

## GRM series / Hi-Cap (1uF and over)

### Features

1. TA chip capacitor replacement product lineup is available in **X7R (X7S, X7T, X7U), X6S(X6T) and X5R** temperature characteristics with a capacitance of **1uF and larger**.
2. The line of high volumetric capacitance ceramic chip capacitors is available in 2.5V, 4V, 6.3V, 10V, 16V, 25V, 35V, 50V and 100V.
3. No polarity.
4. GRM series is offered with a Ni barrier termination plated with Matte Tin, and is RoHS compliant.
5. Stringent dimensional tolerances allow highly reliable, high-speed automatic chip placement on PCBs.

### Global Part Numbering

**GR M 18 8 R6 0J 105 K A01 D**  
**-1- -2- -3- -4- -5- -6- -7- -8- -9- -10-**

#### -1-:Product ID

Code	Product
GR	MLCC

#### -2-:Series

Code	Product
M	Tin Plated Termination

#### -3-:Dimension (LxW)

Code	Dimension (LxW)
15	1.0x0.5mm (EIA:0402)
18	1.6x0.8mm (EIA:0603)
21	2.0x1.25mm (EIA:0805)
31	3.2x1.6mm (EIA:1206)
32	3.2x2.5mm (EIA:1210)

#### -4-:Dimension (T)

Code	Dimension (T)
3	0.33mm
5	0.5mm
6	0.6mm
8	0.8mm
9	0.85mm
A	1.0mm
M	1.15mm
B	1.25mm
N	1.35mm
C	1.6mm
R	1.8mm
D	2.0mm
E	2.5mm

#### -5-:Temperature Characteristics

Code	TC	Temp. Range	Cap. Change	Operating Temp.
R7	X7R	-55 to 125C	+/-15%	-55 to 125C
C7	X7S		+/-22%	
D7	X7T		+22/-33%	
E7	X7U		+22/-56%	
C8	X6S	-55 to 105C	+/-22%	-55 to 105C
D8	X6T		+22/-33%	
R6	X5R	-55 to 85C	+/-15%	-55 to 85C

#### -6-:Rated Voltage

Code	Rated Voltage
0A	DC 2.5V
0G	DC 4V
0J	DC 6.3V
1A	DC 10V
1C	DC 16V
1E	DC 25V
YA	DC 35V
1H	DC 50V
2A	DC 100V

#### -7-:Capacitance

Code	Capacitance
105	1uF
106	10uF
107	100uF

#### -8-:Capacitance Tolerance

Code	Cap. Tol.	TC
K	+/-10%	X7_, X6_, X5R
M	+/-20%	X7_, X6_, X5R

#### -9-:Individual Specification Code

#### -10-:Packaging

Code	Packaging
D	Φ178mm Paper Taping
L	Φ178mm Plastic Taping
J	Φ330mm Paper Taping
K	Φ330mm Plastic Taping

## GRM series / Hi-Cap (1uF and over)

### Chip size and Capacitance range

< X7R (X7S, X7T, X7U) >

Mass Production

Under Development

Type	Size	WV	Capacitance Value (uF)						
			1	2.2	4.7	10	22	47	100
GRM18	0603	25	X7R						
		16	X7R						
		10	X7R	X7R					
		6.3	X7R	X7S					
GRM21	0805	50	X7R						
		25	X7R	X7R					
		16		X7R	X7R				
		10		X7R	X7R	X7R			
		6.3		X7R		X7R			
		4					X7U		
GRM31	1206	100	X7R	X7S					
		50	X7R	X7R	X7R				
		25		X7R	X7R	X7R			
		16		X7R	X7R	X7R			
		10				X7R	X7R		
		6.3				X7R	X7R		
		4					X7S	X7U	
GRM32	1210	100	X7R	X7R					
		50			X7R	X7R			
		35				X7R			
		25			X7R		X7R		
		16				X7R	X7R		
		10					X7R	X7R	
		6.3						X7R	
		4							X7U

< X6S(X6T) >

Type	Size	WV	1	2.2	4.7	10	22	47	100
GRM15	0402	4	X6S						
		2.5		X6S					
GRM18	0603	16		X6S					
		10		X6S					
		6.3		X6S					
		4			X6S				
GRM21	0805	50	X6S	X6S					
		25			X6S	NEW			
		16			X6S	X6S			
		10			X6S				
		6.3				X6S			
		4				X6S	X6S		
GRM31	1206	2.5						X6S	
		35			NEW	X6S			
		25				X6S			
		16			NEW	X6S	X6S		
		10					X6S	NEW	
		6.3					X6S	X6S	
GRM32	1210	4						X6S	X6T
		25					X6S		
		10						X6S	

## GRM series / Hi-Cap (1uF and over)

### Chip size and Capacitance range

<X5R>

Mass Production Under Development

Type	Size	WV	1	2.2	4.7	10	22	47	100
GRM15	0402	10							
		6.3							
		4							
GRM18	0603	25							
		16							
		10							
		6.3							
GRM21	0805	4							
		25							
		16							
		10							
GRM31	1206	6.3							
		4							
		25							
		16							
GRM32	1210	10							
		6.3							
		50							
		35							

< Low profile series> GRM15 series: 0.33mm Max  
 GRM18 series: 0.50mm Max  
 GRM21 series: 0.70mm Max, 0.95mm Max  
 GRM31 series: 0.95mm Max

Type	Size	Tmax (mm)	WV	1	2.2	4.7	10	22
GRM15	0402	0.33	4	X5R				
GRM18	0603	0.5	16	X5R				
			10	X6S				
			6.3	X6S	X5R			
			4			X5R		
GRM21	0805	0.7	25	X5R				
			16	X5R				
			10		X5R			
		0.95	25	X7R	X5R	X5R		
			16		X5R	X5R	X6S	NEW
			10			X6S	X5R	
GRM31	1206	0.7	6.3			X6S	X5R	X5R
			4				X6S	
			25		X5R			
		0.95	16		X5R			
			10			X5R		
			50		X5R	X5R		
GRM32	1210	0.95	25			X5R	X5R	NEW
			16			X5R	X6S	NEW
			10				X5R	

## GRM series / Hi-Cap (1uF and over)

### Murata P/N List <X7R (X7S, X7T, X7U)>

Size	Chip T (mm)	TC	WV	Cap Tol	Murata Global P/N	Sample	M.P.
0603	0.8+/-0.1	X7R	25	+/-10%	GRM188R71E105KA12D	Available	Mass Production
	0.8+/-0.1	X7R	16	+/-10%	GRM188R71C105KA12D	Available	Mass Production
	0.8+/-0.1	X7R	10	+/-10%	GRM188R71A105KA61D	Available	Mass Production
	0.8+/-0.1	X7R	6.3	+/-10%	GRM188R70J105KA01D	Available	Mass Production
0805	1.25+/-0.1	X7R	50	+/-10%	GRM21BR71H105KA12L	Available	Mass Production
	0.85+/-0.1	X7R	25	+/-10%	GRM219R71E105KA88D	Available	Mass Production
	1.25+/-0.15	R	25	+/-10%	GRM21BR71E105KA99D	Available	Mass Production
1206	1.6+/-0.2	X7R	100	+/-10%	GRM31CR72A105KA01L	Available	Mass Production
	1.15+/-0.1	X7R	50	+/-10%	GRM31MR71H105KA88L	Available	Mass Production
1210	1.6+/-0.2	X7R	100	+/-10%	GRM32CR72A105KA35L	Available	Mass Production
0603	0.8+/-0.1	X7R	10	+/-10%	GRM188R71A225KE15D	Available	Mass Production
	0.8+/-0.1	X7S	6.3	+/-10%	GRM188C70J225KE20D	Available	Mass Production
0805	1.25+/-0.15	X7R	25	+/-10%	GRM21BR71E225KA73L	Available	Mass Production
	1.25+/-0.1	X7R	16	+/-10%	GRM21BR71C225KA12L	Available	Mass Production
	1.25+/-0.1	X7R	10	+/-10%	GRM21BR71A225KA01L	Available	Mass Production
1206	1.6+/-0.3	X7R	100	+/-10%	GRM31CR72A225K****	Available	10Q2
	1.15+/-0.15	X7R	50	+/-10%	GRM31CR71H225KA88L	Available	Mass Production
	1.15+/-0.15	R	25	+/-10%	GRM31MR71E225KA93L	Available	Mass Production
	1.15+/-0.15	R	16	+/-10%	GRM31MR71C225KA35L	Available	Mass Production
1210	2.5+/-0.2	X7R	100	+/-10%	GRM32ER72A225KA35L	Available	Mass Production
0805	1.25+/-0.15	X7R	16	+/-10%	GRM21BR71C475KA73L	Available	Mass Production
	1.25+/-0.15	X7R	10	+/-10%	GRM21BR71A475KA73L	Available	Mass Production
1206	1.6+/-0.2	X7R	50	+/-10%	GRM31CR71H475KA12L	Available	Mass Production
	1.6+/-0.2	X7R	25	+/-10%	GRM31CR71E475KA88L	Available	Mass Production
	1.6+/-0.2	R	16	+/-10%	GRM31CR71C475KA01L	Available	Mass Production
1210	2.5+/-0.2	X7R	50	+/-10%	GRM32ER71H475KA88L	Available	Mass Production
	2.0+/-0.2	X7R	25	+/-10%	GRM32DR71E475KA61L	Available	Mass Production
	1.8+/-0.2	X7R	16	+/-10%	GRM32RR71C475KA01L	Available	Mass Production
0805	1.25+/-0.15	X7R	10	+/-10%	GRM21BR71A106KE51L	Available	Mass Production
	1.25+/-0.15	X7R	6.3	+/-10%	GRM21BR70J106KE76L	Available	Mass Production
	1.6+/-0.2	X7R	25	+/-10%	GRM31CR71E106KA12L	Available	Mass Production
	1.6+/-0.2	X7R	16	+/-10%	GRM31CR71C106KAC7L	Available	Mass Production
	1.6+/-0.2	X7R	10	+/-10%	GRM31CR71A106KA01L	Available	Mass Production
1210	2.5+/-0.2	X7R	50	+/-10%	GRM32ER71H106K***	Available	10Q1
	2.5+/-0.2	X7R	35	+/-10%	GRM32ER7YA106KA12L	Available	Mass Production
	2.0+/-0.2	X7R	25	+/-10%	GRM32DR71E106KA12L	Available	Mass Production
0805	1.25+/-0.15	X7U	2.5	+/-20%	GRM21BE70G226ME51L	Available	Mass Production
1206	1.6+/-0.2	X7R	10	+/-10%	GRM31CR71A226KE15L	Available	Mass Production
	1.6+/-0.2	X7R	6.3	+/-10%	GRM31CR70J226KE19L	Available	Mass Production
	1.6+/-0.2	X7S	4	+/-10%	GRM31CC70G226KE01L	Available	Mass Production
1210	2.5+/-0.2	X7R	25	+/-10%	GRM32ER71E226KE15L	Available	Mass Production
	2.5+/-0.2	X7R	16	+/-10%	GRM32ER71C226KE18L	Available	Mass Production
	2.5+/-0.2	R	10	+/-10%	GRM32ER71A226KE20L	Available	Mass Production
1206	1.6+/-0.2	X7U	4	+/-20%	GRM31CE70G476ME15L	Available	Mass Production
1210	2.5+/-0.2	X7R	10	+/-10%	GRM32ER71A476KE15L	Available	Mass Production
	2.5+/-0.2	X7R	6.3	+/-10%	GRM32ER70J476KE20L	Available	Mass Production
1210	2.5+/-0.2	X7U	4	+/-20%	GRM32EE70G107ME19L	Available	Mass Production

- 1) "\*" of under development P/N have not fixed yet.
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- 4) Above individual specification code and packaging code were decided with muRata standard specification, and it may change due to the special requirement by customer's drawing.
- 5) Sample marked "-" in Sample column are built upon your request. Lead time will be around 4wks (might be extended depending on production schedule). Please contact Murata Sales or Product Engineer directly.

# CHIP MONOLITHIC CERAMIC CAPACITOR



## GRM series / Hi-Cap (1uF and over)

### Murata P/N List <X6S (X6T)>

Cap	Size	Chip T (mm)	TC		WV	Cap Tol	Murata Global P/N	Sample	M.P.
1uF	0402	0.5+/-0.05	X5R	B3	10	+/-10%	GRM155R61A105KE15D	Available	Mass Production
		0.5+/-0.05	X5R	B3	6.3	+/-10%	GRM155R60J105KE19D	Available	Mass Production
	0603	0.8+/-0.1	X5R	B3	25	+/-10%	GRM188R61E105KA12D	Available	Mass Production
		0.8+/-0.1	X5R	B3	16	+/-10%	GRM188R61C105KA93D	Available	Mass Production
2.2uF	0603	0.8+/-0.1	X5R	B1	10	+/-10%	GRM188R61A105KA61D	Available	Mass Production
		0.8+/-0.1	X5R	B3	25	+/-10%	GRM188R61E225K****	09Q4	10Q1
		0.8+/-0.1	X5R	B3	16	+/-10%	GRM188R61C225KE15D	Available	Mass Production
		0.8+/-0.1	X5R	B3	10	+/-10%	GRM188R61A225KE34D	Available	Mass Production
	0805	0.8+/-0.1	X5R	B3	6.3	+/-10%	GRM188R60J225KE19D	Available	Mass Production
		1.25+/-0.1	X5R	B3	25	+/-10%	GRM21BR61E225KA12L	Available	Mass Production
		1.25+/-0.1	X5R	B3	16	+/-10%	GRM21BR61C225KE15D	Available	Mass Production
		1.25+/-0.1	X5R	B3	10	+/-10%	GRM21BR61A225KE34D	Available	Mass Production
4.7uF	0603	0.8+/-0.1	X5R	B3	25	+/-10%	GRM188R60J225KE19D	Available	Mass Production
		0.8+/-0.1	X5R	B3	16	+/-10%	GRM188R61E225KA12L	Available	Mass Production
		0.8+/-0.1	X5R	B3	10	+/-10%	GRM188R61A225KE34D	Available	Mass Production
		1.25+/-0.1	X5R	B3	25	+/-10%	GRM21BR61E225KA12L	Available	Mass Production
	0805	1.25+/-0.1	X5R	B3	16	+/-10%	GRM21BR61C225KE15D	Available	Mass Production
		1.25+/-0.1	X5R	B3	10	+/-10%	GRM21BR61A225KE34D	Available	Mass Production
		1.25+/-0.15	X5R	B3	10	+/-10%	GRM21BR61A475KA73L	Available	Mass Production
		0.85+/-0.1	X5R	B3	50	+/-10%	GRM319R61H225K****	09Q4	10Q1
	1206	1.6+/-0.2	X5R	B3	25	+/-10%	GRM31CR61E475KA88L	Available	Mass Production
		1.6+/-0.2	X5R	B1	16	+/-10%	GRM31CR61C475KA01L	Available	Mass Production
10uF	0603	0.8+/-0.1	X5R	B3	6.3	+/-20%	GRM188R60J106ME47D	Available	Mass Production
		1.25+/-0.15	X5R	B3	25	+/-10%	GRM21BR61E106KA73L	Available	Mass Production
		1.25+/-0.1	X5R	B3	16	+/-10%	GRM21BR61C106KE15L	Available	Mass Production
		0.85+/-0.1	X5R	B3	10	+/-10%	GRM21BR61A106KE44D	Available	Mass Production
		1.25+/-0.1	X5R	B3	10	+/-10%	GRM21BR61A106KE19L	Available	Mass Production
		0.85+/-0.1	X5R	B3	6.3	+/-10%	GRM21BR60J106KE19D	Available	Mass Production
	1206	1.25+/-0.1	X5R	B3	6.3	+/-10%	GRM21BR60J106KE19L	Available	Mass Production
		1.6+/-0.2	X5R	B3	50	+/-10%	GRM31CR61H106K****	09Q4	10Q1
		1.6+/-0.2	X5R	B3	35	+/-10%	GRM31CR61A106KA12L	Available	Mass Production
		0.85+/-0.1	X5R	B3	25	+/-10%	GRM319R61E106KA12D	Available	Mass Production
		1.6+/-0.2	X5R	B3	25	+/-10%	GRM31CR61E106KA12L	Available	Mass Production
		1.6+/-0.2	X5R	B3	16	+/-10%	GRM31CR61C106KA88L	Available	Mass Production
	1210	1.15+/-0.1	X5R	B3	10	+/-10%	GRM31MR61A106KE19L	Available	Mass Production
		2.5+/-0.2	X5R	B3	50	+/-10%	GRM32ER61H106K****	Available	10Q1
		2.5+/-0.2	X5R	B3	35	+/-10%	GRM32ER61A106KA12L	Available	Mass Production
		2.5+/-0.2	X5R	B3	35	+/-10%	GRM32ER61A106KA12L	Available	Mass Production
22uF	0805	1.25+/-0.15	X5R	B3	6.3	+/-20%	GRM21BR60J226ME39L	Available	Mass Production
		0.85+/-0.1	X5R	B3	6.3	+/-20%	GRM21BR60J226ME****	09Q4	10Q1
		1.6+/-0.2	X5R	B3	25	+/-10%	GRM31CR61E226KE15L	Available	Mass Production
		1.6+/-0.2	X5R	B3	16	+/-10%	GRM31CR61C226KE15L	Available	Mass Production
	1206	1.6+/-0.2	X5R	B3	10	+/-10%	GRM31CR61A226KE19L	Available	Mass Production
		1.6+/-0.2	X5R	B3	6.3	+/-10%	GRM31CR60J226KE19L	Available	Mass Production
		2.5+/-0.2	X5R	B3	25	+/-10%	GRM32ER61E226KE15L	Available	Mass Production
		2.5+/-0.2	X5R	B3	16	+/-10%	GRM32ER61C226KE20L	Available	Mass Production
	1210	1.35+/-0.15	X5R	B3	10	+/-10%	GRM32NR61A226KE19L	Available	Mass Production
		2.5+/-0.2	X5R	B1	10	+/-10%	GRM32ER61A226KA65L	Available	Mass Production
47uF	0805	1.25+/-0.15	X5R	B3	4	+/-20%	GRM21BR60G476ME15L	Available	Mass Production
		1.6+/-0.2	X5R	B3	10	+/-20%	GRM31CR61A476ME15L	Available	Mass Production
	1210	1.6+/-0.2	X5R	B3	6.3	+/-20%	GRM31CR60J476ME19L	Available	Mass Production
		2.5+/-0.2	X5R	B3	16	+/-10%	GRM32ER61C476KE15L	Available	Mass Production
		2.5+/-0.2	X5R	B3	10	+/-10%	GRM32ER61A476KE20L	Available	Mass Production
100uF	1206	1.6+/-0.2	X5R	X5R	6.3	+/-20%	GRM31CR60J107ME39L	Available	Mass Production
	1210	2.5+/-0.2	X5R	B3	6.3	+/-20%	GRM32ER60J107ME20L	Available	Mass Production

NEW

NEW  
NEW

NEW

NEW

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Cap	Size	Chip T (mm)	TC	WV	Cap Tol	Murata Global P/N	Sample	M.P.
1uF	0402	0.5+/-0.05	X5R	10	+/-10%	GRM155R61A105KE15D	Available	Mass Production
		0.5+/-0.05	X5R	6.3	+/-10%	GRM155R60J105KE19D	Available	Mass Production
	0603	0.8+/-0.1	X5R	25	+/-10%	GRM188R61E105KA12D	Available	Mass Production
		0.8+/-0.1	X5R	16	+/-10%	GRM188R61C105KA93D	Available	Mass Production
2.2uF	0603	0.8+/-0.1	X5R	10	+/-10%	GRM188R61A105KA61D	Available	Mass Production
		0.8+/-0.1	X5R	25	+/-10%	GRM188R61E225K****	09Q4	10Q1
		0.8+/-0.1	X5R	16	+/-10%	GRM188R61C225KE15D	Available	Mass Production
		0.8+/-0.1	X5R	10	+/-10%	GRM188R61A225KE34D	Available	Mass Production
	0805	0.8+/-0.1	X5R	6.3	+/-10%	GRM188R60J225KE19D	Available	Mass Production
		1.25+/-0.1	X5R	25	+/-10%	GRM21BR61E225KA12L	Available	Mass Production
		0.85+/-0.1	X5R	50	+/-10%	GRM319R61H225K****	09Q4	10Q1
		1.25+/-0.1	X5R	10	+/-10%	GRM319R61H225K****	09Q4	10Q1
4.7uF	0603	0.8+/-0.1	X5R	6.3	+/-10%	GRM188R60J475KE19D	Available	Mass Production
		0.85+/-0.1	X5R	25	+/-10%	GRM219R61E475K****	09Q4	10Q1
		1.25+/-0.1	X5R	25	+/-10%	GRM21BR61E475KA12L	Available	Mass Production
		1.25+/-0.1	X5R	16	+/-10%	GRM21BR61C475KA88L	Available	Mass Production
	0805	1.25+/-0.15	X5R	10	+/-10%	GRM21BR61A475KA73L	Available	Mass Production
		0.85+/-0.1	X5R	50	+/-10%	GRM319R61H475K****	09Q4	10Q1
		1.6+/-0.2	X5R	25	+/-10%	GRM31CR61E475KA88L	Available	Mass Production
		1.6+/-0.2	X5R	16	+/-10%	GRM31CR61C475KA01L	Available	Mass Production
10uF	0603	0.8+/-0.1	X5R	6.3	+/-20%	GRM188R60J106ME47D	Available	Mass Production
		1.25+/-0.15	X5R	25	+/-10%	GRM21BR61E106KA73L	Available	Mass Production
		1.25+/-0.1	X5R	16	+/-10%	GRM21BR61C106KE15L	Available	Mass Production
		0.85+/-0.1	X5R	10	+/-10%	GRM219R61A106KE44D	Available	Mass Production
	0805	1.25+/-0.1	X5R	10	+/-10%	GRM21BR61A106KE19L	Available	Mass Production
		0.85+/-0.1	X5R	6.3	+/-10%	GRM219R60J106KE19D	Available	Mass Production
		1.25+/-0.1	X5R	6.3	+/-10%	GRM21BR60J106KE19L	Available	Mass Production
		1.6+/-0.2	X5R	50	+/-10%	GRM31CR61H106K****	09Q4	10Q1
	1206	1.6+/-0.2	X5R	35	+/-10%	GRM31CR61YA106KA12L	Available	Mass Production
		0.85+/-0.1	X5R	25	+/-10%	GRM319R61E106KA12D	Available	Mass Production
		1.6+/-0.2	X5R	25	+/-10%	GRM31CR61E106KA12L	Available	Mass Production
		1.6+/-0.2	X5R	16	+/-10%	GRM31CR61C106KA88L	Available	Mass Production
	1210	1.15+/-0.1	X5R	10	+/-10%	GRM31MR61A106KE19L	Available	Mass Production
		2.5+/-0.2	X5R	50	+/-10%	GRM32ER61H106K****	Available	09Q4
		2.5+/-0.2	X5R	35	+/-10%	GRM32ER61YA106KA12L	Available	Mass Production
		1.25+/-0.15	X5R	6.3	+/-20%	GRM21BR60J226ME39L	Available	Mass Production
22uF	0805	0.85+/-0.1	X5R	6.3	+/-20%	GRM219R60J226M****	09Q4	10Q1
		1.6+/-0.2	X5R	25	+/-10%	GRM31CR61E226KE15L	Available	Mass Production
	1206	1.6+/-0.2	X5R	16	+/-10%	GRM31CR61C226KE15L	Available	Mass Production
		1.6+/-0.2	X5R	10	+/-10%	GRM31CR61A226KE19L	Available	Mass Production
	1210	1.6+/-0.2	X5R	6.3	+/-10%	GRM31CR60J226KE19L	Available	Mass Production
		2.5+/-0.2	X5R	25	+/-10%	GRM32ER61E226KE15L	Available	Mass Production
		2.5+/-0.2	X5R	16	+/-10%	GRM32ER61C226KE20L	Available	Mass Production
		1.35+/-0.15	X5R	10	+/-10%	GRM32NR61A226KE19L	Available	Mass Production
47uF	1206	2.5+/-0.2	X5R	10	+/-10%	GRM32ER61A226KA65L	Available	Mass Production
		1.25+/-0.15	X5R	4	+/-20%	GRM21BR60G476ME15L	Available	Mass Production
		1.6+/-0.2	X5R	10	+/-20%	GRM31CR61A476ME15L	Available	Mass Production
		1.6+/-0.2	X5R	6.3	+/-20%	GRM31CR60J476ME19L	Available	Mass Production
100uF	1210	2.5+/-0.2	X5R	16	+/-10%	GRM32ER61C476KE15L	Available	Mass Production
		2.5+/-0.2	X5R	10	+/-10%	GRM32ER61A476KE20L	Available	Mass Production
		1.6+/-0.2	X5R	6.3	+/-20%	GRM31CR60J107ME39L	Available	Mass Production
		2.5+/-0.2	X5R	6.3	+/-20%	GRM32ER60J107ME20L	Available	Mass Production

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## GRM series / Hi-Cap (1uF and over)

Murata P/N List <Low profile series>

GRM15 series: 0.33mm Max

GRM18 series: 0.5mm Max

GRM21 series: 0.70mm Max, 0.95mm Max

GRM31 series: 0.95mm Max

Cap	Size	TC	WV	Chip T(mm)	Cap.Tol.	Murata Global P/N	Sample	Mass Production
1uF	0603	X5R	25	0.5mmMax	+/-10%	GRM185R61E105KA12D	Available	Mass Production
		X5R	16	0.5mmMax	+/-10%	GRM185R61C105KE44D	Available	Mass Production
		X6S	10	0.5mmMax	+/-10%	GRM185C81A105KE36D	Available	Mass Production
		X6S	6.3	0.5mmMax	+/-10%	GRM185C80J105KE26D	Available	Mass Production
	0805	X5R	25	0.7mmMax	+/-10%	GRM216R61E105KA12D	Available	Mass Production
		X5R	16	0.7mmMax	+/-10%	GRM216R61C105KA88D	Available	Mass Production
		X7R	25	0.95mmMax	+/-10%	GRM219R71E105KA88D	Available	Mass Production
2.2uF	0603	X5R	6.3	0.5mmMax	+/-10%	GRM185R60J225KE26D	Available	Mass Production
	0805	X5R	10	0.7mmMax	+/-10%	GRM216R61A225KE24D	Available	Mass Production
		X5R	25	0.95mmMax	+/-10%	GRM219R61E225KA12D	Available	Mass Production
		X5R	16	0.95mmMax	+/-10%	GRM219R61C225KA88D	Available	Mass Production
		1206	X5R	50	0.95mmMax	+/-10%	GRM319R61H225K****	09Q4
	X5R		25	0.7mmMax	+/-10%	GRM316R61E225KA12D	Available	Mass Production
	X5R		16	0.7mmMax	+/-10%	GRM316R61C225KA88D	Available	Mass Production
4.7uF	0603	X5R	4	0.5mmMax	+/-20%	GRM185R60G475ME15D	Available	Mass Production
	0805	X5R	25	0.95mmMax	+/-10%	GRM219R61E475K****	09Q4	10Q1
		X6S	16	0.95mmMax	+/-10%	GRM219C81C475K****	09Q4	10Q1
		X5R	16	0.95mmMax	+/-10%	GRM219R61C475KE15D	Available	Mass Production
		X6S	10	0.95mmMax	+/-10%	GRM219C81A475KE34D	Available	Mass Production
		X6S	6.3	0.95mmMax	+/-10%	GRM219C80J475KE19D	Available	Mass Production
	1206	X5R	10	0.7mmMax	+/-10%	GRM316R61A475KE19D	Available	Mass Production
		X5R	50	0.95mmMax	+/-10%	GRM319R61H475K****	09Q4	10Q1
		X5R	25	0.95mmMax	+/-10%	GRM319R61E475KA12D	Available	Mass Production
		X5R	16	0.95mmMax	+/-10%	GRM319R61C475KA88D	Available	Mass Production
		0805	X5R	16	0.95mmMax	+/-10%	GRM219R61C106KA73D	Available
	X5R		10	0.95mmMax	+/-10%	GRM219R61A106KE44D	Available	Mass Production
X5R	6.3		0.95mmMax	+/-10%	GRM219R60J106KE19D	Available	Mass Production	
10uF	1206	X5R	25	0.95mmMax	+/-10%	GRM319R61E106KA12D	Available	Mass Production
		X6S	16	0.95mmMax	+/-10%	GRM319C81C106KA12D	Available	Mass Production
22uF	0805	X5R	6.3	0.95mmMax	+/-20%	GRM219R60J226M****	09Q4	10Q1

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