

# MURATA Low ESL Ceramic Chip Capacitors

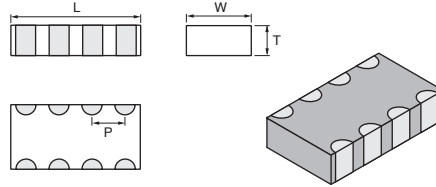


Murata offers a standard profile and low profile low inductance series of capacitors. Murata's Low ESL product line up includes the standard 2 terminal, reversed geometry type, (LLL Series), Eight (8) terminal type (LLA Series) and Ten (10) terminal type (LLM Series). These three series are plated with 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.

## LLA SERIES - EIGHT TERMINAL LOW ESL TYPE

### Features:

- Low ESL: 80 to 120pH. Suitable for high speed (800MHz to 4GHz) IC decoupling.
- 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.



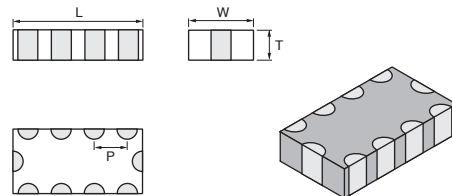
Part No.	Dimensions: mm			
	L	W	T	P
LLA185	1.6±0.1	0.8±0.1	0.5 +0.05/-0.1	0.4±0.1
LLA215	2.0±0.1	1.25±0.1	0.5 +0.05/-0.1	0.5±0.05
LLA219			0.85±0.1	0.5±0.05
LLA315	3.2±0.15	1.6±0.15	0.5 +0.05/-0.1	0.8±0.1
LLA319			0.85±0.1	0.8±0.1
LLA31M			1.15±0.1	0.8±0.1

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-LLA185C70G104MA1L	LLA185C70G104MA01L	0603	Standard	X7S	4V	0.1uF					4000	
81-LLA185C70G224MA1L	LLA185C70G224MA01L	0603	Standard	X7S	4V	0.22uF					4000	
81-LLA185C70G474MA1L	LLA185C70G474MA01L	0603	Standard	X7S	4V	0.47uF					4000	
81-LLA185C70G105ME1L	LLA185C70G105ME01L	0603	Standard	X7S	4V	1.0uF					4000	
81-LLA185C70G225ME6L	LLA185C70G225ME16L	0603	Standard	X7S	4V	2.2uF					4000	
81-LLA215R71E103MA4L	LLA215R71E103MA14L	0805	Low Profile	X7R	25V	0.01uF					4000	
81-LLA215R71E103MA1L	LLA215R71E103MA01L	0805	Standard	X7R	25V	0.01uF					3000	
81-LLA215R71E223MA4L	LLA215R71E223MA14L	0805	Low Profile	X7R	25V	0.022uF					4000	
81-LLA215R71E223MA1L	LLA215R71E223MA01L	0805	Standard	X7R	25V	0.022uF					3000	
81-LLA215R71C473MA4L	LLA215R71C473MA14L	0805	Low Profile	X7R	16V	0.047uF					4000	
81-LLA215R71C473MA1L	LLA215R71C473MA01L	0805	Standard	X7R	25V	0.047uF					3000	
81-LLA215R71C104MA4L	LLA215R71C104MA14L	0805	Low Profile	X7R	16V	0.1uF					4000	
81-LLA215R71C104MA01L	LLA215R71C104MA01L	0805	Standard	X7R	16V	0.1uF					3000	
81-LLA215R71A224MA4L	LLA215R71A224MA14L	0805	Low Profile	X7R	10V	0.22uF					4000	
81-LLA215R71C224MA1L	LLA215R71C224MA01L	0805	Standard	X7R	16V	0.22uF					3000	
81-LLA215R70J474MA1L	LLA215R70J474MA14L	0805	Low Profile	X7R	6.3V	0.47uF					4000	
81-LLA215R71A474MA1L	LLA215R71A474MA01L	0805	Standard	X7R	10V	0.47uF					3000	
81-LLA215R70J105MA01L	LLA215R70J105MA01L	0805	Standard	X7R	6.3V	1.0uF					3000	
81-LLA215C70G105MA4L	LLA215C70G105MA14L	0805	Low Profile	X7S	4V	1.0uF					4000	
81-LLA215C70G225ME1L	LLA215C70G225ME11L	0805	Low Profile	X7S	4V	2.2uF					4000	
81-LLA215C70G225ME1L	LLA215C70G225ME01L	0805	Standard	X7S	4V	2.2uF					3000	
81-LLA215C70G475ME9L	LLA215C70G475ME19L	0805	Low Profile	X7S	4V	4.7uF					4000	
81-LLA215C70G475ME1L	LLA215C70G475ME01L	0805	Standard	X7S	4V	4.7uF					3000	
81-LLA315R71C104MA4L	LLA315R71C104MA14L	1206	Low Profile	X7R	16V	0.1uF					4000	
81-LLA315R71C104MA1L	LLA315R71C104MA01L	1206	Standard	X7R	16V	0.1uF					3000	
81-LLA315R71C224MA4L	LLA315R71C224MA14L	1206	Low Profile	X7R	16V	0.22uF					4000	
81-LLA315R71C224MA01L	LLA315R71C224MA01L	1206	Standard	X7R	16V	0.22uF					3000	
81-LLA315R71A474MA1L	LLA315R71A474MA14L	1206	Low Profile	X7R	10V	0.47uF					4000	
81-LLA315R71C474MA1L	LLA315R71C474MA01L	1206	Standard	X7R	16V	0.47uF					3000	
81-LLA315R70J105MA14	LLA315R70J105MA14L	1206	Low Profile	X7R	6.3V	1.0uF					4000	
81-LLA315R71A105MA01L	LLA315R71A105MA01L	1206	Standard	X7R	10V	1.0uF					3000	
81-LLA315R70G225MA1L	LLA315R70G225MA01L	1206	Standard	X7R	4V	2.2uF					3000	
81-LLA315R70J225MA4L	LLA315R70J225MA14L	1206	Low Profile	X7R	6.3V	2.2uF					4000	
81-LLA31MR71A225MA1L	LLA31MR71A225MA01L	1206	Standard	X7R	10V	2.2uF					3000	

## LLM SERIES - TEN TERMINAL LOW ESL TYPE

### Features:

- Low ESL: 35 to 45pH. Suitable for high speed (1GHz to 4GHz) IC decoupling.
- 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.



Part No.	Dimensions: mm			
	L	W	T	P
LLM215	2.0±0.1	1.25±0.1	0.5 +0.05/-0.1	0.5±0.05
LLM315	3.2±0.15	1.6±0.15	0.5 +0.05/-0.1	0.8±0.1

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-LLM215R71E103MA1L	LLM215R71E103MA11L	0805	Low Profile	X7R	25V	0.01uF					4000	
81-LLM215R71E223MA1L	LLM215R71E223MA11L	0805	Low Profile	X7R	25V	0.022uF					4000	
81-LLM215R71C333MA1L	LLM215R71C333MA11L	0805	Low Profile	X7R	16V	0.033uF					4000	
81-LLM215R71C473MA1L	LLM215R71C473MA11L	0805	Low Profile	X7R	16V	0.047uF					4000	
81-LLM215R71C104MA1L	LLM215R71C104MA11L	0805	Low Profile	X7R	16V	0.1uF					4000	
81-LLM215R70J224MA1L	LLM215R70J224MA11L	0805	Low Profile	X7R	6.3V	0.22uF					4000	
81-LLM215R70J474MA1L	LLM215R70J474MA11L	0805	Low Profile	X7R	6.3V	0.47uF					4000	
81-LLM215C70G105MA1L	LLM215C70G105MA11L	0805	Low Profile	X7S	4V	1.0uF					4000	
81-LLM215C70G225ME1L	LLM215C70G225ME11L	0805	Low Profile	X7S	4V	2.2uF					4000	
81-LLM315R71C104MA1L	LLM315R71C104MA11L	1206	Low Profile	X7R	16V	0.1uF					4000	
81-LLM315R71C224MA1L	LLM315R71C224MA11L	1206	Low Profile	X7R	16V	0.22uF					4000	
81-LLM315R71A474MA1L	LLM315R71A474MA11L	1206	Low Profile	X7R	10V	0.47uF					4000	
81-LLM315R70J225MA1L	LLM315R70J225MA11L	1206	Low Profile	X7R	6.3V	2.2uF					4000	

