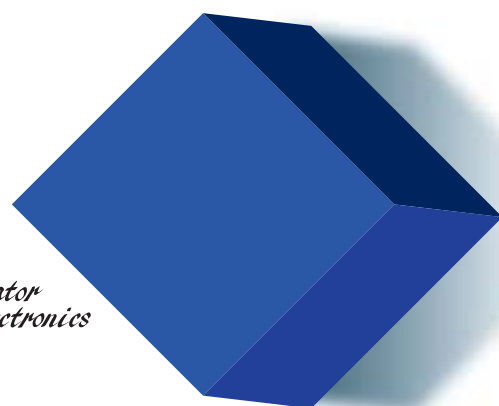


Chip Monolithic Ceramic Capacitors



Murata
Manufacturing Co., Ltd.

*Innovator
in Electronics*



Explanation of Symbols in This Catalog

Ultra-compact	Lx W dimension: products of 0.6 x 0.3 mm or less
HiQ	Low dissipation for high frequency By devising ceramic materials and electrode materials, low dissipation is achieved in frequency bands of VHF, UHF and microwave or beyond.
Low ESL	Low inductance This capacitor is designed so that the parasitic inductance component (ESL) that the capacitor has on the high frequency side becomes lower.
Anti-noise	Product suitable for acoustic noise reduction and low distortion This product suppresses acoustic noise, which occurs when a ceramic capacitor is used, by devising the materials and configuration.
Deflecting crack	Product resistant to deflection cracking This capacitor is designed to prevent failures as much as possible by short mode caused by cracking when there is board deflection.
Soldering crack	Product with solder cracking suppression This capacitor is configured with metal terminals and leads connected to the chip. The metal terminals and leads relieve the stress from expansion and contraction of the solder, to suppress solder cracking.

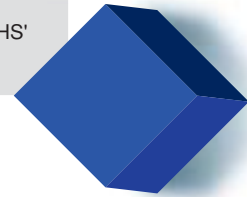
Derating Voltage and temperature derating recommended product
This product is suitable when a voltage continuously applied to a capacitor in an operating circuit, is used below (derated) the rated voltage of the capacitor.
This model guarantees the test conditions in the endurance test, at a rated voltage x 100% at the maximum operating temperature. A reliability assurance level equivalent to a common product can be secured, by using this product within the voltage and temperature derated conditions recommended in the figure below.

Recommended Conditions of the Derating Operating Voltage and Temperature

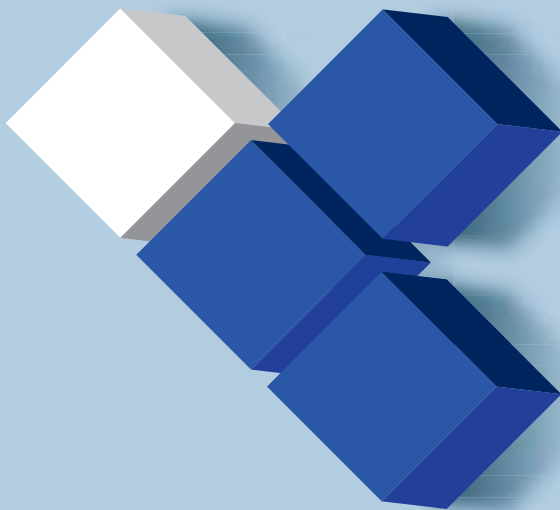


EU RoHS Compliant

- All the products in this catalog comply with EU RoHS.
- EU RoHS is "the European Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment."
- For more details, please refer to our website 'Murata's Approach for EU RoHS' (<http://www.murata.com/info/rohs.html>).



For General Purpose GRM Series Capacitance Table



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Chip Monolithic Ceramic Capacitors

Cap. Table

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Top & Bottom Electrode Type for Bonding GMA Series	p105	p8
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Compatible to Bonding / AuSn Soldering GMD Series	p107	p9
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--	------	-----

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Metal Terminal Type High Effective Capacitance & High Allowable Ripple Current KR3 Series	p126	p13
--	------	-----

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--	------	-----

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---	------	-----

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---	------	-----

ESR Controlled Low ESL Type LLR Series	p135	p14
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Please check the MURATA home page (<http://www.murata.com/>)
if you cannot find the part number in the catalog.

● Part Numbering

Chip Monolithic Ceramic Capacitors for General

(Part Number)

GR	M	18	8	B1	1H	102	K	A01	D
----	---	----	---	----	----	-----	---	-----	---

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
---	---	---	---	---	---	---	---	---	---

① Product ID ② Series

Product ID	Code	Series
GJ	M	High frequency HiQ type 1005(in mm)/0402(in inch) size max.
	A	Top & bottom electrode type for bonding
GM	D	Product for bonding/AuSn soldering
	M	High frequency HiQ type 1608(in mm)/0603(in inch) size min.
GR	3	High effective capacitance & High allowable ripple current
	J	Resin external electrode type
	M	General purpose products
KR	3	Metal terminal type/High effective capacitance & High allowable ripple current
	M	Metal terminal type
LL	A	8-terminal low ESL type
	L	LW reversed low ESL type
	M	10-terminal low ESL type
	R	Controlled ESR low ESL type

③ Chip Dimensions (L×W)

Code	Dimensions (L×W)	Size Code (in inch)
02	0.4×0.2mm	01005
03	0.6×0.3mm	0201
05	0.5×0.5mm	0202
08	0.8×0.8mm	0303
0D	0.38×0.38mm	015015
15	1.0×0.5mm	0402
18	1.6×0.8mm	0603
1U	0.6×1.0mm	02404
21	2.0×1.25mm	0805
22	2.8×2.8mm	1111
31	3.2×1.6mm	1206
32	3.2×2.5mm	1210
42	4.5×2.0mm	1808
43	4.5×3.2mm	1812
55	5.7×5.0mm	2220

④ Height Dimension (T) (Except KR□)

Code	Dimension (T)
2	0.2mm
3	0.3mm
4	0.4mm
5	0.5mm
6	0.6mm
7	0.7mm
8	0.8mm
9	0.85mm
A	1.0mm
B	1.25mm
C	1.6mm
D	2.0mm
E	2.5mm
M	1.15mm
Q	1.5mm
R	1.8mm
S	2.8mm
X	Depends on individual standards.

④ Height Dimension (T) (KR□ Only)

Code	Dimension (T)
E	1.8mm
F	1.9mm
K	2.7mm
L	2.8mm
Q	3.7mm
T	4.8mm
W	6.4mm

Continued on the following page. 

(Part Number)

GR	M	18	8	B1	1H	102	K	A01	D
1	2	3	4	5	6	7	8	9	10

Continued from the preceding page.

⑤ Temperature Characteristics

Temperature Characteristic Codes			Temperature Characteristics			Operating Temperature Range	Capacitance Change Each Temperature (%)						
Code	Public STD Code		Reference Temperature	Temperature Range	Capacitance Change or Temperature Coefficient		-55°C		*3		-10°C		
							Max.	Min.	Max.	Min.	Max.	Min.	
1X	SL	JIS	20°C	20 to 85°C	+350 to -1000ppm/°C	-55 to 125°C	-	-	-	-	-	-	
2C	CH	JIS	20°C	20 to 125°C	0±60ppm/°C	-55 to 125°C	0.82	-0.45	0.49	-0.27	0.33	-0.18	
3C	CJ	JIS	20°C	20 to 125°C	0±120ppm/°C	-55 to 125°C	1.37	-0.9	0.82	-0.54	0.55	-0.36	
3U	UJ	JIS	20°C	20 to 85°C	-750±120ppm/°C	-25 to 85°C	-	-	4.94	2.84	3.29	1.89	
4C	CK	JIS	20°C	20 to 125°C	0±250ppm/°C	-55 to 125°C	2.56	-1.88	1.54	-1.13	1.02	-0.75	
5C	C0G	EIA	25°C	25 to 125°C	0±30ppm/°C	-55 to 125°C	0.58	-0.24	0.4	-0.17	0.25	-0.11	
7U	U2J	EIA	25°C	25 to 125°C *2	-750±120ppm/°C	-55 to 125°C	8.78	5.04	6.04	3.47	3.84	2.21	
B1	B *1	JIS	20°C	-25 to 85°C	±10%	-25 to 85°C	-	-	-	-	-	-	
B3	B	JIS	20°C	-25 to 85°C	±10%	-25 to 85°C	-	-	-	-	-	-	
C6	X5S	EIA	25°C	-55 to 85°C	±22%	-55 to 85°C	-	-	-	-	-	-	
C7	X7S	EIA	25°C	-55 to 125°C	±22%	-55 to 125°C	-	-	-	-	-	-	
C8	X6S	EIA	25°C	-55 to 105°C	±22%	-55 to 105°C	-	-	-	-	-	-	
D7	X7T	EIA	25°C	-55 to 125°C	+22%, -33%	-55 to 125°C	-	-	-	-	-	-	
D8	X6T	EIA	25°C	-55 to 105°C	+22%, -33%	-55 to 105°C	-	-	-	-	-	-	
E7	X7U	EIA	25°C	-55 to 125°C	+22%, -56%	-55 to 125°C	-	-	-	-	-	-	
R1	R *1	JIS	20°C	-55 to 125°C	±15%	-55 to 125°C	-	-	-	-	-	-	
R6	X5R	EIA	25°C	-55 to 85°C	±15%	-55 to 85°C	-	-	-	-	-	-	
R7	X7R	EIA	25°C	-55 to 125°C	±15%	-55 to 125°C	-	-	-	-	-	-	

*1 Capacitance change is specified with 50% rated voltage applied.

*2 Rated Voltage 100Vdc max: 25 to 85°C

*3 -25°C (Reference Temperature 20°C) / -30°C (Reference Temperature 25°C)

⑥ Rated Voltage

Code	Rated Voltage
0E	DC2.5V
0G	DC4V
0J	DC6.3V
1A	DC10V
1C	DC16V
1E	DC25V
1H	DC50V
1J	DC63V
1K	DC80V
2A	DC100V
2D	DC200V
2E	DC250V
2W	DC450V
2H	DC500V
2J	DC630V
3A	DC1kV
3D	DC2kV
3F	DC3.15kV
YA	DC35V

⑦ Capacitance

Expressed by three-digit alphanumerics. The unit is picofarad (pF). The first and second figures are significant digits, and the third figure expresses the number of zeros which follow the two numbers. If there is a decimal point, it is expressed by the capital letter "R." In this case, all figures are significant digits. If any alphabet, other than "R", is included, this indicates the specific part number is a non-standard part.

Ex.)	Code	Capacitance
	R50	0.50pF
	1R0	1.0pF
	100	10pF
	103	10000pF

⑧ Capacitance Tolerance

Code	Capacitance Tolerance
B	±0.1pF
C	±0.25pF
D	±0.5pF (10pF and below)
	±0.5% (10pF and over)
F	±1%
G	±2%
J	±5%
K	±10%
M	±20%
W	±0.05pF

Continued on the following page. ↗

Please check the MURATA home page (<http://www.murata.com/>) if you cannot find the part number in the catalog.

(Part Number)

GR	M	18	8	B1	1H	102	K	A01	D
1	2	3	4	5	6	7	8	9	10

☐ Continued from the preceding page.

⑨ Individual Specification Code (Except LLR)

Expressed by three figures.

⑨ ESR (LLR Only)

Code	ESR
E01	100mΩ
E03	220mΩ
E05	470mΩ
E07	1000mΩ

⑩ Packaging

Code	Packaging
L	ø180mm Embossed Taping
D/E/W	ø180mm Paper Taping
K	ø330mm Embossed Taping
J/F	ø330mm Paper Taping
B	Bulk
C	Bulk Case
T	Bulk Tray

Please contact us if you find any part number not provided in this table.

Selection Guide for Chip Monolithic Ceramic Capacitors

	Series	Ultra-small (smaller than 0201)	Low dissipation/HiQ	Low ESL	Fail safe	Anti-deflecting crack	Anti-soldering crack	Anti-noise, low distortion	For bonding	Specific applications	Safety standard certified type
For General Purpose	GRM page p16										
	GA2										
	GA3										
	GJM p83										
	GJ4										
	GJ8										
	GMA p105										
	GMD p107										
	GQM p110										
	GRJ p119										
	GR3 p121										
	GR4										
	GR7										
	KRM p123										
	KR3 p126										
	LLA p129										
	LLL p131										
	LLM p133										
	LLR p135										
	ZRA										
For Automotive (Cat. No. C03)	GCM										
	GCD										
	GCE										
	GCG										
	GCJ										
	GC3										
	KCM										
	KC3										

Capacitance Table

How to read the Capacitance Table

LxW (mm)	0.4×0.2		0.6×0.3		1.0
T max. (mm)	0.22		0.33		0.4
Rated Voltage (Vdc)	25		25		50
Cap. / TC Code	C0G	CΔ	C0G	CΔ	C0G
0.10pF					p97
0.20pF	p84	p87	p90	p93	p97
1.0pF	p84	p87	p90	p94	p97
2.0pF	p84	p87	p91	p94	p97
3.0pF	p84	p87	p91	p94	p98

→ The values can be narrowed down in the order of size, rated voltage, and temperature characteristics.

→ Refers to the page of the part number list.
Check the part number list for the applicable product number.

Temperature Characteristics Table

The Table is colored by temperature characteristic codes.
Refer to the following Table for the meaning of each code.

EIA:	C0G	U2J	X7R	X7S	X7T	X7U	X6S	X6T	X5R	X5S
JIS:	CK	CJ	CH	SL	UJ	R	B			

Temperature Characteristic Codes		Temperature Characteristics			Operating Temperature Range	Capacitance Change Each Temperature (%)						
		Reference Temperature	Temperature Range	Capacitance Change or Temperature Coefficient		-55°C		*2		-10°C		
						Max.	Min.	Max.	Min.	Max.	Min.	
C0G	EIA	25°C	25 to 125°C	0±30ppm/°C	-55 to 125°C	0.58	-0.24	0.4	-0.17	0.25	-0.11	
CK	JIS	20°C	20 to 125°C	0±250ppm/°C	-55 to 125°C	2.56	-1.88	1.54	-1.13	1.02	-0.75	
CJ	JIS	20°C	20 to 125°C	0±120ppm/°C	-55 to 125°C	1.37	-0.9	0.82	-0.54	0.55	-0.36	
CH	JIS	20°C	20 to 125°C	0±60ppm/°C	-55 to 125°C	0.82	-0.45	0.49	-0.27	0.33	-0.18	
SL	JIS	20°C	20 to 85°C	+350 to -1000ppm/°C	-55 to 125°C	-	-	-	-	-	-	
U2J	EIA	25°C	25 to 125°C *1	-750±120ppm/°C	-55 to 125°C	8.78	5.04	6.04	3.47	3.84	2.21	
UJ	JIS	20°C	20 to 85°C	-750±120ppm/°C	-25 to 85°C	-	-	4.94	2.84	3.29	1.89	
X7R	EIA	25°C	-55 to 125°C	±15%	-55 to 125°C	-	-	-	-	-	-	
X7S	EIA	25°C	-55 to 125°C	±22%	-55 to 125°C	-	-	-	-	-	-	
X7T	EIA	25°C	-55 to 125°C	+22%, -33%	-55 to 125°C	-	-	-	-	-	-	
X7U	EIA	25°C	-55 to 125°C	+22%, -56%	-55 to 125°C	-	-	-	-	-	-	
R	JIS	20°C	-55 to 125°C	±15%	-55 to 125°C	-	-	-	-	-	-	
X6S	EIA	25°C	-55 to 105°C	±22%	-55 to 105°C	-	-	-	-	-	-	
X6T	EIA	25°C	-55 to 105°C	+22%, -33%	-55 to 105°C	-	-	-	-	-	-	
X5R	EIA	25°C	-55 to 85°C	±15%	-55 to 85°C	-	-	-	-	-	-	
X5S	EIA	25°C	-55 to 85°C	±22%	-55 to 85°C	-	-	-	-	-	-	
B	JIS	20°C	-25 to 85°C	±10%	-25 to 85°C	-	-	-	-	-	-	

*1 Rated Voltage 100Vdc max: 25 to 85°C

*2 -25°C (Reference Temperature 20°C) / -30°C (Reference Temperature 25°C)

■ GRM Series



For the Capacitance Table of General Purpose GRM Series, please review the inserted Capacitance Table of "Chip Monolithic Ceramic Capacitors For General Purpose GRM Series".

Capacitance Table

p00

Each number in the Part Number List refers to the page number printed at the bottom of the page.

(→ ■ GRM Series Temperature Compensating Type)

p00

← Part Number List

JIS:

CK

CJ

CH

SL

UJ

EIA:

C0G

U2J

LxW (mm)	4.5x3.2				5.7x5.0					
T max. (mm)	1.5	2.0			1.5			2.0		
Rated Voltage (Vdc)	500	1000	630	500	1000	630	500	1000	630	500
Cap. / TC Code	U2J	U2J	U2J	U2J	U2J	U2J	U2J	U2J	U2J	U2J
3900pF		p69								
4700pF		p69								
5600pF					p69					
6800pF					p69					
8200pF								p69		
10000pF								p69		
12000pF	p69									
15000pF			p69	p69						
18000pF			p69	p69						
22000pF			p69	p69						
27000pF						p69	p69			
33000pF									p69	p69
39000pF									p69	p69
47000pF									p69	p70

Capacitance Table

p00

Each number in the Part Number List refers to the page number printed at the bottom of the page.

(→ ■ GRM Series High Dielectric Constant Type)

p00	← Part Number List	JIS: R B	EIA: X7R X7S X7T X7U X6S X6T X5R X5S																				
LxW (mm)	3.2x1.6						3.2x2.5																
T max. (mm)	1.8	1.9						1.5					1.8				2.0					2.2	2.7
Rated Voltage (Vdc)	4	100	6.3	4			1000	630	500	250	200	6.3	4	2.5	1000	630	500	250	200	25	80		
Cap. / TC Code	X6S	X7R	X6T	X5R	X7U	X6T	X5R	X7R	X7R	X7R	X7R	X5S	X6T	X5S	X6T	X7R	X7R	X7R	X7R	X7R	X7R	X7R	
100pF																							
150pF																							
220pF																							
330pF																							
470pF																							
680pF																							
820pF																							
1000pF																							
1500pF																							
2200pF																							
3300pF																							
4700pF																							
6800pF								p81															
10000pF								p81															
15000pF																p81							
22000pF									p81	p81						p81							
33000pF																	p81	p81					
47000pF																	p81	p81					
68000pF										p81	p81												
0.10μF																			p81	p81			
0.15μF										p81	p81												
0.22μF																			p81	p81			
0.33μF																							
0.47μF																							
0.68μF																							
1.0μF																							
2.2μF		p81																					
4.7μF																						p81	
10μF																					p81		
22μF																							
47μF	p81																						
100μF			p81	p81	p81	p81	p81																
150μF													p81	p81	p81	p81							



Capacitance Table

p00

Each number in the Part Number List refers to the page number printed at the bottom of the page.

(→ ■ GRM Series High Dielectric Constant Type)

p00 ← Part Number List JIS: R B EIA: X7R X7S X7T X7U X6S X6T X5R X5S

LxW (mm)	4.5x3.2	5.7x5.0				
T max. (mm)	2.0	2.0				
Rated Voltage (Vdc)	200	1000	630	500	250	200
Cap. / TC Code	X7R	X7R	X7R	X7R	X7R	X7R
100pF						
150pF						
220pF						
330pF						
470pF						
680pF						
820pF						
1000pF						
1500pF						
2200pF						
3300pF						
4700pF						
6800pF						
10000pF						
15000pF						
22000pF						
33000pF						
47000pF						
68000pF		p81				
0.10μF		p81				
0.15μF			p81	p81		
0.22μF	p81		p81	p81		
0.33μF	p81				p82	p82
0.47μF	p81				p82	p82
0.68μF					p82	p82
1.0μF					p82	p82
2.2μF						
4.7μF						
10μF						
22μF						
47μF						
100μF						
150μF						

Capacitance Table

p00

Each number in the Part Number List refers to the page number printed at the bottom of the page.

■ GJM Series Temperature Compensating Type

p00

← Part Number List

JIS:

CK

CJ

CH

EIA:

C0G

L×W (mm)	0.4×0.2		0.6×0.3		1.0×0.5	
T max. (mm)	0.22		0.33		0.55	
Rated Voltage (Vdc)	25		25		50	
Cap. / TC Code	C0G	CΔ	C0G	CΔ	C0G	CΔ
0.10pF					p97	p100
0.20pF	p84	p87	p90	p93	p97	p100
1.0pF	p84	p87	p90	p94	p97	p101
2.0pF	p84	p87	p91	p94	p97	p101
3.0pF	p84	p87	p91	p94	p98	p101
4.0pF	p85	p88	p91	p94	p98	p101
5.0pF	p85	p88	p91	p95	p98	p102
6.0pF	p85	p88	p92	p95	p98	p102
7.0pF	p86	p89	p92	p95	p99	p102
8.0pF	p86	p89	p92	p96	p99	p103
9.0pF	p86	p90	p93	p96	p100	p103
10pF	p87	p90	p93	p97	p100	p103
11pF	p87	p90	p93	p97	p100	p103
12pF	p87	p90	p93	p97	p100	p104
13pF	p87	p90	p93	p97	p100	p104
15pF	p87	p90	p93	p97	p100	p104
16pF	p87	p90	p93	p97	p100	p104
18pF	p87	p90	p93	p97	p100	p104
20pF	p87	p90	p93	p97	p100	p104
22pF	p87	p90	p93	p97	p100	p104
24pF			p93	p97	p100	p104
27pF			p93	p97	p100	p104
30pF			p93	p97	p100	p104
33pF			p93	p97	p100	p104
36pF					p100	p104
39pF					p100	p104
43pF					p100	p104
47pF					p100	p104

The indication for every 0.1 pF has been omitted for less than 10 pF. Refer to the Part Number List for details.

Capacitance Table

Each number in the Part Number List refers to the page number printed at the bottom of the page.

GMA Series High Dielectric Constant Type

p00 ← Part Number List JIS: R B EIA: X7R X5R

L×W (mm)	0.38×0.38		0.5×0.5								0.8×0.8							
T max. (mm)	0.35		0.4								0.6							
Rated Voltage (Vdc)	10		100	25	10		6.3	100		25	10	6.3	100		25	10	6.3	
Cap. / TC Code	X7R	R	X7R	X7R	B	X7R	R	B	X5R	B	X7R	X7R	B	X7R	R	B	X5R	B
100pF			p106															
150pF			p106															
220pF			p106															
330pF			p106															
470pF			p106															
680pF			p106															
1000pF			p106															
1500pF				p106	p106						p106							
2200pF				p106	p106						p106							
3300pF				p106	p106						p106							
4700pF				p106	p106						p106							
6800pF						p106	p106	p106			p106							
10000pF	p106	p106				p106	p106	p106				p106	p106					
15000pF						p106	p106	p106				p106	p106					
22000pF						p106	p106	p106				p106	p106					
33000pF														p106	p106	p106		
47000pF														p106	p106	p106		
68000pF														p106	p106	p106		
0.10μF									p106	p106				p106	p106	p106		
0.47μF																	p106	p106

Capacitance Table

p00

Each number in the Part Number List refers to the page number printed at the bottom of the page.

■ GQM Series Temperature Compensating Type

p00

← Part Number List

JIS:

CK

CJ

CH

EIA:

C0G

LxW (mm)	1.6x0.8					2.0x1.25					2.8x2.8
T max. (mm)	0.8	0.9				0.95				1.0	1.35
Rated Voltage (Vdc)	250	100		50		100		50		250	500
Cap. / TC Code	C0G	C0G	CΔ	C0G	CH	C0G	CΔ	C0G	CH	C0G	C0G
1.0pF	p111	p111	p112			p113	p114			p116	p117
2.0pF	p111	p112	p112			p114	p114			p116	p117
3.0pF	p111	p112	p112			p114	p114			p116	p117
4.0pF	p111	p112	p112			p114	p114			p116	p117
5.0pF	p111	p112	p112			p114	p114			p116	p117
6.0pF	p111	p112	p112			p114	p115			p116	p117
7.0pF	p111			p112	p113	p114	p115			p116	p117
8.0pF	p111			p112	p113	p114	p115			p116	p117
9.0pF	p111			p112	p113	p114	p115			p116	p117
10pF	p111			p112	p113	p114	p115			p116	p117
11pF	p111			p112	p113	p114	p115			p116	p117
12pF	p111			p112	p113	p114	p115			p116	p117
13pF	p111			p112	p113	p114	p115			p116	p117
15pF	p111			p112	p113	p114	p115			p116	p117
16pF	p111			p112	p113	p114	p115			p116	p117
18pF	p111			p113	p113	p114	p115			p116	p117
20pF	p111			p113	p113			p115	p115	p116	p117
22pF	p111			p113	p113			p115	p115	p116	p117
24pF	p111			p113	p113			p115	p115	p116	p117
27pF	p111			p113	p113			p115	p115	p116	p117
30pF	p111			p113	p113			p115	p115	p116	p117
33pF	p111			p113	p113			p115	p115	p116	p117
36pF	p111			p113	p113			p115	p115	p116	p117
39pF	p111			p113	p113			p115	p115	p116	p117
43pF	p111			p113	p113			p115	p115	p116	p117
47pF	p111			p113	p113			p115	p115	p116	p117
51pF				p113	p113			p115	p115	p116	p117
56pF				p113	p113			p115	p115	p116	p117
62pF				p113	p113			p115	p115	p116	p117
68pF				p113	p113			p115	p115	p116	p118
75pF				p113	p113			p115	p115	p116	p118
82pF				p113	p113			p115	p115	p116	p118
91pF				p113	p113			p115	p115	p116	p118
100pF				p113	p113			p115	p115	p117	p118

The indication for every 0.1 pF has been omitted for less than 10 pF. Refer to the Part Number List for details.

Capacitance Table

p00

Each number in the Part Number List refers to the page number printed at the bottom of the page.

■ KR3 Series High Dielectric Constant Type

p00

← Part Number List

EIA:

X7T

LxW (mm)	6.1×5.3										
T max. (mm)	3.0			3.9			5.0		6.7		
Rated Voltage (Vdc)	630	450	250	630	450	250	450	250	630	450	250
Cap. / TC Code	X7T	X7T	X7T	X7T	X7T	X7T	X7T	X7T	X7T	X7T	X7T
0.10μF	p128										
0.15μF	p128										
0.22μF		p128		p128							
0.27μF				p128							
0.33μF		p128									
0.47μF		p128	p128						p128		
0.56μF				p128					p128		
0.68μF			p128				p128				
1.0μF						p128	p128				
1.2μF									p128		
1.5μF								p128			
2.2μF										p128	

■ LLA Series High Dielectric Constant Type

p00

← Part Number List

EIA:

X7R

X7S

LxW (mm)	1.6×0.8	2.0×1.25										3.2×1.6							
T max. (mm)	0.55	0.55					0.95					0.55			0.95		1.25		
Rated Voltage (Vdc)	4	25	16	10	6.3	4	25	16	10	6.3	4	16	10	6.3	16	10	16	10	
Cap. / TC Code	X7S	X7R	X7R	X7R	X7R	X7S	X7R	X7R	X7R	X7R	X7S	X7R	X7R	X7R	X7R	X7R	X7R	X7R	
10000pF		p130					p130												
22000pF		p130					p130												
47000pF			p130				p130												
0.10μF	p130		p130					p130											
0.22μF	p130			p130				p130				p130							
0.47μF	p130				p130				p130				p130		p130				
1.0μF						p130				p130				p130		p130	p130		
2.2μF	p130										p130			p130				p130	
4.7μF						p130													

For General Purpose

GRM Series



This is Murata primary products renowned for both small size and large capacitance value with latest advanced technology.

Features

1 Achieves large-capacity and small size in a multilayer structure.



2 Sn plating is applied to the external electrodes; excellent solderability.

3 High reliability with no polarity.

	Ceramic Capacitor	Tantalum Capacitor	Aluminum Electrolytic Capacitor	Conductive Polymer Capacitor
Price	○	○	◎	○
Comparison between Impedance Frequency Characteristics	◎	△	△	○
Capacitance temperature characteristics	○	◎	○	○
DC breakdown voltage	◎	△	△	△
Polarity	No	Yes	Yes	Yes
Pulse response	◎	△	△	○
Allowable ripple current	◎	△	△	△
Reliability	◎	○	○	○
DC bias characteristics	△	◎	◎	◎

◎: Particularly excellent ○: Excellent △: Inferior

Specifications

Size	0.4×0.2mm to 5.7×5.0mm
Rated Voltage	DC2.5V to 3.15kV
Capacitance	0.1pF to 150μF
Main Applications	1. Rated voltage 100V Max. High Dielectric Constant Type . . . For decoupling and smoothing circuits Temperature Compensating Type . . . For tuning circuits, oscillating circuits, and high frequency filter circuits 2. Rated voltage 200V min. High Dielectric Constant Type . . . For clamp snubber circuits and smoothing circuits Temperature Compensating Type . . . Power supply damper snubber



This catalog contains only a portion of the product lineup.
Please refer to the capacitor search tool on the Murata Web site for details.

