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 **R6** 01 105 K A01 D -9- -10-

-55 to 125C

-5-: Temperature Characteristics TC Temp. Range

-1-:Product ID

Code	Product
GR	MLCC

-2-:Series

15

21

Code	Product
М	Tin Plated
IVI	Termination

-3-:Dimension (LxW)

Code Dimension (LxW)

1.0x0.5mm (EIA:0402) 1.6x0.8mm (EIA:0603)

2.0x1.25mm (EIA:0805) 3.2x1.6mm (EIA:1206) 3.2x2.5mm (EIA:1210)

X7U

X7R

X7S

X7T

R7

C7

D7

E7

68	X65	-55 to	1050					
D8	X6T	-33 10	1030					
R6	X5R	-55 to	85C					
-6-:Rated Voltage -8-:Ca								
Code	Rated \	Voltage	Со	de				

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

pacitance Tolerance

+/-15%

+/-22%

+22/-33%

+22/-56% +/-22%

+22/-33% +/-15%

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

-9-:Individual Specification Code

Cap. Change Operating Temp.

-55 to 125C

-55 to 105C

-55 to 85C

4 Dimension (T)

	-4-:Dimension (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						

-7-: Capacitance

Code	Capacitance
105	1uF
106	10uF
107	100uF

-10-:Packaging

Code	Packaging
D	Ф180mm Paper Taping
L	Ф180mm Embossed Taping
J	Ф330mm Paper Taping
K	Ф330mm Embossed Taping



Chip size and Capacitance range

< X7R (X7S, X7T, X7U) >

					Mass Pr	roduction		Under Developme	ent																		
	0.1	140.7	Capacitance (uF)																								
Ttpe Size	Size	WV	1	2.2	4.7	10	22	47	100																		
		25	X7R																								
GRM18	RM18 0603	16	X7R																								
CINIVITO	0005	10	X7R	X7R																							
		6.3	X7R	X7S																							
		50	X7R																								
		25	X7R	X7R																							
GRM21	0805	16		X7R	X7R																						
CITAVIET	0000	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																			
		4							X7U																		

< X6S(X6T) >

T	Size	WV	Capacitance(uF)								
Туре	Size	VVV	1	2.2	4.7	10	22	47	100		
GRM15	0402	6.3									
GININIS	0402	4	X6S								
		16		X6S	NEW						
GRM18	0603	10		X6S							
CITIVITO	0000	6.3		X6S							
		4			X6S						
		50	NEW	NEW							
		35	X6S	X6S							
		25			X6S						
GRM21	0805	16			X6S	X6S	NEW				
J	0000	10			X6S	X6S	NEW				
		6.3				X6S					
		4				X6S	X6S				
		2.5						X6S			
		35				X6S	NEW				
		25				X6S					
GRM31	1206	16				X6S	X6S				
		10					X6S				
		6.3					X6S	X6S	VOT		
		4						X6S	X6T		
		50 35									
		25					X6S				
GRM32	1210	16					703				
-01 (1VIOZ	_1210	16									
		10						X6S			
		6.3						7.00	X6S		



Chip size and Capacitance range

<X5R >

<\					Mass Pro	duction		Under Developmen	t				
Type	Size	WV											
Type Size			1	2.2	4.7	10	22	47	100				
		16											
GRM15	0402	10	X5R										
		6.3	X5R	N. 15-14/		ALE VAL							
		50	X5R	NEW		NEW							
		25	X5R	X5R	NEW	X5R							
GRM18 (0603	16	X5R	X5R									
		10	X5R	X5R			NIE VA/						
						6.3		X5R	X5R	X5R	NEW		
		4	<u>NEW</u>	NEW		X5R	X5R						
		50	X5R	X5R		NEW							
		25		X5R	X5R	X5R	X5R						
RM21	0805	16			X5R	X5R							
I KIVIZ I	0000	10			X5R	X5R	NEW						
		6.3				X5R	X5R						
		4		NEW	NEW	NEW		X5R					
		50		X5R	X5R	X5R							
		25			X5R	X5R	X5R						
RM31	1206	16			X5R	X5R	X5R	NEW					
		10					X5R	X5R					
		6.3					X5R	X5R	X5R				
		50			NEW	X5R							
		25				X5R	X5R						
ND1400	1010	16						X5R					
SRM32	1210	10											
		6.3							X5R				

< Low profile series>

GRM18 series: 0.5mm Max

GRM21 series: 0.70mm Max, 0.95mm Max

GRM31 series: 0.95mm Max

_	0:	Chip T	140.7	Gapacitance(UF)						
Туре	Type Size (mn	(mmMax)	WV	1	2.2	4.7	10	22	47	100
			16	X5R						
GRM18	0603	0.5	10	X6S						
CINITIO 0003	0.5	6.3	X6S	X5R						
			4			X5R				
			25	X5R						
		0.7	16	X5R						
			10		X5R					
			50	X5R	NEW					
GRM21	0805		35	X6S	<u> </u>		NUTTAL			
3121	0000	0.95	25	X7R	X5R	X5R	NEW			
			16		X5R	X5R X6S	X5R			
			10			X6S	X5R	NEW		
			6.3			X6S	X5R	X5R		
			4				X6S			
			25		X5R					
		0.7	16		X5R	V-5				
			10		100	X5R				
GRM31	1206		50	NEW	X5R	X5R	NEW			
			35	IALAA	X6S					
		0.95	25			X5R	X5R	NIE VAZ		
			16			X5R	X6S	NEW		
			10					X5R		



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

Сар	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
	0603	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
1uF		1.25+/-0.1	X7R	50	+/-10%	GRM21BR71H105KA12L	Available	Mass Production
Tur	0805	0.85+/-0.1	X7R	25	+/-10%	GRM219R71E105KA88D	Available	Mass Production
		1.25+/-0.15	X7R	25	+/-10%	GRM21BR71E105KA99L	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
	0003	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
2.2uF		1.25+/-0.1	X7R	10	+/-10%	GRM21BR71A225KA01L	Available	Mass Production
2.2ui		1.6+/-0.3	X7R	100	+/-10%	GRM31CR72A225K****	Available	10Q4
	1206	1.6+/-0.2	X7R	50	+/-10%	GRM31CR71H225KA88L	Available	Mass Production
	1206	1.15+/-0.15	X7R	25	+/-10%	GRM31MR71E225KA93L	Available	Mass Production
		1.15+/-0.15	X7R	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
		1.6+/-0.2	X7R	50	+/-10%	GRM31CR71H475KA12L	Available	Mass Production
4.7uF	1206	1.6+/-0.2	X7R	25	+/-10%	GRM31CR71E475KA88L	Available	Mass Production
		1.6+/-0.2	X7R	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
	0000	1.25+/-0.15	X7R	6.3	+/-10%	GRM21BR70J106KE76L	Available	Mass Production
		1.6+/-0.2	X7R	25	+/-10%	GRM31CR71E106KA12L	Available	Mass Production
10uF	1206	1.6+/-0.2	X7R	16	+/-10%	GRM31CR71C106KAC7L	Available	Mass Production
1041		1.6+/-0.2	X7R	10	+/-10%	GRM31CR71A106KA01L	Available	Mass Production
		2.5+/-0.2	X7R	50	+/-10%	GRM32ER71H106K***	Available	10Q4
	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	4	+/-20%	GRM21BE70G226ME51L	Available	
		1.6+/-0.2	X7R	10	+/-10%	GRM31CR71A226KE15L	Available	
	1206	1.6+/-0.2	X7R	6.3	+/-10%	GRM31CR70J226KE19L	Available	
22uF		1.6+/-0.2	X7S	4	+/-10%	GRM31CC70G226KE01L	Available	
	1210	2.5+/-0.2	X7R	25	+/-10%	GRM32ER71E226KE15L	Available	Mass Production
		2.5+/-0.2	X7R	16	+/-10%	GRM32ER71C226KEA8L	Available	Mass Production
		2.5+/-0.2	X7R	10	+/-20%	GRM32ER71A226ME20L	Available	Mass Production
	1206	1.6+/-0.2	X7U	4	+/-20%	GRM31CE70G476ME15L	Available	Mass Production
47uF	1210	2.5+/-0.2	X7R	10	+/-10%	GRM32ER71A476KE15L	Available	Mass Production
		2.5+/-0.2	X7R	6.3	+/-10%	GRM32ER70J476KE20L	Available	Mass Production
100uF	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)>

Сар	Size	Chip T (mm)	TC	WV	Cap Tol	Murata Global P/N	Sample	M.P.	
1uF	0402	0.5+/-0.05	X6S	4	+/-10%	GRM155C80G105KE19D	Available	Mass Production	Ì
	0805	0.85+/-0.1	X6S	35	+/-10%	GRM219C8YA105KA73D	Available	Mass Production	NEW
		0.8+/-0.1	X6S	16	+/-10%	GRM188C81C225KA12D	Available	Mass Production	NEW
	0603	0.8+/-0.1	X6S	10	+/-10%	GRM188C81A225KE34D	Available	Mass Production	
2.2uF		0.8+/-0.1	X6S	6.3	+/-10%	GRM188C80J225KE19D	Available	Mass Production	Ī
	0805	1.25+/-0.15	X6S	35	+/-10%	GRM21BC8YA225KA73L	Available	Mass Production	NEW
	1206	0.85+/-0.1	X6S	35	+/-10%	GRM319C8YA225KA12D	Available	Mass Production	NEW
	0603	0.8+/-0.1	X6S	4	+/-10%	GRM188C80G475KE19D	Available	Mass Production	Ī
		1.25+/-0.1	X6S	25	+/-10%	GRM21BC81E475KA12L	Available	Mass Production	
4.7uF	0805	0.85+/-0.1	X6S	16	+/-10%	GRM219C81C475K****	Available	10Q4	
	0003	1.25+/-0.1	X6S	16	+/-10%	GRM21BC81C475KA88L	Available	Mass Production	ĺ
		0.85+/-0.1	X6S	10	+/-10%	GRM219C81A475KE34D	Available	Mass Production	
	0603	0.8+/-0.1	X6S	2.5	+/-20%	GRM188C80E106ME47D	Available	Mass Production	
		1.25+/-0.15	X6S	16	+/-10%	GRM21BC81C106KA73L	Available	Mass Production	NEW
	0805	1.25+/-0.1	X6S	10	+/-10%	GRM21BC81A106KE18L	Available	Mass Production	NEW
10uF		1.25+/-0.1	X6S	6.3	+/-10%	GRM21BC80J106KE19L	Available	Mass Production]
1001		0.85+/-0.1	X6S	4	+/-10%	GRM219C80G106KE19D	Available	Mass Production	
	1206	1.6+/-0.2	X6S	35	+/-10%	GRM31CC8YA106KA12L	Available	Mass Production	
		1.6+/-0.2	X6S	25	+/-10%	GRM31CC81E106KE15L	Available	Mass Production	
		0.85+/-0.1	X6S	16	+/-10%	GRM319C81C106KA12D	Available	Mass Production	
	0805	1.25+/-0.15	X6S	4	+/-20%	GRM21BC80G226ME39L	Available	Mass Production	
		1.6+/-0.2	X6S	16	+/-10%	GRM31CC81C226ME15L	Available	Mass Production	NEW
22uF	1206	1.6+/-0.2	X6S	10	+/-10%	GRM31CC81A226KE19L	Available	Mass Production	
2201		1.6+/-0.2	X6S	6.3	+/-10%	GRM31CC80J226KE19L	Available	Mass Production	
		1.6+/-0.2	X6S	4	+/-10%	GRM31CC80G226KE19L	Available	Mass Production	
	1210	2.5+/-0.2	X6S	25	+/-10%	GRM32EC81E226KE15L	Available	Mass Production	
	0805	1.25+/-0.15	X6S	2.5	+/-20%	GRM21BC80E476ME15L	Available	Mass Production	
	1206	1.6+/-0.2	X6S	6.3	+/-20%	GRM31CC80J476ME18L	Available	Mass Production	
47uF	1200	1.6+/-0.2	X6S	4	+/-20%	GRM31CC80G476ME19L	Available	Mass Production	
	1210	2.5+/-0.2	X6S	10	+/-10%	GRM32EC81A476KE19L	Available	Mass Production	
		2.5+/-0.2	X6S	6.3	+/-10%	GRM32EC80J476KE64L	Available	Mass Production]
100uF	1206	1.6+/-0.3	X6T	4	+/-20%	GRM31CD80G107ME39L	Available	Mass Production]
_ 100ui	1210	2.5+/-0.2	X6S	6.3	+/-20%	GRM32EC80J107ME20L	Available	Mass Production]

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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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Murata P/N List <X5R>

ii ala F/	IA FIS	< \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \							
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	
	0402	0.5+/-0.05	X5R	6.3	+/-10%	GRM155R60J105KE19D	Available	Mass Production	
4		0.8+/-0.1	X5R	50	+/-10%	GRM188R61H105KAALD	Available	Mass Production	NEW
1uF	0000	0.8+/-0.1	X5R	25	+/-10%	GRM188R61E105KA12D	Available	Mass Production	14244
	0603	0.8+/-0.1	X5R	16	+/-10%	GRM188R61C105KA93D	Available	Mass Production	
		0.8+/-0.1	X5R	10	+/-10%	GRM188R61A105KA61D	Available	Mass Production	
		0.8+/-0.1	X5R	25	+/-10%	GRM188R61E225KA12D	Available	Mass Production	NEW
	0603	0.8+/-0.1	X5R	16	+/-10%	GRM188R61C225KE15D	Available	Mass Production	
		0.8+/-0.1	X5R	10	+/-10%	GRM188R61A225KE34D	Available	Mass Production	
2.2uF		0.8+/-0.1	X5R	6.3	+/-10%	GRM188R60J225KE19D	Available	Mass Production	
			X5R	50	+/-10%	GRM21BR61H225KA73L	Available	Mass Production	NEW
	0805	1.25+/-0.1	X5R	25	+/-10%	GRM21BR61E225KA12L	Available	Mass Production	
	1206	0.85+/-0.1	X5R	50	+/-10%	GRM319R61H225KA12D	Available	Mass Production	NEW
	0603	0.8+/-0.1	X5R	6.3	+/-10%	GRM188R60J475KE19D	Available	Mass Production	
		0.85+/-0.1	X5R	25	+/-10%	GRM219R61E475K****	Available	10Q4	
		1.25+/-0.1	X5R	25	+/-10%	GRM21BR61E475KA12L	Available	Mass Production	
	0805	1.25+/-0.1	X5R	16	+/-10%	GRM21BR61C475KA88L	Available	Mass Production	
4.7uF		1.25+/-0.15	X5R	10	+/-10%	GRM21BR61A475KA73L	Available	Mass Production	
		0.85+/-0.1	X5R	50	+/-10%	GRM319R61H475KA12D	Available	Mass Production	NEW
	1206	1.6+/-0.2	X5R	25	+/-10%	GRM31CR61E475KA88L	Available	Mass Production	
	1200	1.6+/-0.2	X5R	16	+/-10%	GRM31CR61C475KA01L	Available	Mass Production	
	0603	0.8+/-0.2	X5R	25	+/-20%	GRM188R61E106MA73L	Available	Mass Production	NEW
		0.8+/-0.1	X5R	6.3	+/-20%	GRM188R60J106ME47D	Available	Mass Production	
	0805	1.25+/-0.15	X5R	25	+/-10%	GRM21BR61E106KA73L	Available	Mass Production	NEW
		1.25+/-0.1	X5R	16	+/-10%	GRM21BR61C106KE15L	Available	Mass Production	IVE
		0.85+/-0.1	X5R	10	+/-10%	GRM219R61A106KE44D	Available	Mass Production	
		1.25+/-0.1	X5R	10	+/-10%	GRM21BR61A106KE19L	Available	Mass Production	
		0.85+/-0.1	X5R	6.3	+/-10%	GRM219R60J106KE19D	Available	Mass Production	
10uF		1.25+/-0.1	X5R	6.3	+/-10%	GRM21BR60J106KE19L	Available	Mass Production	
	1206	1.6+/-0.2	X5R	50	+/-10%	GRM31CR61H106KA12L	Available	Mass Production	NEW
		0.85+/-0.1	X5R	25	+/-10%	GRM319R61E106KA12D	Available	Mass Production	NEW
		1.6+/-0.2	X5R	25	+/-10%	GRM31CR61E106KA12L	Available	Mass Production	IALAA
		1.6+/-0.2	X5R	16	+/-10%	GRM31CR61C106KA88L	Available	Mass Production	
		1.15+/-0.1	X5R	10	+/-10%	GRM31MR61A106KE19L	Available	Mass Production	
	1210	2.5+/-0.2	X5R	50	+/-10%	GRM32ER61H106KA12L	Available	Mass Production	NEW
	0603	0.8+/-0.2	X5R	4	+/-20%	GRM188R60G226MEA0L	Available	Mass Production	NEW
		1.25+/-0.2	X5R	25	+-20%	GRM21BR61E226M****	Available	10Q4	1454
	0805	0.85+/-0.1	X5R	6.3	+/-20%	GRM219R60J226MEA0D	Available	Mass Production	NEW
		1.25+/-0.15	X5R	6.3	+/-20%	GRM21BR60J226ME39L	Available	Mass Production	
		1.6+/-0.2	X5R	25	+/-10%	GRM31CR61E226KE15L	Available	Mass Production	
22uF		1.6+/-0.2	X5R	16	+/-10%	GRM31CR61C226KE15L	Available	Mass Production	
	1206	0.85+/-0.1	X5R	10	+-20%	GRM319R61A226ME15D	Available	Mass Production	NEW
		1.6+/-0.2	X5R	10	+/-10%	GRM31CR61A226KE19L	Available	Mass Production	
		1.6+/-0.2	X5R	6.3	+/-10%	GRM31CR60J226KE19L	Available	Mass Production	
	1010	2.5+/-0.2	X5R	25	+/-10%	GRM32ER61E226KE15L	Available	Mass Production	
	1210	1.35+/-0.15	X5R	10	+/-10%	GRM32NR61A226KE19L	Available	Mass Production	
	0805	1.25+/-0.15	X5R	4	+/-20%	GRM21BR60G476ME15L	Available	Mass Production	
47.5		1.6+/-0.2	X5R	10	+/-20%	GRM31CR61A476ME15L	Available	Mass Production	NEW
47uF	1206	1.6+/-0.2	X5R	6.3	+/-20%	GRM31CR60J476ME19L	Available	Mass Production	
	1210	2.5+/-0.2	X5R	16	+/-10%	GRM32ER61C476KE15L	Available	Mass Production	
400 5	1206	1.6+/-0.3	X5R	6.3	+/-20%	GRM31CR60J107ME39L	Available	Mass Production	
100uF	1210	2.5+/-0.2	X5R	6.3	+/-20%	GRM32ER60J107ME20L	Available	Mass Production	
			· · · · ·						l

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Murata P/N List <Low profile series>

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	
		X5R	16	0.5mmMax	+/-10%	GRM185R61C105KE44D	Available	Mass Production	
	0603	X6S	10	0.5mmMax	+/-10%	GRM185C81A105KE36D	Available	Mass Production	
		X6S	6.3	0.5mmMax	+/-10%	GRM185C80J105KE26D	Available	Mass Production	
1uF		X5R	25	0.7mmMax	+/-10%	GRM216R61E105KA12D	Available	Mass Production	
Tur		X5R	16	0.7mmMax	+/-10%	GRM216R61C105KA88D	Available	Mass Production	
	0805	X5R	50	0.95mmMax	+/-10%	GRM219R61H105KA73D	Available	Mass Production	NEW
		X6S	35	0.95mmMax	+/-10%	GRM219C8YA105KA73D	Available	Mass Production	NEW
		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	
	0805	X5R	25	0.95mmMax	+/-10%	GRM219R61E225KA12D	Available	Mass Production	
2.2uF		X5R	16	0.95mmMax	+/-10%	GRM219R61C225KA88D	Available	Mass Production	
Z.Zur		X5R	50	0.95mmMax	+/-10%	GRM319R61H225KA12D	Available	Mass Production	NEW
	1206	X6S	35	0.95mmMax	+-10%	GRM319C8YA225KA12D	Available	Mass Production	NEW
	1200	X5R	25	0.7mmMax	+/-10%	GRM316R61E225KA12D	Available	Mass Production	
		X5R	16	0.7mmMax	+/-10%	GRM316R61C225KA88D	Available	Mass Production	
	0603	X5R	4	0.5mmMax	+/-20%	GRM185R60G475ME15D	Available	Mass Production	
	0805	X5R	25	0.95mmMax	+/-10%	GRM219R61E475K****	Available	10Q4	
4.7uF		X6S	16	0.95mmMax	+/-10%	GRM219C81C475K****	Available	10Q4	
		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	
		X5R	10	0.7mmMax	+/-10%	GRM316R61A475KE19D	Available	Mass Production	
	1206	X5R	50	0.95mmMax	+/-10%	GRM319R61H475KA12D	Available	Mass Production	NEW
	1200	X5R	25	0.95mmMax	+/-10%	GRM319R61E475KA12D	Available	Mass Production	
		X5R	16	0.95mmMax	+/-10%	GRM319R61C475KA88D	Available	Mass Production	
		X5R	16	0.95mmMax	+/-10%	GRM219R61C106KA73D	Available	Mass Production	NEW
	0805	X5R	10	0.95mmMax	+/-10%	GRM219R61A106KE44D	Available	Mass Production	
10uF		X5R	6.3	0.95mmMax	+/-10%	GRM219R60J106KE19D	Available	Mass Production	
	1206	X5R	25	0.95mmMax	+/-10%	GRM319R61E106KA12D	Available	Mass Production	
		X6S	16	0.95mmMax	+/-10%	GRM319C81C106KA12D	Available	Mass Production	NEW
22uF	0805	X5R	6.3	0.95mmMax	+/-20%	GRM219R60J226MEA0D	Available	Mass Production	
	1206	X5R	10	0.95mmMax	+-20%	GRM319R61A226ME15D	Available	Mass Production	NEW

^{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.

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