KHZ-T
	38.000	12.5pF	-45°C - 85°C	±20ppm	535-10243-1-ND	1.35	1.18	1.03	486.49/M	ABS25-38.000KHZ-T
	60.000	12.5pF	-45°C - 85°C	±20ppm	535-10244-1-ND	1.35	1.18	1.03	486.49/M	ABS25-60.000KHZ-T
	100.000	12.5pF	-45°C - 85°C	±20ppm	535-10245-1-ND	1.35	1.18	1.03	486.49/M	ABS25-100.000KHZ-T

Fig.	Supply Voltage	Operating Temperature	Frequency Stability	Digi-Key Part No.	Cut Tape Price Each	Tape and Reels Pricing 1,000	Abracon Part No.		
Surface Mount Oscillators									
6	1.8V	-40°C - 85°C	±25ppm	535-10003-1-ND	4.05	3.52	3.09	1513.51	ASDK2-32.768KHZ-LRT
	2.5V	-40°C - 85°C	±25ppm	535-10001-1-ND	4.05	3.52	3.09	1513.51	ASDK1-32.768KHZ-LRT
	3.3V	-40°C - 85°C	±25ppm	535-9999-1-ND	4.05	3.52	3.09	1513.51	ASDK-32.768KHZ-LRT
	1.8V	-40°C - 85°C	±25ppm	535-10002-1-ND	3.67	3.18	2.79	1367.77	ASEK2-32.768KHZ-LRT
	2.5V	-40°C - 85°C	±25ppm	535-10000-1-ND	3.67	3.18	2.79	1367.77	ASEK1-32.768KHZ-LRT
	3.3V	-40°C - 85°C	±25ppm	535-9998-1-ND	3.67	3.18	2.79	1367.77	ASEK-32.768KHZ-LRT
	3.3V	-40°C - 85°C	-140 - +10ppm	535-10309-1-ND	3.91	3.39	2.97	1457.46	ASHEK-32.768KHZ-LT
	5V	-40°C - 85°C	-140 - +10ppm	535-10308-1-ND	3.91	3.39	2.97	1457.46	ASHEK2-32.768KHZ-LT
	2.8	-40°C - 85°C	-140 - +10ppm	535-10311-1-ND	3.91	3.39	2.97	1457.46	ASHEK3-32.768KHZ-LT
	1.8V	-40°C - 85°C	-140 - +10ppm	535-10310-1-ND	3.91	3.39	2.97	1457.46	ASHEK4-32.768KHZ-LT
	1.5V	-40°C - 85°C	-140 - +10ppm	535-10312-1-ND	3.91	3.39	2.97	1457.46	ASHEK5-32.768KHZ-LT
	3.3V	-40°C - 85°C	±20ppm	535-9546-1-ND	3.76	3.26	2.86	1401.40	ASFLK-32.768KHZ-LT
3.3V	-40°C - 85°C	±20ppm	535-9545-1-ND	3.31	2.87	2.52	1233.23	ASVK-32.768KHZ-LT	

§ For Tape and Reel part number, change 1-ND to 2-ND.

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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