CHIP MONOLITHIC CERAMIC CAPACITOR



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
М	Tin Plated
IVI	Termination

-5-:Temperature Characteristics

Code	TC	Temp. Range	Cap. Change	Operating Temp.
R7	X7R		+/-15%	
C7	X7S	-55 to 125C	+/-22%	-55 to 125C
D7	X7T		+22/-33%	-55 10 1250
E7	X7U		+22/-56%	
C8	X6S	-55 to 105C	+/-22%	-55 to 105C
D8	X6T	-33 10 1030	+22/-33%	-55 10 1050
R6	X5R	-55 to 85C	+/-15%	-55 to 85C

-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)

	nension (1)
Code	Dimension (T)
3	0.33mm
5	0.5mm
6	0.6mm
8	0.8mm
9	0.85mm
Α	1.0mm
М	1.15mm
В	1.25mm
N	1.35mm
С	1.6mm
R	1.8mm
D	2.0mm
Е	2.5mm

-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

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Code	Capacitance
105	1uF
106	10uF
107	100uF

-8-: Capacitance Tolerance

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

-9-:Individual Specification Code

-10-:Packaging

Code	Packaging
D	Ф178mm Paper Taping
L	Ф178mm Plastic Taping
J	Ф330mm Paper Taping
K	Ф330mm Plastic Taping



Chip size and Capacitance range

< X	7R (X	7 5 , 2	X7T, X7U)	>	Mass P	roduction		Under Developme	nt			
Tuno	Size	wv	Capacitance Value (uF)									
Type	Size	VVV	1	2.2	4.7	10	22	47	100			
		25	X7R									
GRM18	0603	16	X7R									
GRIVITO	0003	10	X7R	X7R								
		6.3	X7R	X7S								
		50	X7R									
		25	X7R	X7R								
GRM21	0805	16		X7R	X7R							
GRIVIZI	0605	10		X7R	X7R	X7R						
		6.3		X7R		X7R						
		4					X7U					
		100	X7R	X7S								
		50	X7R	X7R	X7R							
		25		X7R	X7R	X7R						
GRM31	1206	16		X7R	X7R	X7R						
		10				X7R	X7R					
		6.3				X7R	X7R					
		4					X7S	X7U				
					100	X7R	X7R					
		50			X7R	X7R						
		35				X7R						
GRM32	1210	25			X7R		X7R					
	-1210	16				X7R	X7R					
		10					X7R	X7R				
		6.3						X7R				

< X6S(X6T) >

Type	Size	WV	1	2.2	4.7	10	22	47	100
GRM15	0402	4	X6S						
GKIVITS	0402	2.5		X6S					
		16		X6S					
GRM18	0603	10		X6S					
CINITO	0000	6.3		X6S					
		4			X6S				
		50	X6S	X6S		A15147			
		25			X6S	NEW			
		16			X6S	X6S			
GRM21	0805 10	10			X6S				
		6.3				X6S			
		4				X6S	X6S		
		2.5						X6S	
		35			NEW	X6S			
		25				X6S			
GRM31	1206	16			NEW	X6S	X6S		
OINWOI	1200	10			11211		X6S	NEW	
		6.3					X6S	X6S	
		4						X6S	X6T
		25					X6S		
GRM32	1210	10						X6S	



Chip size and Capacitance range



< 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

Туре	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	\- <u>-</u>											
		0.95	25	X7R	X5R	X5R											
												16		X5R	X5R X6S	X5R	NEW
			10			X6S	X5R										
			6.3			X6S	X5R	X5R									
			4				X6S										
GRM31	1206	0.7	25		X5R												
			16		X5R												
			10			X5R											
			50		X5R	X5R											
	0.95		25			X5R	X5R	NEW									
			16			X5R	X6S	NEW									
			10				X5R										



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

Size	Chip T (mm)	TC	WV	Cap Tol	Murata Global P/N	Sample	M.P.
	0.8+/-0.1	X7R	25	+/-10%	GRM188R71E105KA12D	Available	Mass Production
0000	0.8+/-0.1	X7R	16	+/-10%	GRM188R71C105KA12D	Available	Mass Production
0603	0.8+/-0.1	X7R	10	+/-10%	GRM188R71A105KA61D	Available	Mass Production
	0.8+/-0.1	X7R	6.3	+/-10%	GRM188R70J105KA01D	Available	Mass Production
•	1.25+/-0.1	X7R	50	+/-10%	GRM21BR71H105KA12L	Available	Mass Production
0805	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
1206	1.15+/-0.1	X7R	50	+/-10%	GRM31MR71H105KA88L	Available	Mass Production
1210	1.6+/-0.2	X7R	100	+/-10%	GRM32CR72A105KA35L	Available	Mass Production
0602	0.8+/-0.1	X7R	10	+/-10%	GRM188R71A225KE15D	Available	Mass Production
0603	0.8+/-0.1	X7S	6.3	+/-10%	GRM188C70J225KE20D	Available	Mass Production
	1.25+/-0.15	X7R	25	+/-10%	GRM21BR71E225KA73L	Available	Mass Production
0805	1.25+/-0.1	X7R	16	+/-10%	GRM21BR71C225KA12L	Available	Mass Production
	1.25+/-0.1	X7R	10	+/-10%	GRM21BR71A225KA01L	Available	Mass Production
	1.6+/-0.3	X7R	100	+/-10%	GRM31CR72A225K****	Available	10Q2
1206	1.15+/-0.15	X7R	50	+/-10%	GRM31CR71H225KA88L	Available	Mass Production
1200	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
0005	1.25+/-0.15	X7R	10	+/-10%	GRM21BR71A475KA73L	Available	Mass Production
	1.6+/-0.2	X7R	50	+/-10%	GRM31CR71H475KA12L	Available	Mass Production
1206	1.6+/-0.2	X7R	25	+/-10%	GRM31CR71E475KA88L	Available	Mass Production
	1.6+/-0.2	R	16	+/-10%	GRM31CR71C475KA01L	Available	Mass Production
	2.5+/-0.2	X7R	50	+/-10%	GRM32ER71H475KA88L	Available	Mass Production
1210	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
0005	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
	2.5+/-0.2	X7R	50	+/-10%	GRM32ER71H106K***	Available	10Q1
1210	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
	1.6+/-0.2	X7R	10	+/-10%	GRM31CR71A226KE15L	Available	Mass Production
1206	1.6+/-0.2	X7R	6.3	+/-10%	GRM31CR70J226KE19L	Available	Mass Production
	1.6+/-0.2	X7S	4	+/-10%	GRM31CC70G226KE01L	Available	Mass Production
	2.5+/-0.2	X7R	25	+/-10%	GRM32ER71E226KE15L	Available	Mass Production
1210	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
- 1210	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) &}quot;*" of under development P/N have not fixed yet.

²⁾ Q1 = January to March, Q2 = April to June, Q3 = July to September, Q4 = October to December

³⁾ This is muRata's development schedule, which may change due to progress of each development works.

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.



Murata P/N List <X6S (X6T)>

1.25+/-0.1	Сар	Size	Chip T (mm)	TC		WV	Cap Tol	Murata Global P/N	Sample	M.P.	
10F			0.5+/-0.05	X5R	B3	10	+/-10%	GRM155R61A105KF15D	Available	Mass Production	Ī
19	1uF	0402				_					1
2003 0.8+-0.1 XSR B3 16 +/-10% GRM188R61C10SKA83D Available Mass Production 0.8+-0.1 XSR B3 10 +/-10% GRM188R61L0SKA61D Available Mass Production 0.8+-0.1 XSR B3 16 +/-10% GRM188R61L2SKE15D Available Mass Production 0.8+-0.1 XSR B3 10 +/-10% GRM188R61C22SKE15D Available Mass Production 0.8+-0.1 XSR B3 10 +/-10% GRM188R61C22SKE15D Available Mass Production 0.8+-0.1 XSR B3 10 +/-10% GRM188R61C22SKE15D Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM188R61C22SKE15D Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM188R601427SKE19D Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM188R60147SKE19D Available Mass Production 0.8+-0.1 XSR B3 2.5 +/-10% GRM188R60147SKE19D Available Mass Production 0.8+-0.1 XSR B3 2.5 +/-10% GRM188R60147SKE19D Available Mass Production 0.8+-0.1 XSR B3 2.5 +/-10% GRM188R60147SKE19D Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM188R6147SKM-3 Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM188R6147SKM-3 Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM188R6147SKM-3 Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM188R6147SKM-3 Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM188R61147SKM-3 Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM188R61106K473 Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM188R61106K473 Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM218R61106K473 Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM218R61106K473 Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM218R61106K472 Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM218R61106K412 Available Mass Production 0.8+-0.1 XSR B3 5.5 +/-10% GRM3		-			B3				Available		
2.20F		0603									1
2.2uF 0.8a+0.1 XSR B3 25											1
2.20F 0.83+/0.1				_							
2.2uF					В3	16				Mass Production	
0.88+0.1 X5R B3 6.3 +/-10% GRM188R60J225KE19D Available Mass Production 1206 0.88+0.1 X5R B3 25 +/-10% GRM21BR61E25KA12L Available Mass Production 0.88+0.1 X5R B3 50 +/-10% GRM319861H225K:*** 904 1001											1
1,25+0.1	2.2uF										1
1206											1
4.70F 4.											
1.7uF					B3						
1.25+/-0.1 X5R B3 25 +/-10% GRM21BR61E475KA12L Available Mass Production 1.25+/-0.15 X5R B3 16 +/-10% GRM21BR61C475KA88L Available Mass Production 1.25+/-0.15 X5R B3 10 +/-10% GRM21BR61C475KA88L Available Mass Production 1.25+/-0.15 X5R B3 50 +/-10% GRM31GR61E475KA98L Available Mass Production 1.6+/-0.2 X5R B3 25 +/-10% GRM31GR61E475KA98L Available Mass Production 1.6+/-0.2 X5R B3 25 +/-10% GRM31GR61E475KA98L Available Mass Production Mass Production 1.25+/-0.1 X5R B3 6.3 +/-20% GRM188R60.016ME47D Available Mass Production N. 1.25+/-0.1 X5R B3 16 +/-10% GRM21BR61E106KA73L Available Mass Production N. 1.25+/-0.1 X5R B3 10 +/-10% GRM21BR61C106KE4AD Available Mass Production 0.85+/-0.1 X5R B3 10 +/-10% GRM21BR61A106KE4AD Available Mass Production 0.85+/-0.1 X5R B3 6.3 +/-10% GRM21BR61D106KE4D Available Mass Production 0.85+/-0.1 X5R B3 6.3 +/-10% GRM21BR60J106KE19L Available Mass Production 0.85+/-0.1 X5R B3 5.0 +/-10% GRM21BR60J106KE19L Available Mass Production 0.85+/-0.1 X5R B3 5.0 +/-10% GRM31CR61H106K*** 0.904 1001 1.25+/-0.1 X5R B3 5.0 +/-10% GRM31CR61H106K*** 0.904 1001 1.6+/-0.2 X5R B3 25 +/-10% GRM31CR61H106K*** 0.904 1001 1.6+/-0.2 X5R B3 25 +/-10% GRM31CR61E106KA12L Available Mass Production 1.6+/-0.2 X5R B3 5.0 +/-10% GRM31CR61E106KA12L Available Mass Production N. 1.5+/-0.1 X5R B3 5.0 +/-10% GRM31CR61E106KA12L Available Mass Production N. 1.5+/-0.2 X5R B3 5.0 +/-10% GRM31CR61E26KE15L Available Mass Production N. 1.6+/-0.2 X5R B3 5.0 +/-10% GRM31CR61E26KE15L Available Mass Production N. 1.5+/-0.1 X5R B3 5.0 +/-10% GRM31CR61E26KE15L Available Mass Production N. 1.6+/-0.2 X5R B3 5.0 +/-10% GRM31CR61E26KE15L Available Mass Produ		•									
1.25+/-0.1					В3	25				Mass Production	
1.25+/-0.15 X5R B3 10 +/-10% GRM21BR61A475KA73L Available Mass Production 0.85+/-0.1 X5R B3 50 +/-10% GRM31GR61H475K************************************		0805									1
1206	4.7uF			-	-						
1206				_							
1.6+/-0.2		1206									
1.25+/-0.15 X5R B3 25 +/-10% GRM21BR61E106KA73L Available Mass Production No.											
1.25+/-0.15 X5R B3 25 +/-10% GRM21BR61E106KA73L Available Mass Production No.		0603		-		_					1
1.25+/-0.1 X5R B3 16 +/-10% GRM21BR61C106KE15L Available Mass Production					В3						NEW
10uf 1.25+/-0.1 X5R B3 10 +/-10% GRM219R61A106KE44D Available Mass Production 1.25+/-0.1 X5R B3 10 +/-10% GRM219R60J106KE19L Available Mass Production 0.85+/-0.1 X5R B3 6.3 +/-10% GRM219R60J106KE19L Available Mass Production 1.25+/-0.1 X5R B3 6.3 +/-10% GRM219R60J106KE19L Available Mass Production 1.25+/-0.1 X5R B3 5.0 +/-10% GRM219R60J106KE19L Available Mass Production 1.6+/-0.2 X5R B3 35 +/-10% GRM31CR61H106K*** O9Q4 10Q1 1.6+/-0.2 X5R B3 35 +/-10% GRM31CR61H106KA12L Available Mass Production 1.6+/-0.2 X5R B3 25 +/-10% GRM31CR61E106KA12L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-10% GRM31CR61E106KA12L Available Mass Production 1.15+/-0.1 X5R B3 10 +/-10% GRM31CR61E106KA12L Available Mass Production 1.25+/-0.2 X5R B3 50 +/-10% GRM31CR61E106KA12L Available Mass Production 1.25+/-0.2 X5R B3 35 +/-10% GRM31CR61E106KA12L Available Mass Production 1.25+/-0.1 X5R B3 6.3 +/-20% GRM21BR60J226ME39L Available Mass Production 0.85+/-0.1 X5R B3 6.3 +/-20% GRM21BR60J226ME39L Available Mass Production 0.85+/-0.1 X5R B3 6.3 +/-20% GRM21BR60J226ME39L Available Mass Production 0.85+/-0.2 X5R B3 25 +/-10% GRM31CR61E226KE15L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-10% GRM31CR60J226KE19L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-10% GRM31CR60J226KE19L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-10% GRM31CR60J226KE19L Available Mass Production 1.5+/-0.2 X5R B3 10 +/-10% GRM32ER61E226KE15L Available Mass Production 1.5+/-0.2 X5R B3 10 +/-10% GRM32ER61C226KE19L Available Mass Production 1.5+/-0.2 X5R B3 10 +/-10% GRM32ER61C226KE19L Available Mass Production 1.5+/-0.2 X5R B3 10 +/-20% GRM32R61C226KE19L Available Mass Production 1.5+/-0.2 X				X5R	В3	16	+/-10%		Available		1
10uF					В3						1
10uf 1.25+/-0.1 X5R B3 6.3 +/-10% GRM219R60J106KE19D Available Mass Production 1.25+/-0.1 X5R B3 6.3 +/-10% GRM21BR60J106KE19L Available Mass Production 1.25+/-0.2 X5R B3 50 +/-10% GRM31CR61H106K**** 09Q4 10Q1 1.6+/-0.2 X5R B3 35 +/-10% GRM31CR6YA106KA12L Available Mass Production NI 0.85+/-0.1 X5R B3 25 +/-10% GRM319R61E106KA12L Available Mass Production NI 1.6+/-0.2 X5R B3 25 +/-10% GRM319R61E106KA12L Available Mass Production NI 1.6+/-0.2 X5R B3 25 +/-10% GRM31CR61E106KA12L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-10% GRM31CR61C106KA8L Available Mass Production 1.15+/-0.1 X5R B3 50 +/-10% GRM312R61A106KE19L Available Mass Production 1.25+/-0.2 X5R B3 35 +/-10% GRM32ER61H106K**** Available Mass Production 1.25+/-0.15 X5R B3 5.3 +/-20% GRM21BR60J226ME39L Available Mass Production 0.85+/-0.1 X5R B3 6.3 +/-20% GRM21BR60J226ME39L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-10% GRM31CR61E226KE15L Available Mass Production Mass Production 1.6+/-0.2 X5R B3 6.3 +/-10% GRM31CR61A226KE19L Available Mass Production Mass Production 1.6+/-0.2 X5R B3 6.3 +/-10% GRM31CR61A226KE19L Available Mass Production Mass Production 1.6+/-0.2 X5R B3 6.3 +/-10% GRM31CR61A226KE19L Available Mass Production 1.5+/-0.2 X5R B3 10 +/-10% GRM32ER61E226KE19L Available Mass Production 1.5+/-0.2 X5R B3 10 +/-10% GRM32ER61E226KE19L Available Mass Production 1.5+/-0.2 X5R B3 10 +/-10% GRM32ER61E226KE19L Available Mass Production 1.5+/-0.2 X5R B3 10 +/-10% GRM32ER61E226KE19L Available Mass Production 1.5+/-0.2 X5R B3 10 +/-20% GRM31CR60J26KE19L Available Mass Production 1.5+/-0.2 X5R B3 10 +/-20% GRM31CR60J26KE19L Available Mass Production 1.5+/-0.2 X5R B3 6.3 +/-20%		0805				_					1
1.6+/-0.2				_							
1.6+/-0.2			1.25+/-0.1	X5R	В3	6.3	+/-10%	GRM21BR60J106KE19L	Available	Mass Production	i
1.6+/-0.2 X5R B3 35 +/-10% GRM31CR6YA106KA12L Available Mass Production No.	10uF	_									
1.6+/-0.2 X5R B3 25 +/-10% GRM31CR61E106KA12L Available Mass Production			1.6+/-0.2	X5R	В3	35	+/-10%		Available	Mass Production	NEW
1.6+/-0.2 X5R B3 25 +/-10% GRM31CR61E106KA12L Available Mass Production		1206	0.85+/-0.1	X5R	В3	25	+/-10%	GRM319R61E106KA12D	Available	Mass Production	NEW
1.6+/-0.2 X5R B3 16 +/-10% GRM31CR61C106KA88L Available Mass Production			1.6+/-0.2	X5R	В3	25	+/-10%	GRM31CR61E106KA12L	Available	Mass Production	1
1210				X5R	В3	16	+/-10%		Available	Mass Production	Ī
22uF 2.5+/-0.2 X5R B3 35 +/-10% GRM32ER6YA106KA12L Available Mass Production 1.25+/-0.15 X5R B3 6.3 +/-20% GRM21BR60J226ME39L Available Mass Production 0.85+/-0.1 X5R B3 6.3 +/-20% GRM219R60J226M**** 1.6+/-0.2 X5R B3 25 +/-10% GRM31CR61E226KE15L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-10% GRM31CR61C226KE15L Available Mass Production 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 1.35+/-0.15 X5R B3 10 +/-10% GRM32ER61C226KE20L Available Mass Production 2.5+/-0.2 X5R B3 10 +/-10% GRM32ER61A226KE19L Available Mass Production 2.5+/-0.2 X5R B3 10 +/-10% GRM32ER61A226KE19L Available Mass Production 1.25+/-0.2 X5R B3 10 +/-10% GRM32ER61A226KE15L Available Mass Production 1.6+/-0.2 X5R B3 10 +/-20% GRM31CR61A476ME15L Available Mass Production 1.6+/-0.2 X5R B3 10 +/-20% GRM31CR61A476ME15L Available Mass Production 1.6+/-0.2 X5R B3 10 +/-20% GRM31CR61A476ME15L Available Mass Production 1.6+/-0.2 X5R B3 10 +/-20% GRM31CR61A476ME15L Available Mass Production 1.6+/-0.2 X5R B3 10 +/-20% GRM31CR61A476ME15L Available Mass Production 1.6+/-0.2 X5R B3 10 +/-20% GRM31CR61A476ME15L Available Mass Production 1.6+/-0.2 X5R B3 10 +/-20% GRM31CR61A476ME15L Available Mass Production 1.6+/-0.2 X5R B3 6.3 +/-20% GRM31CR61A476ME15L Available Mass Production 1.6+/-0.2 X5R B3 6.3 +/-20% GRM31CR60J476ME19L Available Mass Production 1.6+/-0.2 X5R B3 6.3 +/-20% GRM31CR60J476ME19L Available Mass Production 1.6+/-0.2 X5R B3 6.3 +/-20% GRM31CR60J476ME19L Available Mass Production			1.15+/-0.1	X5R	В3	10	+/-10%	GRM31MR61A106KE19L	Available	Mass Production	1
22uF 1210 2.5+/-0.2 X5R B3 35 +/-10% GRM32ER6YA106KA12L Available Mass Production		1010	2.5+/-0.2	X5R	В3	50	+/-10%	GRM32ER61H106K****	Available	10Q1	
22uF 1206 1.6+/-0.2 X5R B3 6.3 +/-20% GRM219R60J226M**** O9Q4 10Q1		1210	2.5+/-0.2	X5R	В3	35	+/-10%	GRM32ER6YA106KA12L	Available		
22uF 1.6+/-0.2 X5R B3 6.3 +/-20% GRM219R60J226M*** 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 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% GRM32ER61E226KE15L Available Mass Production 1.35+/-0.15 X5R B3 10 +/-10% GRM32ER61C226KE20L Available Mass Production 2.5+/-0.2 X5R B3 10 +/-10% GRM32R61A226KE19L Available Mass Production 2.5+/-0.2 X5R B3 10 +/-10% GRM32ER61A226KA65L Available Mass Production 1.6+/-0.2 X5R B3 10 +/-20% GRM21BR60G476ME15L Available Mass Production 1.6+/-0.2 X5R B3 10 +/-20% GRM31CR61A476ME15L Available Mass Production 1.6+/-0.2 X5R B3 10 +/-20% GRM31CR61A476ME15L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476ME19L Available Mass Production Nicerial Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476ME19L Available Mass Production Nicerial Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476ME19L Available Mass Production Nicerial Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476ME19L Available Mass Production Nicerial Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476ME19L Available Mass Production Nicerial Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476ME19L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476ME19L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476KE15L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476KE15L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-10% GRM32ER61C476KE15L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476KE15L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476KE15L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476KE15L Available Mass Production 1.6+/-0.2 X5R B3 16 +/-20% GRM31CR60J476KE15L Available		2225	1.25+/-0.15	X5R	В3	6.3	+/-20%	GRM21BR60J226ME39L	Available	Mass Production	1
1206		0805	0.85+/-0.1	X5R	В3	6.3	+/-20%	GRM219R60J226M****	09Q4	10Q1	
1206			1.6+/-0.2	X5R	В3	25	+/-10%	GRM31CR61E226KE15L	Available	Mass Production	NEW
1.6+/-0.2 X5R B3 10 +/-10% GRM31CR61A226KE19L Available Mass Production		1000	1.6+/-0.2	X5R	В3	16	+/-10%	GRM31CR61C226KE15L	Available	Mass Production	Ī
1.6+/-0.2 X5R B3 6.3 +/-10% GRM31CR60J226KE19L Available Mass Production	22	1206	1.6+/-0.2	X5R	В3	10	+/-10%	GRM31CR61A226KE19L	Available	Mass Production	1
1210 2.5+/-0.2 X5R B3 16 +/-10% GRM32ER61C226KE20L Available Mass Production	ZZUF		1.6+/-0.2	X5R	В3	6.3	+/-10%	GRM31CR60J226KE19L	Available	Mass Production	1
1210			2.5+/-0.2	X5R	В3	25	+/-10%	GRM32ER61E226KE15L	Available	Mass Production	Ī
1.35+/-0.15 X5R B3 10 +/-10% GRM32NR61A226KE19L Available Mass Production		1010	2.5+/-0.2	X5R	В3	16	+/-10%	GRM32ER61C226KE20L	Available	Mass Production	1
47uF 1206 1.6+/-0.2 X5R B3 4 +/-20% GRM21BR60G476ME15L Available Mass Production N1 1206 1.6+/-0.2 X5R B3 10 +/-20% GRM31CR61A476ME15L Available Mass Production N1 1.6+/-0.2 X5R B3 6.3 +/-20% GRM31CR60J476ME19L Available Mass Production N1 1210 2.5+/-0.2 X5R B3 16 +/-10% GRM32ER61C476KE15L Available Mass Production N1 1210 2.5+/-0.2 X5R B3 16 +/-10% GRM32ER61C476KE15L Available Mass Production		1210	1.35+/-0.15	X5R	В3	10	+/-10%	GRM32NR61A226KE19L	Available	Mass Production	1
47uF 1206 1.6+/-0.2 X5R B3 10 +/-20% GRM31CR61A476ME15L Available Mass Production N1 1.6+/-0.2 X5R B3 6.3 +/-20% GRM31CR60J476ME19L Available Mass Production N1 1210 2.5+/-0.2 X5R B3 16 +/-10% GRM32ER61C476KE15L Available Mass Production			2.5+/-0.2	X5R	B1	10	+/-10%	GRM32ER61A226KA65L	Available	Mass Production	1
47uF 1206 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	47uF	0805	1.25+/-0.15	X5R	В3	4	+/-20%	GRM21BR60G476ME15L	Available	Mass Production	
47uF 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		1206	1.6+/-0.2	X5R	В3	10	+/-20%	GRM31CR61A476ME15L	Available	Mass Production	NEW
1210		,	1.6+/-0.2	X5R	В3	6.3	+/-20%	GRM31CR60J476ME19L	Available	Mass Production	
2.5+/-0.2 X5R B3 10 +/-10% GRM32ER61A476KE20L Available Mass Production			2.5+/-0.2	X5R	В3	16	+/-10%	GRM32ER61C476KE15L	Available	Mass Production	
		1210	2.5+/-0.2	X5R	В3	10	+/-10%	GRM32ER61A476KE20L	Available	Mass Production	1
100uE 1206 1.6+/-0.2 X5R X5R 6.3 +/-20% GRM31CR60J107ME39L Available Mass Production	100uF	1206	1.6+/-0.2	X5R	X5R	6.3	+/-20%	GRM31CR60J107ME39L	Available	Mass Production	1
1000F 1210 2.5+/-0.2 X5R B3 6.3 +/-20% GRM32ER60J107ME20L Available Mass Production	TOOUF	1210	2.5+/-0.2	X5R	В3	6.3	+/-20%	GRM32ER60J107ME20L	Available	Mass Production	1

^{1) &}quot;*" of under development P/N have not fixed yet.

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Murata P/N List <X5R>

Сар	Size	Chip T (mm)	TC	WV	Cap Tol	Murata Global P/N	Sample	M.P.	
		0.5+/-0.05	X5R	10	+/-10%	GRM155R61A105KE15D	Available	Mass Production	1
1uF	0402	0.5+/-0.05	X5R	6.3	+/-10%	GRM155R60J105KE19D	Available	Mass Production	1
		0.8+/-0.1	X5R	25	+/-10%	GRM188R61E105KA12D	Available	Mass Production	1
	0603	0.8+/-0.1	X5R	16	+/-10%	GRM188R61C105KA93D	Available	Mass Production	1
		0.8+/-0.1	X5R	10	+/-10%	GRM188R61A105KA61D	Available	Mass Production	Ī
		0.8+/-0.1	X5R	25	+/-10%	GRM188R61E225K****	09Q4	10Q1	
		0.8+/-0.1	X5R	16	+/-10%	GRM188R61C225KE15D	Available	Mass Production	
	0603	0.8+/-0.1	X5R	10	+/-10%	GRM188R61A225KE34D	Available	Mass Production	1
2.2uF		0.8+/-0.1	X5R	6.3	+/-10%	GRM188R60J225KE19D	Available	Mass Production	ĺ
		1.25+/-0.1	X5R	25	+/-10%	GRM21BR61E225KA12L	Available	Mass Production	1
	1206	0.85+/-0.1	X5R	50	+/-10%	GRM319R61H225K****	09Q4	10Q1	
	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	
	0805	1.25+/-0.1	X5R	16	+/-10%	GRM21BR61C475KA88L	Available	Mass Production	1
4.7uF		1.25+/-0.15	X5R	10	+/-10%	GRM21BR61A475KA73L	Available	Mass Production	1
		0.85+/-0.1	X5R	50	+/-10%	GRM319R61H475K****	09Q4	10Q1	i
	1206	1.6+/-0.2	X5R	25	+/-10%	GRM31CR61E475KA88L	Available	Mass Production	1
		1.6+/-0.2	X5R	16	+/-10%	GRM31CR61C475KA01L	Available	Mass Production	1
	0603	0.8+/-0.1	X5R	6.3	+/-20%	GRM188R60J106ME47D	Available	Mass Production	1
		1.25+/-0.15	X5R	25	+/-10%	GRM21BR61E106KA73L	Available	Mass Production	NE
		1.25+/-0.1	X5R	16	+/-10%	GRM21BR61C106KE15L	Available	Mass Production	1
		0.85+/-0.1	X5R	10	+/-10%	GRM219R61A106KE44D	Available	Mass Production	1
	0805	1.25+/-0.1	X5R	10	+/-10%	GRM21BR61A106KE19L	Available	Mass Production	1
		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
10uF	•	1.6+/-0.2	X5R	50	+/-10%	GRM31CR61H106K****	09Q4	10Q1	
	1206	1.6+/-0.2	X5R	35	+/-10%	GRM31CR6YA106KA12L	Available	Mass Production	NE
		0.85+/-0.1	X5R	25	+/-10%	GRM319R61E106KA12D	Available	Mass Production	NE
		1.6+/-0.2	X5R	25	+/-10%	GRM31CR61E106KA12L	Available	Mass Production	1
		1.6+/-0.2	X5R	16	+/-10%	GRM31CR61C106KA88L	Available	Mass Production	1
		1.15+/-0.1	X5R	10	+/-10%	GRM31MR61A106KE19L	Available	Mass Production	1
	1010	2.5+/-0.2	X5R	50	+/-10%	GRM32ER61H106K****	Available	09Q4	
	1210	2.5+/-0.2	X5R	35	+/-10%	GRM32ER6YA106KA12L	Available	Mass Production	
	0005	1.25+/-0.15	X5R	6.3	+/-20%	GRM21BR60J226ME39L	Available	Mass Production	1
	0805	0.85+/-0.1	X5R	6.3	+/-20%	GRM219R60J226M****	09Q4	10Q1	İ
		1.6+/-0.2	X5R	25	+/-10%	GRM31CR61E226KE15L	Available	Mass Production	NE
	4000	1.6+/-0.2	X5R	16	+/-10%	GRM31CR61C226KE15L	Available	Mass Production	1
00	1206	1.6+/-0.2	X5R	10	+/-10%	GRM31CR61A226KE19L	Available	Mass Production	1
22uF		1.6+/-0.2	X5R	6.3	+/-10%	GRM31CR60J226KE19L	Available	Mass Production	1
		2.5+/-0.2	X5R	25	+/-10%	GRM32ER61E226KE15L	Available	Mass Production	1
	1240	2.5+/-0.2	X5R	16	+/-10%	GRM32ER61C226KE20L	Available	Mass Production	1
	1210	1.35+/-0.15	X5R	10	+/-10%	GRM32NR61A226KE19L	Available	Mass Production	1
		2.5+/-0.2	X5R	10	+/-10%	GRM32ER61A226KA65L	Available	Mass Production	1
47uF	0805	1.25+/-0.15	X5R	4	+/-20%	GRM21BR60G476ME15L	Available	Mass Production	1
	,	1.6+/-0.2	X5R	10	+/-20%	GRM31CR61A476ME15L	Available	Mass Production	NE
	1206	1.6+/-0.2	X5R	6.3	+/-20%	GRM31CR60J476ME19L	Available	Mass Production	1
	1210	2.5+/-0.2	X5R	16	+/-10%	GRM32ER61C476KE15L	Available	Mass Production	1
	1210	2.5+/-0.2	X5R	10	+/-10%	GRM32ER61A476KE20L	Available	Mass Production	1
100uF	1000	1.6+/-0.2	X5R	6.3	+/-20%	GRM31CR60J107ME39L	Available	Mass Production	1
400-5-	1206	1.0-7-0.2	/\\						

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³⁾ This is muRata's development schedule, which may change due to progress of each development works.

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.

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CHIP MONOLITHIC CERAMIC CAPACITOR



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

Сар	Size	TC	WV	Chip T(mm)	Cap.Tol.	Murata Global P/N	Sample	Mass Production	1
	1	X5R	25	0.5mmMax	+/-10%	GRM185R61E105KA12D	Available	Mass Production	1
	0603	X5R	16	0.5mmMax	+/-10%	GRM185R61C105KE44D	Available	Mass Production	1
	0003	X6S	10	0.5mmMax	+/-10%	GRM185C81A105KE36D	Available	Mass Production	1
1uF		X6S	6.3	0.5mmMax	+/-10%	GRM185C80J105KE26D	Available	Mass Production	1
		X5R	25	0.7mmMax	+/-10%	GRM216R61E105KA12D	Available	Mass Production	
	0805	X5R	16	0.7mmMax	+/-10%	GRM216R61C105KA88D	Available	Mass Production	1
		X7R	25	0.95mmMax	+/-10%	GRM219R71E105KA88D	Available	Mass Production	
	0603	X5R	6.3	0.5mmMax	+/-10%	GRM185R60J225KE26D	Available	Mass Production	
		X5R	10	0.7mmMax	+/-10%	GRM216R61A225KE24D	Available	Mass Production	1
	0805	X5R	25	0.95mmMax	+/-10%	GRM219R61E225KA12D	Available	Mass Production	1
2.2uF		X5R	16	0.95mmMax	+/-10%	GRM219R61C225KA88D	Available	Mass Production	1
	1206	X5R	50	0.95mmMax	+/-10%	GRM319R61H225K****	09Q4	10Q1	
		X5R	25	0.7mmMax	+/-10%	GRM316R61E225KA12D	Available	Mass Production	1
		X5R	16	0.7mmMax	+/-10%	GRM316R61C225KA88D	Available	Mass Production	1
	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	
4.7uF		X6S	10	0.95mmMax	+/-10%	GRM219C81A475KE34D	Available	Mass Production	
4.7 ui		X6S	6.3	0.95mmMax	+/-10%	GRM219C80J475KE19D	Available	Mass Production	
		X5R	10	0.7mmMax	+/-10%	GRM316R61A475KE19D	Available	Mass Production	
	1206	X5R	50	0.95mmMax	+/-10%	GRM319R61H475K****	09Q4	10Q1	
	1200	X5R	25	0.95mmMax	+/-10%	GRM319R61E475KA12D	Available	Mass Production	
		X5R	16	0.95mmMax	+/-10%	GRM319R61C475KA88D	Available	Mass Production	
10uF		X5R	16	0.95mmMax	+/-10%	GRM219R61C106KA73D	Available	Mass Production	NEW
	0805	X5R	10	0.95mmMax	+/-10%	GRM219R61A106KE44D	Available	Mass Production	
		X5R	6.3	0.95mmMax	+/-10%	GRM219R60J106KE19D	Available	Mass Production]
	1206	X5R	25	0.95mmMax	+/-10%	GRM319R61E106KA12D	Available	Mass Production	NEW
	1200	X6S	16	0.95mmMax	+/-10%	GRM319C81C106KA12D	Available	Mass Production	NEW
22uF	0805	X5R	6.3	0.95mmMax	+/-20%	GRM219R60J226M****	09Q4	10Q1	

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