



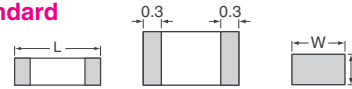
Monolithic Ceramic Chip Capacitors
Low ESL and Low Profile (Cont.)



Size Code	Type	WV DC	Capacitance	Tolerance	Dimensions – mm			Digi-Key Part No.	Cut Tape Pricing			Digi-Key Part No.	Tape and Reel		Murata Part No.
					L	W	T		10	100	500		Qty.	Pricing	
1206	X7R	4	2.2µF	±20%	3.2	1.6	0.85	490-4446-1-ND	12.92	76.30	220.09	490-4446-2-ND	3,000	210.97/M	LLA319R70G225MA01L
	X7R	6.3	1µF	±20%	3.2	1.6	0.5	490-4452-1-ND	9.12	53.91	155.49	490-4452-2-ND	4,000	149.25/M	LLA315R70J105MA14L
	X7R	6.3	2.2µF	±20%	3.2	1.6	0.5	490-4454-1-ND	11.75	69.44	200.31	490-4454-2-ND	4,000	191.89/M	LLA315R70J225MA14L
	X7R	10	.47µF	±20%	3.2	1.6	0.5	490-4450-1-ND	9.04	53.47	154.23	490-4450-2-ND	4,000	148.13/M	LLA315R71A474MA14L
	X7R	10	1µF	±20%	3.2	1.6	0.85	490-4442-1-ND	9.63	56.89	164.12	490-4442-2-ND	3,000	157.11/M	LLA319R71A105MA01L
	X7R	16	.1µF	±20%	3.2	1.6	0.5	490-4749-1-ND	7.53	44.49	128.35	490-4749-2-ND	4,000	123.44/M	LLA315R71C104MA14L
	X7R	16	.1µF	±20%	3.2	1.6	0.85	490-4750-1-ND	8.24	48.66	140.34	490-4750-2-ND	3,000	134.66/M	LLA319R71C104MA01L
	X7R	16	.22µF	±20%	3.2	1.6	0.5	490-4448-1-ND	8.51	50.26	144.97	490-4448-2-ND	4,000	139.15/M	LLA315R71C224MA14L
	X7R	16	.22µF	±20%	3.2	1.6	0.85	490-4437-1-ND	9.92	58.64	169.17	490-4437-2-ND	3,000	162.72/M	LLA319R71C224MA01L
X7R	16	.47µF	±20%	3.2	1.6	0.85	490-4439-1-ND	9.11	53.83	155.28	490-4439-2-ND	3,000	149.25/M	LLA319R71C474MA01L	
LLM Series – Ten Terminals															
0805	X7R	6.3	.22µF	±20%	2.0	1.25	0.5	490-4478-1-ND	13.69	80.90	233.34	490-4478-2-ND	4,000	224.44/M	LLM215R70J224MA11L
	X7R	6.3	.47µF	±20%	2.0	1.25	0.5	490-4480-1-ND	8.76	51.79	149.39	490-4480-2-ND	4,000	143.64/M	LLM215R70J474MA11L
	X7R	16	4700pF	±20%	2.0	1.25	0.5	490-4474-1-ND	11.22	66.31	191.26	490-4474-2-ND	4,000	184.04/M	LLM215R71C473MA11L
	X7R	16	.1µF	±20%	2.0	1.25	0.5	490-4476-1-ND	10.64	62.87	181.37	490-4476-2-ND	4,000	173.94/M	LLM215R71C104MA11L
	X7R	25	10000pF	±20%	2.0	1.25	0.5	490-4470-1-ND	10.82	63.90	184.31	490-4470-2-ND	4,000	177.31/M	LLM215R71E103MA11L
	X7R	25	22000pF	±20%	2.0	1.25	0.5	490-4472-1-ND	10.14	59.96	172.96	490-4472-2-ND	4,000	166.08/M	LLM215R71E223MA11L
1206	X7S	4	1µF	±20%	2.0	1.25	0.5	490-4482-1-ND	12.07	71.34	205.78	490-4482-2-ND	4,000	197.50/M	LLM215C70G105MA11L
	X7S	4	2.2µF	±20%	2.0	1.25	0.5	490-4484-1-ND	12.33	72.87	210.19	490-4484-2-ND	4,000	201.99/M	LLM215C70G225ME11L
	X7R	6.3	2.2µF	±20%	3.2	1.6	0.5	490-4501-1-ND	12.14	71.77	207.04	490-4501-2-ND	4,000	198.63/M	LLM315R70J225MA11L
X7R	10	.47µF	±20%	3.2	1.6	0.5	490-4499-1-ND	16.89	99.78	287.83	490-4499-2-ND	4,000	276.06/M	LLM315R71A474MA11L	
X7R	16	.1µF	±20%	3.2	1.6	0.5	490-4495-1-ND	13.85	81.84	236.08	490-4495-2-ND	4,000	226.68/M	LLM315R71C104MA11L	
X7R	16	.22µF	±20%	3.2	1.6	0.5	490-4497-1-ND	16.62	98.18	283.21	490-4497-2-ND	4,000	271.57/M	LLM315R71C224MA11L	

† Tolerance ±0.1mm ‡ Tolerance +0 / -0.15mm

Monolithic Ceramic Chip Capacitors Safety Standard



General Features: • New monolithic structure for small, high capacitance capable of operating at high voltage levels • 125°C guaranteed • Only for reflow soldering

GB Series: Features: • Chip monolithic ceramic capacitor (certified as conforming to safety standards) for AC lines • Compared to lead type capacitors, this new capacitor is greatly downsized and low-profiled to 1/10 or less in volume, and 1/4 or less in height. **Applications:** • Ideal for use as X capacitor for various switching power supplies

GD Series: Features: • Available for equipment based on IEC/EN60950 and UL1950 • The low-profile type (thickness: 1.5mm maximum) is available for use on thinner type equipment. **Applications:** • For use on line filters and couplings for DAA modems without transformers • Use on line filters for information equipment • Use as Y capacitor or X capacitor for various switching power supplies (GA352/355 types only)

Applications: • For use on line filters and couplings for DAA modems without transformers • Line filters for information equipment

GF Series: Features: • Available for equipment based on IEC/EN60950 and UL1950. The GA352/355 types are available for equipment based on IEC/EN60065, UL1492 and UL6500 • The low-profile type (thickness: 1.5mm maximum) is available for use on thinner type equipment. **Applications:** • For use on line filters and couplings for DAA modems without transformers • Use on line filters for information equipment • Use as Y capacitor or X capacitor for various switching power supplies (GA352/355 types only)

Standard Recognition

Series	Size Code	Safety Standard	Standard No.	Status of Recognition	Switching Power Supplies	Communication Network Devices such as a Modem
GB	2220	VDE, SEV, SEMKO	EN132400	⊙	⊙	⊙
GD	1808/1812	SEMKO	EN132400	⊙	—	⊙
	1808	SEMKO	EN132400	⊙	—	⊙
GF	2211/2220	UL	UL1414	⊙	⊙	⊙
	2211/2220	SEMKO	EN132400	⊙	⊙	⊙

Size Code	Type	WV AC	Capacitance	Tolerance	Dimensions – mm			Digi-Key Part No.	Cut Tape Pricing			Digi-Key Part No.	Tape and Reel		Murata Part No.
					L	W	T		10	100	500		Qty.	Pricing	
GB Series – Class X2															
2220	X7R	250	10000pF	±10%	5.7	5.0	2.0	490-4235-1-ND	25.83	206.63	774.89	490-4235-2-ND	1,000	1239.99	GA355DR7GB103KY02L
	X7R	250	15000pF	±10%	5.7	5.0	2.0	490-4236-1-ND	28.87	230.97	866.15	490-4236-2-ND	1,000	1385.87	GA355DR7GB153KY02L
	X7R	250	22000pF	±10%	5.7	5.0	2.0	490-4237-1-ND	33.34	266.69	1000.10	490-4237-2-ND	1,000	1600.20	GA355DR7GB223KY02L
	X7R	250	33000pF	±10%	5.7	5.0	2.7	490-4238-1-ND	40.09	320.76	—	490-4238-2-ND	500	962.25	GA355XR7GB333KY06L
GD Series – Class Y3															
1808	X7R	250	100pF	±10%	4.5	2.0	1.5	490-3483-1-ND	11.63	68.71	198.21	490-3483-2-ND	2,000	190.77/M	GA342QR7GD101KW01L
	X7R	250	150pF	±10%	4.5	2.0	1.5	490-3484-1-ND	11.97	70.75	204.10	490-3484-2-ND	2,000	196.38/M	GA342QR7GD151KW01L
	X7R	250	220pF	±10%	4.5	2.0	1.5	490-3485-1-ND	11.05	65.29	188.31	490-3485-2-ND	2,000	180.67/M	GA342QR7GD221KW01L
	X7R	250	330pF	±10%	4.5	2.0	1.5	490-3486-1-ND	11.05	65.29	188.31	490-3486-2-ND	2,000	180.67/M	GA342QR7GD331KW01L
	X7R	250	470pF	±10%	4.5	2.0	1.5	490-3487-1-ND	9.63	56.89	164.12	490-3487-2-ND	2,000	157.10/M	GA342QR7GD471KW01L
	X7R	250	680pF	±10%	4.5	2.0	1.5	490-3488-1-ND	9.63	56.89	164.12	490-3488-2-ND	2,000	157.10/M	GA342QR7GD681KW01L
	X7R	250	1000pF	±10%	4.5	2.0	1.5	490-3489-1-ND	10.59	62.58	180.53	490-3489-2-ND	2,000	172.82/M	GA342QR7GD102KW01L
	X7R	250	1500pF	±10%	4.5	2.0	1.5	490-3490-1-ND	11.05	65.29	188.31	490-3490-2-ND	2,000	180.67/M	GA342QR7GD152KW01L
1812	X7R	250	1800pF	±10%	4.5	3.2	1.5	490-3491-1-ND	15.04	88.84	256.28	490-3491-2-ND	1,000	245.75	GA343QR7GD182KW01L
	X7R	250	2200pF	±10%	4.5	3.2	1.5	490-3492-1-ND	15.04	88.84	256.28	490-3492-2-ND	1,000	245.75	GA343QR7GD222KW01L
	X7R	250	4700pF	±10%	4.5	3.2	2.0	490-3493-1-ND	15.04	88.84	256.28	490-3493-2-ND	1,000	245.75	GA343DR7GD472KW01L
GF Series – Class Y2															
1808	SL (JIS)	250	10pF	±5%	4.5	2.0	2.0	490-3459-1-ND	15.52	91.69	264.48	490-3459-2-ND	2,000	253.61/M	GA342D1XGF100JY02L
	SL (JIS)	250	12pF	±5%	4.5	2.0	2.0	490-3460-1-ND	19.57	115.62	333.49	490-3460-2-ND	2,000	319.82/M	GA342D1XGF120JY02L
	SL (JIS)	250	15pF	±5%	4.5	2.0	2.0	490-3461-1-ND	19.57	115.62	333.49	490-3461-2-ND	2,000	319.82/M	GA342D1XGF150JY02L
	SL (JIS)	250	18pF	±5%	4.5	2.0	2.0	490-3462-1-ND	19.57	115.62	333.49	490-3462-2-ND	2,000	319.82/M	GA342D1XGF180JY02L
	SL (JIS)	250	22pF	±5%	4.5	2.0	2.0	490-3463-1-ND	19.57	115.62	333.49	490-3463-2-ND	2,000	319.82/M	GA342D1XGF220JY02L
	SL (JIS)	250	27pF	±5%	4.5	2.0	2.0	490-3464-1-ND	17.55	103.72	299.20	490-3464-2-ND	2,000	287.28/M	GA342D1XGF270JY02L
	SL (JIS)	250	33pF	±5%	4.5	2.0	2.0	490-3465-1-ND	16.36	96.65	278.79	490-3465-2-ND	2,000	268.20/M	GA342D1XGF330JY02L
	SL (JIS)	250	39pF	±5%	4.5	2.0	2.0	490-3466-1-ND	17.55	103.72	299.20	490-3466-2-ND	2,000	287.28/M	GA342D1XGF390JY02L
	SL (JIS)	250	47pF	±5%	4.5	2.0	2.0	490-3467-1-ND	17.55	103.72	299.20	490-3467-2-ND	2,000	287.28/M	GA342D1XGF470JY02L
	SL (JIS)	250	56pF	±5%	4.5	2.0	2.0	490-3468-1-ND	17.86	105.55	304.45	490-3468-2-ND	2,000	291.76/M	GA342D1XGF56JY02L
	SL (JIS)	250	68pF	±5%	4.5	2.0	2.0	490-3469-1-ND	17.86	105.55	304.45	490-3469-2-ND	2,000	291.76/M	GA342D1XGF68JY02L
	SL (JIS)	250	82pF	±5%	4.5	2.0	2.0	490-3470-1-ND	17.86	105.55	304.45	490-3470-2-ND	2,000	291.76/M	GA342D1XGF82JY02L
	X7R	250	100pF	±10%	4.5	2.0	1.5	490-3471-1-ND	14.15	83.59	241.13	490-3471-2-ND	2,000	231.17/M	GA342QR7GF101KW01L
	X7R	250	150pF	±10%	4.5	2.0	1.5	490-3472-1-ND	14.15	83.59	241.13	490-3472-2-ND	2,000	231.17/M	GA342QR7GF151KW01L
	X7R	250	220pF	±10%	4.5	2.0	2.0	490-3473-1-ND	17.72	104.68	301.93	490-3473-2-ND	2,000	289.52/M	GA342DR7GF221KW02L
	X7R	250	330pF	±10%	4.5	2.0	2.0	490-3474-1-ND	17.72	104.68	301.93	490-3474-2-ND	2,000	289.52/M	GA342DR7GF331KW02L
	X7R	250	470pF	±10%	5.7	2.8	1.5	490-3475-1-ND	17.76	104.97	302.77	490-3475-2-ND	1,000	290.64	GA352QR7GF471KW01L
	X7R	250	680pF	±10%											