

Ceramic Chip Antennas



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Frequency (MHz)	Case Size	Gain (dBi) Peak / Average	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		Johanson Technology Part No.
				1	10	100		Qty.	Pricing	
2,400 - 2,500, 4,900 - 5,900	46-1	1.0 / -1.5	712-1000-1-ND	.76	.67	.62	712-1000-2-ND	1,000	306.37	2450AD46A5400E
	50†	-0.7 / -2.6	712-1002-1-ND	1.66	1.44	1.33	712-1002-2-ND	1,000	663.56	0920AT50A080E
	18-4	0.5 / -0.5	712-1005-1-ND	.54	.47	.43	712-1005-2-ND	3,000	213.45/M	2450AT18A100E
	18-4	0.5 / -0.5	712-1006-1-ND	.28	.25	.23	712-1006-2-ND	3,000	112.53/M	2450AT18B100E
2,400 - 2,500	42-1	0 / -1.0	712-1007-1-ND	.57	.50	.46	712-1007-2-ND	2,000	226.51/M	2450AT42A100E
2,400 - 2,500	42-2	0 / -1.5	712-1008-1-ND	.61	.53	.49	712-1008-2-ND	2,000	243.94/M	2450AT42B100E
2,400 - 2,500	43-1	2.0 / 0.5	712-1009-1-ND	.60	.52	.48	712-1009-2-ND	1,000	239.58	2450AT43A100E
2,400 - 2,500	43-2	1.0 / -0.5	712-1010-1-ND	.68	.60	.55	712-1010-2-ND	1,000	273.70	2450AT43B100E
2,400 - 2,500	44-1	1.3 / 0	712-1011-1-ND	.67	.58	.54	712-1011-2-ND	1,000	265.72	2450AT44A100E
2,400 - 2,500	45-1	3.0 / 1.0	712-1012-1-ND	.70	.61	.56	712-1012-2-ND	1,000	280.24	2450AT45A100E
Tri-Band	—†	2.0 / -4.0	712-1013-1-ND	1.66	1.44	1.33	712-1013-2-ND	1,000	662.84	2500AT52M3555E
5,150 - 5,350	43-1	3.3 / -2.3	712-1015-1-ND	.55	.48	.45	712-1015-2-ND	1,000	220.70	5250AT43A200E
4,900 - 5,900	18-4	2.0 / -2.5	712-1016-1-ND	.48	.42	.39	712-1016-2-ND	3,000	191.67/M	5400AT18A100E
5,725 - 5,825	43-1	3.9 / -1.5	712-1017-1-ND	.90	.78	.72	712-1017-2-ND	1,000	359.37	5775AT43A100E
3,100 - 10,300	51	1.5 / -3.5	712-1402-1-ND†	1.69	1.47	1.36	712-1402-2-ND†	1,000	678.08	3100AT51A7200E
2,300 - 2,700	44	2.5 / 0.5	712-1403-1-ND†	.62	.55	.51	712-1403-2-ND†	1,000	250.47	2500AT44M0400E

† See Digi-Key website for detailed specifications.

Ceramic Chip Baluns and Balun Filters



Frequency (MHz)	Case Size	Impedance Unbalanced / Balanced (Ω)	Phase Difference	Amplitude Difference Maximum (dB)	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		Johanson Technology Part No.
						1	10	100		Qty.	Pricing	
2,300 - 2,700	14-1	50 / 50	180° ±15°	1.5	712-1046-1-ND†	.55	.48	.45	712-1046-2-ND†	4,000	220.71/M	2500BL14M050T
2,300 - 2,700	14-1	50 / 100	180° ±15°	1.5	712-1047-1-ND†	.55	.48	.45	712-1047-2-ND†	4,000	220.71/M	2500BL14M100T
3,300 - 3,900	14-1	50 / 50	180° ±15°	1.5	712-1048-1-ND†	.55	.48	.45	712-1048-2-ND†	4,000	220.71/M	3600BL14M050T
3,300 - 3,900	14-1	50 / 100	180° ±15°	1.5	712-1049-1-ND†	.55	.48	.45	712-1049-2-ND†	4,000	220.71/M	3600BL14M100T
3,400 - 4,000	15-1B	50 / 50	180° ±25°	2.0	712-1050-1-ND	.37	.32	.30	712-1050-2-ND	4,000	147.38/M	3700BL15B050E
3,400 - 4,000	15-1B	50 / 100	180° ±20°	1.0	712-1051-1-ND	.37	.32	.30	712-1051-2-ND	4,000	147.38/M	3700BL15B100E
3,400 - 4,000	15-1	50 / 200	180° ±20°	1.0	712-1052-1-ND	.37	.32	.30	712-1052-2-ND	4,000	147.38/M	3700BL15B200E
3,100 - 4,800	14-1	50 / 100	180° ±20°	1.5	712-1053-1-ND†	.55	.48	.45	712-1053-2-ND†	4,000	220.71/M	4000BL14U100T
5,150 - 5,350	14-1	50 / 100	180° ±15°	1.5	712-1054-1-ND	.55	.48	.45	712-1054-2-ND	4,000	220.71/M	5250BL14B100T
5,150 - 5,350	15-1B	50 / 100	180° ±10°	2.0	712-1055-1-ND	.37	.32	.30	712-1055-2-ND	4,000	147.38/M	5250BL15B100E
5,150 - 5,500	15-1B	50 / 50	180° ±10°	2.0	712-1056-1-ND	.37	.32	.30	712-1056-2-ND	4,000	147.38/M	5325BL15B050E
4,900 - 5,875	14-1	50 / 100	180° ±10°	1.5	712-1057-1-ND	.43	.38	.35	712-1057-2-ND	4,000	172.07/M	5400BL14B100T
4,900 - 5,900	15-1B	50 / 50	180° ±10°	2.0	712-1058-1-ND	.37	.32	.30	712-1058-2-ND	4,000	147.38/M	5400BL15B050E
4,900 - 5,900	15-1B	50 / 100	180° ±10°	2.0	712-1059-1-ND	.37	.32	.30	712-1059-2-ND	4,000	147.38/M	5400BL15B100E
4,900 - 5,875	15-1B	50 / 200	180° ±10°	2.0	712-1060-1-ND	.37	.32	.30	712-1060-2-ND	4,000	147.38/M	5400BL15B200E
4,900 - 5,875	15-1A	50 / 50	180° ±10°	2.0	712-1061-1-ND	.36	.32	.29	712-1061-2-ND	4,000	143.75/M	5400BL15K050E
5,150 - 5,875	15-1B	50 / 100	180° ±10°	2.0	712-1062-1-ND	.26	.23	.21	712-1062-2-ND	4,000	103.82/M	5512BL15B100E
5,725 - 5,875	15-1B	50 / 100	180° ±8°	0.75	712-1063-1-ND	.37	.32	.30	712-1063-2-ND	4,000	147.38/M	5800BL15B100E
2,400 - 2,500	18-4	50 / —	180° ±10°	2.0 TX, 3.0 RX	712-1064-1-ND◇	1.10	.96	.89	712-1064-2-ND◇	3,000	442.14/M	2450BM18A001E
Balun Filters												
2,400 - 2,500	15-1A	50 / 50	180° ±10°	1.0	712-1065-1-ND	.73	.64	.59	712-1065-2-ND	4,000	294.76/M	2450FB15A050E
2,400 - 2,500	15†	50 / —	180° ±10°	1.5	712-1066-1-ND	.74	.64	.60	712-1066-2-ND	4,000	295.49/M	2450FB15K0001E
2,400 - 2,500	39†	50 / 22	180° ±8°	1.0	712-1114-1-ND	1.13	.98	.91	712-1114-2-ND	3,000	450.85/M	2450FB39K001E
2,400 - 2,500	39-2	50 / 50	180° ±10°	1.0	712-1067-1-ND	.76	.66	.61	712-1067-2-ND	3,000	300.57/M	2450FB39A050E
2,400 - 2,500	39-2	50 / 100	180° ±10°	1.0	712-1068-1-ND	.61	.53	.49	712-1068-2-ND	3,000	243.94/M	2450FB39B100E
2,400 - 2,500	39†	50 / 100	180° ±8°	1.0	712-1069-1-ND	.76	.66	.61	712-1069-2-ND	3,000	300.57/M	2450FB39C100E
2,300 - 2,390	39-2B	50 / 50	180° ±10°	1.5	712-1404-1-ND†	.67	.58	.54	712-1404-2-ND†	3,000	265.72/M	2345FB39A050E
2,500 - 2,690	39-2B	50 / 50	180° ±10°	1.5	712-1405-1-ND†	.67	.58	.54	712-1405-2-ND†	3,000	265.72/M	2595FB39A050E
3,400 - 3,600	39-2B	50 / 50	180° ±12°	1.5	712-1406-1-ND†	.66	.58	.54	712-1406-2-ND†	3,000	264.99/M	3500FB39A050E

† See Digi-Key website for detailed specifications. ◇ Matching networks

Baluns 2.45GHz WiFi/Bluetooth



Frequency (MHz)	Case Size	Impedance Unbalanced / Balanced (Ω)	Phase Difference	Amplitude Difference Maximum (dB)	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel Pricing		Johanson Technology Part No.
						1	10	100		Qty.	4,000	
2,400 - 2,500	14-1	50 / 50	180° ±10°	2.0	712-1034-1-ND	.23	.21	.19	712-1034-2-ND	93.66/M		2450BL14B050T
2,400 - 2,500	14-1	50 / 100	180° ±10°	2.0	712-1035-1-ND	.72	.63	.58	712-1035-2-ND	287.50/M		2450BL14B100T
2,400 - 2,500	14-1	50 / 200	180° ±10°	2.0	712-1036-1-ND	.68	.60	.55	712-1036-2-ND	273.71/M		2450BL14B200T
2,400 - 2,500	14-1	50 / 50	180° ±10°	2.0	712-1037-1-ND	.54	.47	.44	712-1037-2-ND	215.63/M		2450BL14C050T
2,400 - 2,500	14-1	50 / 100	180° ±10°	1.5	712-1038-1-ND	.54	.47	.44	712-1038-2-ND	215.63/M		2450BL14C100T
2,400 - 2,500	14-1	50 / 200	180° ±10°	2.0	712-1039-1-ND	.54	.47	.44	712-1039-2-ND	215.63/M		2450BL14C200T
2,400 - 2,500	15-1B	50 / 50	180° ±10°	2.0	712-1040-1-ND	.26	.23	.21	712-1040-2-ND	103.82/M		2450BL15B050E
2,400 - 2,500	15-1B	50 / 100	180° ±10°	2.0	712-1041-1-ND	.20	.18	.17	712-1041-2-ND	82.04/M		2450BL15B100E
2,400 - 2,500	15-1B	50 / 150	180° ±10°	2.0	712-1042-1-ND	.36	.32	.29	712-1042-2-ND	143.75/M		2450BL15B150E
2,400 - 2,500	15-1B	50 / 200	180° ±10°	2.0	712-1043-1-ND	.26	.23	.21	712-1043-2-ND	103.82/M		2450BL15B200E
2,400 - 2,500	15-1B	50 / 50	180° ±10°	2.0	712-1044-1-ND	.26	.23	.21	712-1044-2-ND	103.82/M		2450BL15K050E
2,400 - 2,500	15-1B	50 / 100	180° ±10°	2.0	712-1045-1-ND	.37	.32	.30	712-1045-2-ND	147.38/M		2450BL15K100E

Baluns GSM / DCS / PCS / CDMA



Frequency (MHz)	Case Size	Impedance Unbalanced / Balanced (Ω)	Phase Difference	Amplitude Difference Maximum (dB)	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel Pricing		Johanson Technology Part No.
						1	10	100		Qty.	Pricing	
900 - 940	41-2	50 / 50	—	—	712-1018-1-ND	.85	.74	.68	712-1018-2-ND	2,000	339.04/M	0918BD41B050E
460 - 470	15-3	— / 100	180° ±10°	1.5	712-1019-1-ND	.72	.63	.58	712-1019-2-ND	4,000	287.50/M	0465BL15B100E
800 - 900	15-1D	50 / 200	180° ±10°	1.0	712-1020-1-ND	.37	.32	.30	712-1020-2-ND	4,000	147.38/M	0866BL15C200E
851 - 941	14-1	50 / 50	180° ±7°	0.7	712-1021-1-ND	.73	.64	.59	712-1021-2-ND	4,000	294.76/M	0896BL14B050T
800 - 1,000	15-1D	50 / 50	180° ±10°	2.0	712-1022-1-ND	.37	.32	.30	712-1022-2-ND	4,000	147.38/M	0900BL15C050E
800 - 1,000	18-1	50 / 100	180° ±10°	2.0	712-1023-1-ND	.36	.32	.29	712-1023-2-ND	3,000	143.75/M	0900BL18B100E
800 - 1,000	18-1	50 / 200	180° ±10°	2.0	712-1024-1-ND	.29	.25	.24	712-1024-2-ND	3,000	115.44/M	0900BL18B200E
1,700 - 1,900	18-1	50 / 200	180° ±10°	2.0	712-1028-1-ND	.37	.32	.30	712-1028-2-ND	3,000	147.38/M	1800BL18B200E
1,700 - 2,000	15-1	50 / 50	180° ±10°	2.0	712-1029-1-ND	.37	.32	.30	712-1029-2-ND	4,000	147.38/M	1850BL15A050E
1,700 - 2,000	15-1B</											