

# MURATA Low ESL Ceramic Chip Capacitors



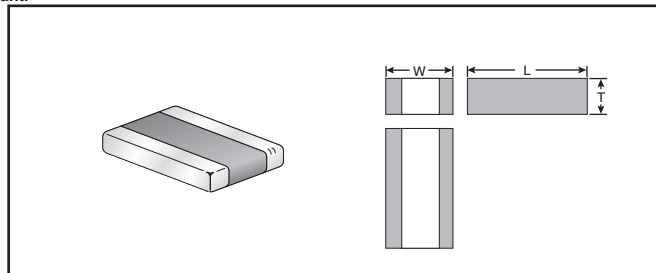
This product is RoHS compliant.

## LLL SERIES - STANDARD TWO TERMINAL REVERSED GEOMETRY LOW ESL TYPE

Murata offers a standard profile and low profile low inductance series of capacitors. Murata's Low ESL product line up includes the standard 2 terminal, reversed geometry type, (LLL Series), eight (8) terminal type (LLA Series) and Ten (10) terminal type (LLM Series). These three series are plated with Ni and matte Sn, and are RoHS compliant. Murata's low ESL series provide high capacitance in small case sizes. The low ESL series is especially ideal for high-speed microprocessors and high frequency digital equipment.

### Features:

- Low ESL: 150 to 250pH - suitable for noise reduction at high frequencies (> 200MHz)
- Operating temperature: **X7R**: -55°C to 125°C w/ a ±15% cap change over temperature range
- **X7S**: -55°C to 125°C w/ a ±22% cap change over temperature range
- **X6S**: -55°C to 105°C w/ a ±22% cap change over temperature range



Part No.	Dimensions: mm		
	W	L	T
LLL153	1.0 ± 0.05	0.5 ± 0.05	0.3 ± 0.05
LLL185	1.6 ± 0.1	0.8 ± 0.1	0.6 max.
LLL215	2.0 ± 0.1	1.25 ± 0.1	0.5 +0/-0.15
LLL216			0.6 ± 0.1
LLL219			0.85 ± 0.1
LLL315	3.2 ± 0.15	1.6 ± 0.15	0.5 ± 0.1
LLL317			0.7 ± 0.1
LLL31B			1.25 +0.15/-0.05
LLL31M			1.15 ± 0.1



RoHS Compliant

Murata Ceramic Caps, SMD

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Murata Part No.	Case Size	Type	Temperature Coefficient	Voltage	Value	Price Per Piece				Reel Qty.	Price Per Piece
							1	50	100	500		
81-LLL153C80J104ME1E	LLL153C80J104ME01E	0204	Standard	X6S	6.3V	0.1uF	.09	.062	.055	.047	10000	.025
81-LLL185R71H222M01L	LLL185R71H222MA01L	0306	Standard	X7R	50V	2200pF	.35	.27	.20	.107	4000	.057
81-LLL185R71H472M01L	LLL185R71H472MA01L	0306	Standard	X7R	50V	4700pF	.35	.271	.182	.104	4000	.059
81-LLL185R71C103MA1L	LLL185R71C103MA11L	0306	Low Profile	X7R	16V	0.01uF	.46	.238	.189	.108	4000	.061
81-LLL185R71E103M01L	LLL185R71E103MA01L	0306	Standard	X7R	25V	0.01uF	.17	.121	.108	.093	4000	.056
81-LLL185R71E103M11L	LLL185R71E103MA11L	0306	Low Profile	X7R	25V	0.01uF	.19	.133	.12	.102	4000	.062
81-LLL185R71C223M11L	LLL185R71C223MA11L	0306	Low Profile	X7R	16V	0.022uF	.21	.146	.131	.115	4000	.067
81-LLL185R71E223M01L	LLL185R71E223MA01L	0306	Standard	X7R	25V	0.022uF	.21	.149	.134	.114	4000	.069
81-LLL185R71C473M01L	LLL185R71C473MA01L	0306	Standard	X7R	16V	0.047uF	.23	.165	.148	.126	4000	.076
81-LLL185R71C473M11L	LLL185R71C473MA11L	0306	Low Profile	X7R	16V	0.047uF	.53	.271	.215	.123	4000	.071
81-LLL18R71A104MA01L	LLL185R71A104MA01L	0306	Standard	X7R	10V	0.1uF	.13	.095	.085	.073	4000	.044
81-LLL185R71A104M11L	LLL185R71A104MA11L	0306	Low Profile	X7R	10V	0.1uF	.14	.097	.087	.075	4000	.045
81-LLL185R70J224M01L	LLL185R70J224MA01L	0306	Standard	X7R	6.3V	0.22uF	.36	.184	.146	.084	4000	.047
81-LLL185C70G224M11L	LLL185C70G224MA11L	0306	Low Profile	X7S	4V	0.22uF	.48	.249	.197	.113	4000	.065
81-LLL185C70G474M01L	LLL185C70G474MA01L	0306	Standard	X7S	4V	0.47uF	.40	.206	.163	.094	4000	.053
81-LLL185C70G105M01L	LLL185C70G105ME01L	0306	Standard	X7S	4V	1.0uF	.35	.183	.145	.083	4000	.047
81-LLL185C70G225ME1L	LLL185C70G225ME01L	0306	Standard	X7S	4V	2.2uF	.17	.121	.108	.095	4000	.056
81-LLL215R71H222MA1L	LLL215R71H222MA11L	0508	Low Profile	X7R	50V	2,200pF	.54	.28	.222	.127	4000	.071
81-LLL216R71H472M01L	LLL216R71H472MA01L	0508	Standard	X7R	50V	4,700pF	.26	.186	.167	.143	3000	.086
81-LLL215R71H103M11L	LLL215R71H103MA11L	0508	Low Profile	X7R	50V	0.01uF	.42	.241	.201	.129	4000	.061
81-LLL216R71H103M01L	LLL216R71H103MA01L	0508	Standard	X7R	50V	0.01uF	.19	.133	.119	.102	4000	.061
81-LLL215R71E223M11L	LLL215R71E223MA11L	0508	Low Profile	X7R	25V	0.022uF	.43	.248	.207	.132	4000	.078
81-LLL216R71H223M01L	LLL216R71H223MA01L	0508	Standard	X7R	50V	0.022uF	.27	.192	.172	.148	3000	.089
81-LLL215R71C473M11L	LLL215R71C473MA11L	0508	Low Profile	X7R	16V	0.047uF	.44	.253	.211	.135	4000	.064
81-LLL216R71E473M01L	LLL216R71E473MA01L	0508	Standard	X7R	25V	0.047uF	.53	.305	.254	.162	4000	.09
81-LLL215R71C104M11L	LLL215R71C104MA11L	0508	Low Profile	X7R	16V	0.1uF	.25	.18	.162	.138	4000	.083
81-LLL216R71E104MA1L	LLL216R71E104MA01L	0508	Standard	X7R	25V	0.1uF	.19	.134	.12	.103	4000	.062
81-LLL215R71A224M11L	LLL215R71A224MA11L	0508	Low Profile	X7R	10V	0.22uF	.27	.189	.169	.145	4000	.087
81-LLL216R71A224M01L	LLL216R71A224MA01L	0508	Standard	X7R	10V	0.22uF	.29	.201	.186	.163	4000	.098
81-LLL215R70J474M11L	LLL215R70J474MA11L	0508	Low Profile	X7R	6.3V	0.47uF	.51	.288	.24	.153	4000	.085
81-LLL219R71A474M01L	LLL219R71A474MA01L	0508	Standard	X7R	10V	0.47uF	.29	.204	.189	.166	3000	.099
81-LLL219R70J105M01L	LLL219R70J105MA01L	0508	Standard	X7R	6.3V	1.0uF	.25	.176	.158	.135	3000	.081
81-LLL215C70G105M11L	LLL215C70G105MA11L	0508	Low Profile	X7S	4V	1.0uF	.51	.292	.244	.156	4000	.087
81-LLL219C70G225ME1L	LLL219C70G225ME01L	0508	Standard	X7S	4V	2.2uF	.63	.361	.301	.193	3000	.107
81-LLL315R71H103M11L	LLL315R71H103MA11L	0612	Low Profile	X7R	50V	0.01uF	.54	.307	.256	.163	4000	.073
81-LLL317R71H103M01L	LLL317R71H103MA01L	0612	Standard	X7R	50V	0.01uF	.61	.428	.318	.203	4000	.077
81-LLL315R71H223M11L	LLL315R71H223MA11L	0612	Low Profile	X7R	50V	0.022uF	.60	.345	.287	.184	4000	.082
81-LLL317R71H223M01L	LLL317R71H223MA01L	0612	Standard	X7R	50V	0.022uF	.29	.204	.19	.166	4000	.099
81-LLL315R71E473MA11	LLL315R71E473MA11L	0612	Low Profile	X7R	25V	0.047uF	.49	.282	.235	.15	4000	.071
81-LLL317R71H473M01L	LLL317R71H473MA01L	0612	Standard	X7R	50V	0.047uF	.63	.36	.30	.192	4000	.072
81-LLL315R71E104M11L	LLL315R71E104MA11L	0612	Low Profile	X7R	25V	0.1uF	.53	.305	.254	.162	4000	.077
81-LLL317R71E104M01L	LLL317R71E104MA01L	0612	Standard	X7R	25V	0.1uF	.26	.181	.162	.139	4000	.084
81-LLL31MR71H104M01L	LLL31MR71H104MA01L	0612	Standard	X7R	50V	0.1uF	.32	.225	.209	.183	3000	.109
81-LLL315R71C224M11L	LLL315R71C224MA11L	0612	Low Profile	X7R	16V	0.22uF	.64	.365	.304	.194	4000	.086
81-LLL317R71C224M01L	LLL317R71C224MA01L	0612	Standard	X7R	16V	0.22uF	.53	.271	.215	.123	3000	.071
81-LLL31MR71E224M01L	LLL31MR71E224MA01L	0612	Standard	X7R	25V	0.22uF	.55	.316	.263	.168	3000	.075
81-LLL315R71A474M11L	LLL315R71A474MA11L	0612	Low Profile	X7R	10V	0.47uF	.47	.245	.194	.111	4000	.051
81-LLL317R71C474M01L	LLL317R71C474MA01L	0612	Standard	X7R	16V	0.47uF	.66	.377	.314	.201	3000	.089
81-LLL31MR71E474M01L	LLL31MR71E474MA01L	0612	Standard	X7R	25V	0.47uF	.57	.344	.301	.215	3000	.128
81-LLL317R71A105M01L	LLL317R71A105MA01L	0612	Standard	X7R	10V	1.0uF	.19	.136	.122	.104	4000	.063
81-LLL31MR71C105M01L	LLL31MR71C105MA01L	0612	Standard	X7R	16V	1.0uF	.27	.193	.173	.148	3000	.089
81-LLL317R70J225MA1L	LLL317R70J225MA01L	0612	Standard	X7R	6.3V	2.2uF	.57	.342	.299	.214	4000	.101
81-LLL31MR71A225M01L	LLL31MR71A225MA01L	0612	Standard	X7R	10V	2.2uF	.36	.253	.235	.206	3000	.123
81-LLL31MR70J475M01L	LLL31MR70J475MA01L	0612	Standard	X7R	6.3V	4.7uF	.47	.342	.315	.273	3000	.168
81-LLL31BC70G106M01L	LLL31BC70G106MA01L	0612	Standard	X7R	4V	10uF	.76	.456	.399	.285	3000	.195