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Capacitors

Monolithic Ceramic Capacitors

**Monolithic Ceramic Capacitors (medium-voltage/
Safety Standard Recognized)**

Monolithic Ceramic Capacitors (lead type)

Ceramic Capacitors (12-500V)

High-Voltage Ceramic Capacitors (250V-6.3kV)

Safety Standard Recognized Ceramic Capacitors

High-Voltage Ceramic Capacitors (10-40kV)

High-frequency Power Ceramic Capacitors

Ceramic Trimmer Capacitors

C Networks

● **Part Numbering** (The structure of the "Global Part Numbers" that will be adopted from June 2001 and the meaning of each code are described herein.)
If you have any questions about details, inquire at your usual Murata sales office or distributor.

Chip Monolithic Ceramic Capacitors

(Global Part Number) **GR M 18 8 B1 1H 102 K A01 K**
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Product ID

② Series

Product ID	Code	Series
GR	M	for Reflow, Flow/Reflow
	P	Soldering Electrode
ER	F	High-frequency and high-power Type
	H	High-frequency and high-power Type (Ribbon Terminal)
	A	High-frequency Type
	D	High-frequency Type (Ribbon Terminal)
GQ	M	High-frequency for Flow/Reflow Soldering
GM	A	Monolithic Microchip
GN	M	Capacitor Array
LL	L	Low ESL Wide-width Type
	A	Low ESL Capacitor Array
GJ	6	Low Dissipation
	2	Smoothing Type
GA	2	for AC250V (r.m.s.)
	3	Safety Standard Recognized Type

③ Dimension (L×W)

Code	Dimension (L×W)	EIA
03	0.6×0.3 mm	0201
05	0.5×0.5 mm	0202
08	0.8×0.8 mm	0303
11	1.25×1.0 mm	0504
15	1.0×0.5 mm	0402
18	1.6×0.8 mm	0603
1X	Depends on individual standards.	
21	2.0×1.25 mm	0805
22	2.8×2.8 mm	1111
31	3.2×1.6 mm	1206
32	3.2×2.5 mm	1210
3X	Depends on individual standards.	
42	4.5×2.0 mm	1808
43	4.5×3.2 mm	1812
52	5.7×2.8 mm	2211
55	5.7×5.0 mm	2220

④ Dimension (T)

Code	Dimension (T)
3	0.3 mm
4	4-elements (Array Type)
5	0.5 mm
6	0.6 mm
7	0.7 mm
8	0.8 mm
9	0.85 mm

A	1.0 mm
B	1.25 mm
C	1.6 mm
D	2.0 mm
E	2.5 mm
M	1.15 mm
N	1.35 mm
R	1.8 mm
Q	1.5 mm
X	Depends on individual standards.

With the array type GNM series, "Dimension(T)" indicates the number of elements.

⑤ Temperature Characteristics

Code	Temperature Characteristics	Temperature Range	Cap. Change or Temp. Coeff.
1X	SL	20 to 85°C	+350 to -1000ppm/°C
2C	CH	-55 to 125°C	0±60ppm/°C
2P	PH	-25 to 85°C	-150±60ppm/°C
2R	RH	-25 to 85°C	-220±60ppm/°C
2S	SH	-25 to 85°C	-330±60ppm/°C
2T	TH	-25 to 85°C	-470±60ppm/°C
3C	CJ	-55 to 125°C	0±120ppm/°C
3P	PJ	-25 to 85°C	-150±120ppm/°C
3R	RJ	-25 to 85°C	-220±120ppm/°C
3S	SJ	-25 to 85°C	-330±120ppm/°C
3T	TJ	-25 to 85°C	-470±120ppm/°C
3U	UJ	-25 to 85°C	-750±120ppm/°C
4C	CK	-55 to 125°C	0±250ppm/°C
5C	C0G	-55 to 125°C	0±30ppm/°C
6C	C0H	-55 to 125°C	0±60ppm/°C
6P	P2H	-55 to 85°C	-150±60ppm/°C
6R	R2H	-55 to 85°C	-220±60ppm/°C
6T	T2H	-55 to 85°C	-470±60ppm/°C
7U	U2J	-55 to 85°C	-750±120ppm/°C
B1	B (1/2Ur)	-25 to 85°C	±10%
B3	B	-25 to 85°C	±10%
E4	Z5U	10 to 85°C	+22, -82%
F1	F (1/2Ur)	-25 to 85°C	+30, -80%
F5	Y5V	-30 to 85°C	+22, -82%
R1	R (1/2Ur)	-55 to 125°C	±15%
R3	R	-55 to 125°C	±15%
R6	X5R	-55 to 85°C	±15%
R7	X7R	-55 to 125°C	±15%

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(Global Part Number) **GR M 18 8 B1 1H 102 K A01 K**
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

⑥ Rated Voltage

Code	Rated Voltage
0J	DC6.3V
1A	DC10V
1C	DC16V
1E	DC25V
1H	DC50V
2A	DC100V
2D	DC200V
2E	DC250V
YD	DC300V
2H	DC500V
2J	DC630V
3A	DC1kV
3D	DC2kV
3F	DC3.15kV
E2	AC250V
GB	X2; AC250V (Safety Standard Recognized Type GB)
GC	X1, Y2; AC250V (Safety Standard Recognized Type GC)

⑨ Individual Specification Code

Code	Individual Specification
A**/B**/C**/W**	Base Metal Inner Electrode
Other than above	Precious Metal Inner Electrode

* indicates an alphabet or figure.

⑩ Packaging

Code	Packaging
L	ø178mm Plastic Taping
D	ø178mm Paper Taping
K	ø330mm Plastic Taping
J	ø330mm Paper Taping
B	Bulk
C	Bulk Case
T	Bulk Tray

⑦ Capacitance

Expressed by three figures. The unit is pico-farad(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.

Ex.)

Code	Capacitance
R50	0.5pF
1R0	1.0pF
100	10pF
103	10000pF

⑧ Capacitance Tolerance

Code	Capacitance Tolerance	TC	Series	Capacitance Step
B	±0.1pF	CΔ	GJ6,QQM	≤5pF E24 Series, 1pF
C	±0.25pF	CΔ-SL	GRP/GRM/ERF/ERH/ERA/ERD	≤5pF * 1pF
		CΔ	GJ6,QQM	<10pF E24 Series, 1pF
D	±0.5pF	CΔ-SL	GRP/GRM	6.0 to 9.0pF * 1pF
		CΔ	ERF/ERH/ERA/ERD	5.1 to 9.1pF E24 Series
G	±2%	CΔ	GJ6	≥10pF E12 Series
		CΔ	QQM	≥10pF E24 Series
J	±5%	CΔ-SL	GRP/GRM	≥10pF E12 Series
		CΔ	ERF/ERH/ERA/ERD	≥10pF E24 Series
K	±10%	B,R,X7R,X5R,ZLM	GRP/GRM/GA3	E6 Series
		B,R,X7R	LLL/LLA	E12 Series
M	±20%	Z5U	GRM	E3 Series
		B,R,X7R	GMA	E6 Series
		B	GA2	E3 Series
Z	+80%, -20%	F,Y5V	GRP/GRM/GJ2	E3 Series
		F,Y5V,E	LLL/LLA	E6 Series
R				Depends on individual standards.

* E24 series is also available.

Monolithic Ceramic Capacitors (lead type)

(Global Part Number) **RP E R1 1H 104 K 2 M1 A01 A**
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Product ID

② Series/Terminal

Product ID	Series/Terminal	
RP	E	Monolithic Ceramic Capacitors Lead Type

③ Temperature Characteristics

Code	Temperature Characteristics	Temperature Range	Cap. Change or Temp. Coeff.
1X	SL	25 to 85°C	+350 to -1000ppm/°C
2C	CH	-55 to 125°C	0±60ppm/°C
2P	PH	-25 to 85°C	-150±60ppm/°C
2R	RH	-25 to 85°C	-220±60ppm/°C
2S	SH	-25 to 85°C	-330±60ppm/°C
2T	TH	-25 to 85°C	-470±60ppm/°C
3C	CJ	-55 to 125°C	0±120ppm/°C
3P	PJ	-25 to 85°C	-150±120ppm/°C
3R	RJ	-25 to 85°C	-220±120ppm/°C
3S	SJ	-25 to 85°C	-330±120ppm/°C
3T	TJ	-25 to 85°C	-470±120ppm/°C
3U	UJ	-25 to 85°C	-750±120ppm/°C
4C	CK	-55 to 125°C	0±250ppm/°C
5C	C0G	-55 to 125°C	0±30ppm/°C
6C	C0H	-55 to 125°C	0±60ppm/°C
6P	P2H	-55 to 85°C	-150±60ppm/°C
6R	R2H	-55 to 85°C	-220±60ppm/°C
6T	T2H	-55 to 85°C	-470±60ppm/°C
7U	U2J	-55 to 85°C	-750±120ppm/°C
B1	B(1/2Ur)	-25 to 85°C	±10%
E4	Z5U	10 to 85°C	+22, -82%
F1	F(1/2Ur)	-25 to 85°C	+30, -80%
F5	Y5V	-30 to 85°C	+22, -82%
R1	R(1/2Ur)	-55 to 125°C	±15%
R6	X5R	-55 to 85°C	±15%
R7	X7R	-55 to 125°C	±15%

④ Rated Voltage

Code	Rated Voltage
1E	DC25V
1H	DC50V
2A	DC100V
2D	DC200V

⑤ Capacitance

Expressed by three figures. The unit is pico-farad(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.

⑥ Capacitance Tolerance

Code	Capacitance Tolerance	Temperature Characteristics	Capacitance Step
C	±0.25pF	CΔ—UΔ	≤5pF : 1pF Step
D	±0.5pF		6 to 9pF : 1pF Step
J	±5%		≥10 : E12 Series
K	±10%	X7R	E6 Series
M	±20%	Z5U	E3 Series
Z	+80%, -20%	Y5V	E3 Series

⑦ Size

Code	Size
1	3.5×3.0 mm
2	5.0×3.5 mm
3	5.0×4.5 mm
4	7.5×5.0 mm
5	7.5×7.5 mm
6	10.0×10.0 mm
7	12.5×12.5 mm
T	10.0×8.5 mm

⑧ Lead Type

Code	Lead Type	Lead Space
A*	Straight Long Bulk	F=2.5mm
B*	Straight Long Bulk	F=5.0mm
C*	Straight Long Bulk	other than above
E*	Straight Taping	F=5.0mm
K*	Incrimp Bulk	F=5.0mm
M*	Incrimp Taping	F=5.0mm
P*	Outcrimp Bulk	F=2.5mm
S*	Outcrimp Taping	F=2.5mm

Lead style depends on individual standards. * indicates a figure.

⑨ Individual Specification Code

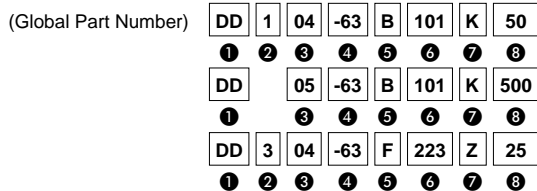
Code	Individual Specification
A**/C**/E**	Base Metal Inner Electrode
Other than above	Precious Metal Inner Electrode

* indicates an alphabet or figure.

⑩ Packaging

Code	Packaging
A	Ammo Pack
B	Bulk

Ceramic Capacitors (12V-500V)



① Product ID

Product ID	
DD	Ceramic Capacitors (12V-500V)

② Series Category

Code	Series (Type)
None	DD10 Series (500V)
1	DD100 Series (50V)
3	DD300 Series (Surface Layer Type BC Capacitors)
4	DD400 Series (Boundary Layer Type BC Capacitors)

③ Body Diameter

Code	Body Diameter	
	DD100/10 Series	DD300/400 Series
04	4mm	4mm
05	5mm	5mm
06	6mm	6.3mm
07	7.5mm	7mm
08	8mm	8mm
09	9.5mm	—
10	10.5mm	10mm
11	11mm	—
12	12.5mm	12.5mm
14	14.5mm	—
16	16.5mm	—
18	18.5mm	—

④ Lead Style

Code	Lead Style
-63	Inside Crimp
-64	
-989	Inside Crimp Taping
-999	
-959	

⑤ Temperature Characteristics

Code	Cap. Change or Temp. Coeff.	Temperature Range
CK	0±250ppm/°C	-25 to +85°C
CJ	0±120ppm/°C	
CH	0±60ppm/°C	
SL	+350 to -1000ppm/°C	+20 to +85°C
B	±10%	-25 to +85°C
E	+20%, -55%	
F	+30%, -80%	
SR	±15%	

⑥ Capacitance

Expressed by three figures. The unit is pico-farad(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.

⑦ Capacitance Tolerance

Code	Capacitance Tolerance
C	±0.25pF
D	±0.5pF
J	±5%
K	±10%
M	±20%
P	+100%, -0%
Z	+80%, -20%

⑧ Rated Voltage

Code	DC Rated Voltage
12	12V
16	16V
25	25V
50	50V
500	500V

Ceramic Capacitors (250V-6.3kV)/Ceramic Capacitors (safety recognized)

(Global Part Number)

DE	B	B3	3A	102	K	N2	A	
①	②	③	④	⑤	⑥	⑦	⑧	⑨

① Product ID

Product ID	
DE	High-voltage (250V - 6.3kV) / Safety Standard Recognized Ceramic Capacitors

② Series Category

Code	Outline	Contents
1	Safety Standard Recognized	IEC60384-14 Class Y1
2		IEC60384-14 Class Y2
J	AC250V (r.m.s.)	"Products which are based on the Electrical Appliance and Material Control Law of Japan"
A	High-Voltage	Class1 DC1-3.15kV Rated
B		Class2 DC1-3.15kV Rated
C		Class 1,2 DC6.3kV Rated
H		High Temperature Guaranteed, Low-dissipation Factor

In case of High-voltage or Electrical Appliance and Material Control Law of Japan, first three digit (① Product ID and ② Series Category) express "Series Name".

In case of Safety Recognized Capacitors, first three digit express product code. The following fourth figure expresses recognized type shown in ④ Safety Standard Recognized type column.

③ Temperature Characteristics

Code	Temperature Characteristics	Cap.Change or Temp. Coeff.	Temperature Range
B3	B	±10%	-25 to +85°C
E3	E	+20%, -55%	
F3	F	+30%, -80%	
C3	C	±20%	-25 to +85°C
		+15%, -30%	+85 to +125°C
R3	R	±15%	-25 to +85°C
		+15%, -30%	+85 to +125°C
1X	SL	+350 to -1000ppm/°C	+20 to +85°C

④ Rated Voltage/Safety Standard Recognized Type

Code	Rated Voltage
E2	AC250V
KH	X1, Y2; AC250V, (Safety Standard Recognized Type KH)
KY	X1, Y2; AC250V, (Safety Standard Recognized Type KY)
KX	X1, Y1; AC250V, (Safety Standard Recognized Type KX)
2E	DC250V
2H	DC500V
3A	DC1kV
3D	DC2kV
3F	DC3.15kV
3J	DC6.3kV

⑤ Capacitance

Expressed by three figures. The unit is pico-farad(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.

⑥ Capacitance Tolerance

Code	Capacitance Tolerance
J	±5%
K	±10%
M	±20%
Z	+80%, -20%

⑦ Lead Style

Code	Lead Style	Dimensions(mm)		
		Lead Spacing	Lead Diameter	Pitch of Components
A2	Vertical Crimp Long	5	ø0.6±0.05	-
A3		7.5		
A4		10		
A5		10		
B2	Vertical Crimp Short	5	ø0.6±0.05	-
B3		7.5		
B4		10		
B5		10	ø0.6+0.1, -0.05	
C1	Straight Long	5	ø0.5±0.05	-
C3		7.5	ø0.6±0.05	
C4		10	ø0.6±0.05	
CD		7.5	ø0.5±0.05	
D1	Straight Short	5	ø0.5±0.05	-
D3		7.5	ø0.6±0.05	
DD		7.5	ø0.5±0.05	
N2	Vertical Crimp Taping	5	ø0.6±0.05	12.7
N3		7.5	ø0.6±0.05	15
N5		10	ø0.6+0.1, -0.05	25.4
N7		7.5	ø0.6±0.05	30
P2	Straight Taping	5	ø0.6±0.05	12.7
P3		7.5		15

⑧ Packaging

Code	Packaging
A	Ammo Pack
B	Bulk

⑨ Individual Specification

In case part number cannot be identified without "Individual Specification", it is added at the end of part number.

High-voltage Ceramic Capacitors (over 10kV)

(Global Part Number) **DH** **R** **B3** **4A** **101** **M** **2B** **B**
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Product ID

Product ID	
DH	High-voltage Ceramic Capacitors (over 10kV)

② Series Category

Code	Contents
R	Radial Type
S	Mold Type

First three digit of part number (①Product ID and ②Series Category) express "Series Name".

③ Temperature Characteristics

Code	Temp. Char.	Cap. Change or Temp. Coeff.	Temp. Range
B3	B	±10%	-25 to +85°C
F4	Z5V	+22%, -82%	+10 to +85°C
4E	ZM	-4700±1000ppm/°C	+20 to +85°C

④ Rated Voltage

Code	Rated Voltage
4A	DC10kV
4B	DC12kV
4C	DC15kV
4D	DC20kV
4F	DC30kV
4G	DC40kV

⑤ Capacitance

Expressed by three figures. The unit is pico-farad(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.

⑥ Capacitance Tolerance

Code	Capacitance Tolerance
K	±10%
M	±20%
Z	+80%, -20%

⑦ Lead Type (DHR Series)

Code	Lead Type	Lead Spacing	Lead Diameter
2B	Straight Long	9.5mm	ø0.65mm
2F		12.7mm	ø0.8mm

⑦ Body Diameter and Terminal Type (DHS Series)

Code	Body Diameter	Terminal Type
CX	20mm	No.8-32 Tapped Holes
DX	24mm	
HX	30mm	
LX	38mm	
NX	43mm	
RX	52mm	
TX	60mm	

⑧ Packaging

Code	Packaging
B	Bulk

High-frequency Power Ceramic Capacitors

(Global Part Number)

DC	T	3U	AF	501	K	B4	B
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① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Product ID

Product ID	
DC	High-frequency Power Ceramic Capacitors

② Series Category

Code	Contents
A	Disc Type
T	Flange Type
W	Water-cooling Type
5	Small Type
6	Small Size Feed-thru Type

First three digit of part number (①Product ID and ②Series Category) express "Series Name".

③ Temperature Characteristics

Code	Temp. Char.	Cap. Change or Temp. Coeff.	Temp. Range
F3	F	+30%, -80%	-25 to +85°C
2A	AH	+100±60ppm/°C	
2C	CH	0±60ppm/°C	
3U	UJ	-750±120ppm/°C	

④ Rated Voltage

Code	Rated Voltage
D3	HF2kV
AT	HF9kV
B4	HF12kV
AF	HF14kV
C4	HF15kV
AX	HF16kV
D4	HF20kV
E4	HF25kV
F4	HF30kV
AZ	HF31.5kV
3D	DC2kV
3G	DC4kV
3H	DC5kV
AD	DC7.5kV
4C	DC15kV

⑤ Capacitance

Expressed by three figures. The unit is pico-farad(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.

⑥ Capacitance Tolerance

Code	Capacitance Tolerance
D	±0.5pF
K	±10%
M	±20%
P	+100%, -0%

⑦ Shape

Code	Shape	Application
A2	Dia. 40mm	DCA Series
B3	Dia. 60mm	DCT Series
B4	Dia. 80mm	
B5	Dia. 110mm	
B6	Dia. 140mm	
B8	Dia. 200mm	
C1	Dia. 12mm	DC5 Series
C3	Dia. 6.3mm	
C4	Dia. 30mm	
C6	Dia. 20mm	
C8	Dia. 20mm	DC6 Series
E1	Dia. 40mm	
E2	Dia. 60mm	
F1	Dia. 100mm	DCW Series
F2	Dia. 125mm	
F3	Dia. 135mm	

⑧ Packaging

Code	Packaging
B	Bulk

Ceramic Trimmer Capacitors

(Global Part Number) **TZ** **Y2** **R** **200** **A** **001** **R00**
① ② ③ ④ ⑤ ⑥ ⑦

① Product ID

Product ID	
TZ	Trimmer Capacitors

② Series/Terminal

Code	Series/Terminal
03	6mm Size Lead Type
B4	4mm Size Chip/Lead Type
C3	3mm Size Chip Type
S2	2mm Size Chip Type (Height 1.0mm)
Y2	2mm Size Chip Type (Height 1.25mm)
V2	2mm Size Chip Type (Height 1.45mm)

③ Temperature Characteristics

Code	Temperature Characteristics
Z	NP0 ppm/°C
S	N150ppm/°C
N	N200ppm/°C
T	N450ppm/°C
R	N750ppm/°C
K	N1000ppm/°C
P	N1200ppm/°C

Please refer to ratings for tolerance of temperature characteristics.

④ Maximum Capacitance

Expressed by three figures. The unit is pico-farad(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.

⑤ Terminal Shape

Code	Terminal Shape
A	Top Adjustment; TZS2, TZY2, TZV2, TZC3, TzB4 (Chip Type)
B	Top Adjustment; TzB4 (Chip Type), Rear Adjustment; TZ03 (Lead Type)
C	Top Adjustment; TzB4 (Lead Type)
D	Rear Adjustment; TzB4 (Lead Type)
E	Top Adjustment; TZ03 (Lead Type), Rear Adjustment; TzB4 (Chip Type)
F	Top Adjustment; TZ03 (Lead Type)
N	Rear Adjustment; TZ03 (Lead Type)
T	Top Adjustment; TZ03 (Taping Type)
Y	Side Adjustment; TZ03 (Lead Type)

Please refer to dimensions for terminals in detail.

⑥ Individual Specification

Code	Individual Specifications
001	TZS2, TZY2 Standard Type
110	TZV2, TzC3 (Minus Slot) Standard Type
169	TZ03 Standard Type
310	TzC3 (Plus Slot) Standard Type
A10	TzB4 No-cover Film Standard Type
B10	TzB4 with Cover Film Standard Type

⑦ Packaging

Code	Packaging
A00	Ammo Pack (Radial Taping)
B00	Bulk
M00	Magazine
R00	Reel (Taping ø180mm)
R01	Reel (Taping ø330mm)

C Networks (Bulk)

(Global Part Number) **B** **5** **RC** **0127** **-33N**

① ② ③ ④ ⑤

① Product ID

Product ID	
B	C Network Bulk

② Number of Terminals

Code	Number of Terminals
5	5 Terminals (4 Elements)
7	7 Terminals (6 Elements)
8	8 Terminals (7 Elements)
9	9 Terminals (8 Elements)

③ Appearance/Structure

Code	Appearance/Structure
RC	Unit Size; 15.3×9.5mm
ZC	Unit Size; 19.8×9.5mm
XC	Unit Size; 21.0×8.0mm
HC	Unit Size; 24.0×9.5mm

C Networks (Small Taping Type)

(Global Part Number) **CG** **SD** **8** **X** **102** **M** **-T21**

① ② ③ ④ ⑤ ⑥ ⑦

① Product ID

Product ID	
CG	C Network Low-Profile

② Structure

Code	Structure
SD	Terminal Pitch:2.54mm, Height:6.5mm max.

③ Number of Elements

Code	Number of Elements
4	4 Elements
6	6 Elements
8	8 Elements

④ Circuit

Code	Circuit
X	Pull up, Pull down Circuit

④ Serial Number

⑤ Terminal Structure

Code	Terminal Structure
-33N	2.5mm Pitch, Straight

⑤ Capacitance

Expressed by three figures. The unit is pico-farad(pF). The first and second figures are significant digits, and the third figure expresses the number of zeros which follow the two numbers.

Ex.)

Code	Capacitance
101	100pF
103	10000pF

⑥ Capacitance Tolerance

Code	Capacitance Tolerance
M	±20%
N	±30%

⑦ Packaging

Code	Packaging
-T21	Three-pins, Taping

Monolithic Ceramic Capacitors

	Series	Dimensions (mm)	Capacitance Range (F)															
			0.1p	1p	10p	100p	1000p	0.01 μ	0.1 μ	1 μ	10 μ	100 μ						
Ultra-miniaturized	GRP03	0.6×0.3		1pF								0.01 μ F						
For General Electronics Equipment	GRP15	1.0×0.5		0.5pF													0.47 μ F	
	GRM18	1.6×0.8		0.5pF													1 μ F	
	GRM21	2.0×1.25				12pF											4.7 μ F	
	GRM31	3.2×1.6		1pF													10 μ F	
	GRM32	3.2×2.5					150pF										10 μ F	
	GRM43	4.5×3.2						220pF										0.22 μ F
	GRM55	5.7×5.0							560pF									1.5 μ F
Medium-Voltage Type	GRM21	2.0×1.25							1000pF								0.01 μ F	
	GRM31	3.2×1.6		10pF													0.047 μ F	
	GRM32	3.2×2.5			27pF		82pF			0.022 μ F							0.1 μ F	
	GRM42	4.5×2.0		10pF			82pF											
	GRM43	4.5×3.2				100pF		220pF			0.033 μ F						0.22 μ F	
	GRM55	5.7×5.0										0.15 μ F					0.47 μ F	
AC250V Type	GA252	5.7×2.8						470pF									0.047 μ F	
	GA255	5.7×5.0															0.1 μ F	
Safety Std. Recognition	GA355	5.7×5.0					100pF										4700pF 0.01 μ F 0.033 μ F	
High Frequency Series	GQM18	1.6×0.8		0.5pF													24pF	
	GQM21	2.0×1.25		0.5pF													47pF	
	ERA11	1.25×1.0		0.5pF													51pF	
	ERA21	2.0×1.25		0.5pF													160pF	
	ERA32	3.2×2.5		0.5pF													1000pF	
	ERF1D	1.4×1.4		0.5pF													100pF	
	ERF22	2.8×2.8		0.5pF													1000pF	
High-Power Type	GJ615	1.0×0.5		0.5pF													18pF	
For Ultrasonic Sensors	GRM21	2.0×1.25						1000pF									1500pF	
Micro Chip	GMA05	0.5×0.5						1000pF									0.01 μ F	
	GMA08	0.8×0.8								0.01 μ F							0.1 μ F	
Array	GNM31	3.2×1.6		10pF													0.15 μ F	
Low ESL Wide Width Type	LLL18	0.8×1.6						2200pF									0.12 μ F	
	LLL21	1.25×2.0						4700pF									0.56 μ F	
	LLL31	1.6×3.2							0.01 μ F								2.2 μ F	
Eight-terminals Low ESL Type	LLA31	3.2×1.6						1000pF									2.2 μ F	
Smoothing Type	GJ221	2.0×1.25															10 μ F	
	GJ231	3.2×1.6															22 μ F	
	GJ232	3.2×2.5								1 μ F							47 μ F	
	GJ243	4.5×3.2															10 μ F 100 μ F	

Monolithic Ceramic Capacitors


for Flow/Reflow Soldering

● Temperature Compensating Type GRP15 Series

Part Number	GRP15									
L x W(mm) [EIA]	1.00x0.50 [0402]									
TC Code	C0G		C0H	P2H	R2H	S2H	SL		T2H	U2J
Rated Volt.(Vdc)	50		25	50	50	50	25	50	50	50
Capacitance and T(mm)										
0.5pF	0.50									
0.75pF	0.50									
1.0pF	0.50									
2.0pF	0.50									
3.0pF	0.50			0.50	0.50	0.50			0.50	0.50
4.0pF	0.50			0.50	0.50	0.50			0.50	0.50
5.0pF	0.50			0.50	0.50	0.50			0.50	0.50
6.0pF	0.50			0.50	0.50	0.50			0.50	0.50
7.0pF	0.50			0.50	0.50	0.50			0.50	0.50
8.0pF	0.50			0.50	0.50	0.50			0.50	0.50
9.0pF	0.50			0.50	0.50	0.50			0.50	0.50
10.0pF	0.50			0.50	0.50	0.50			0.50	0.50
12.0pF	0.50			0.50	0.50	0.50			0.50	0.50
15.0pF	0.50			0.50	0.50	0.50			0.50	0.50
18.0pF	0.50			0.50	0.50	0.50			0.50	0.50
22.0pF	0.50			0.50	0.50	0.50			0.50	0.50
27.0pF	0.50			0.50	0.50	0.50			0.50	0.50
33.0pF	0.50				0.50	0.50			0.50	0.50
39.0pF	0.50					0.50			0.50	0.50
47pF	0.50							0.50	0.50	0.50
56pF	0.50							0.50	0.50	0.50
68pF	0.50							0.50	0.50	0.50
82pF	0.50							0.50	0.50	0.50
100pF	0.50							0.50	0.50	0.50
120pF	0.50							0.50		0.50
150pF	0.50							0.50		0.50
180pF		0.50						0.50		0.50
220pF		0.50					0.50			
270pF		0.50					0.50			
330pF							0.50			
390pF							0.50			

● Temperature Compensating Type GRM18 Series

Part Number	GRM18												
L x W(mm) [EIA]	1.60x0.80 [0603]												
TC Code	C0G			C0H	P2H	R2H	S2H	SL				T2H	U2J
Rated Volt.(Vdc)	50	100	200	25	50	50	50	25	50	100	200	50	50
Capacitance and T(mm)													
0.5pF	0.80		0.80										
0.75pF	0.80		0.80										
1.0pF	0.80		0.80										
2.0pF	0.80		0.80										
3.0pF	0.80		0.80		0.80	0.80	0.80					0.80	0.80
4.0pF	0.80		0.80		0.80	0.80	0.80					0.80	0.80
5.0pF	0.80		0.80		0.80	0.80	0.80					0.80	0.80
6.0pF	0.80		0.80		0.80	0.80	0.80					0.80	0.80
7.0pF	0.80		0.80		0.80	0.80	0.80					0.80	0.80

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Part Number	GRM18												
L x W(mm) [EIA]	1.60x0.80 [0603]												
TC Code	COG			COH	P2H	R2H	S2H	SL				T2H	U2J
Rated Volt.(Vdc)	50	100	200	25	50	50	50	25	50	100	200	50	50
Capacitance and T(mm)													
8.0pF	0.80		0.80		0.80	0.80	0.80					0.80	0.80
9.0pF	0.80		0.80		0.80	0.80	0.80					0.80	0.80
10.0pF	0.80		0.80		0.80	0.80	0.80					0.80	0.80
12pF	0.80	0.80			0.80	0.80	0.80				0.80	0.80	0.80
15pF	0.80	0.80			0.80	0.80	0.80				0.80	0.80	0.80
18pF	0.80	0.80			0.80	0.80	0.80				0.80	0.80	0.80
22pF	0.80	0.80			0.80	0.80	0.80				0.80	0.80	0.80
27pF	0.80	0.80			0.80	0.80	0.80				0.80	0.80	0.80
33pF	0.80	0.80			0.80	0.80	0.80				0.80	0.80	0.80
39pF	0.80	0.80			0.80	0.80	0.80				0.80	0.80	0.80
47pF	0.80	0.80			0.80	0.80	0.80				0.80	0.80	0.80
56pF	0.80	0.80			0.80	0.80	0.80				0.80	0.80	0.80
68pF	0.80	0.80			0.80	0.80	0.80		0.80		0.80	0.80	0.80
82pF	0.80	0.80			0.80	0.80	0.80		0.80		0.80	0.80	0.80
100pF	0.80	0.80			0.80	0.80	0.80		0.80		0.80	0.80	0.80
120pF	0.80	0.80			0.80	0.80	0.80		0.80	0.80		0.80	0.80
150pF	0.80	0.80			0.80	0.80	0.80		0.80	0.80		0.80	0.80
180pF	0.80					0.80	0.80		0.80	0.80		0.80	0.80
220pF	0.80						0.80		0.80	0.80		0.80	0.80
270pF	0.80								0.80	0.80		0.80	0.80
330pF	0.80								0.80	0.80		0.80	0.80
390pF	0.80								0.80	0.80		0.80	0.80
470pF	0.80								0.80				0.80
560pF	0.80			0.80					0.80				0.80
680pF	0.80								0.80				0.80
820pF	0.80							0.80					
1000pF	0.80							0.80					
1200pF								0.80					
1500pF								0.80					

● Temperature Compensating Type GRM21 Series

Part Number	GRM21												
L x W(mm) [EIA]	2.00x1.25 [0805]												
TC Code	COG			COH	P2H	R2H	S2H	SL				T2H	U2J
Rated Volt.(Vdc)	50	100	200	25	50	50	50	25	50	100	200	50	50
Capacitance and T(mm)													
12pF			0.85										
15pF			0.85										
18pF			0.85										
22pF			0.85										
27pF			0.85										
33pF			0.85										
39pF			0.85										
47pF			0.85										
56pF			0.85										
68pF		0.85	1.25										
82pF		0.85	1.25										
100pF		0.85	1.25										
120pF		0.85	1.25								0.85		
150pF		0.85	1.25								1.25		
180pF		0.85	1.25		0.85						1.25		


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Part Number	GRM21													
L x W(mm) [EIA]	2.00x1.25 [0805]													
TC Code	C0G			C0H	P2H	R2H	S2H	SL				T2H	U2J	
Rated Volt.(Vdc)	50	100	200	25	50	50	50	25	50	100	200	50	50	
Capacitance and T(mm)														
220pF		0.85	1.25		0.85	0.85						1.25		
270pF		0.85			0.85	0.85	0.85					1.25		
330pF		0.85			0.85	0.85	0.85					1.25		
390pF		1.25			1.25	0.85	0.85					1.25		
470pF		1.25			1.25	0.85	0.85			0.85	1.25			
560pF	0.60	1.25			1.25	1.25	1.25			0.85		1.25		
680pF	0.85	1.25				1.25	1.25			0.85		1.25		
820pF	0.85	1.25					1.25		0.60	1.25		1.25	0.60	
1000pF	0.85	1.25							0.60	1.25		1.25	0.60	
1200pF	0.85								0.60	1.25		1.25	0.60	
1500pF	0.85								0.85	1.25		1.25	0.85	
1800pF	1.25								0.85	1.25		1.25	0.85	
2200pF	1.25								0.85					0.85
2700pF				1.25					1.25					1.25
3300pF				1.25					1.25					1.25
3900pF				1.25				0.85						
4700pF								0.85						
5600pF								1.25						
6800pF								1.25						

● Temperature Compensating Type GRM31 Series

Part Number	GRM31														
L x W(mm) [EIA]	3.20x1.60 [1206]														
TC Code	C0G				C0H	P2H	R2H	S2H	SL					T2H	U2J
Rated Volt.(Vdc)	50	100	200	500	25	50	50	50	25	50	100	200	500	50	50
Capacitance and T(mm)															
1.0pF				1.15											
2.0pF				1.15											
3.0pF				1.15											
4.0pF				1.15											
5.0pF				1.15											
6.0pF				1.15											
7.0pF				1.15											
8.0pF				1.15											
9.0pF				1.15											
10.0pF				1.15											
12pF				1.15											
15pF				1.15											
18pF				1.15											
22pF				1.15											
27pF				1.15											
33pF				1.15											
39pF				1.15											
47pF				1.15											
56pF				1.15											
68pF				1.15											
82pF				1.15											
100pF				1.15											
120pF				1.15											
150pF													1.15		
180pF													1.15		

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Part Number	GRM31														
L x W(mm) [EIA]	3.20x1.60 [1206]														
TC Code	C0G				C0H	P2H	R2H	S2H	SL					T2H	U2J
Rated Volt.(Vdc)	50	100	200	500	25	50	50	50	25	50	100	200	500	50	50
Capacitance and T(mm)															
220pF														1.15	
270pF			1.15											1.15	
330pF			1.15												
390pF			1.15												
470pF			1.15												
560pF													1.15		
680pF						0.85								1.15	
820pF						0.85	0.85							1.15	
1000pF						1.15	1.15	0.85						1.15	
1200pF		1.15				1.15	1.15	1.15						1.15	
1500pF		1.15				1.15	1.15	1.15							
1800pF		1.15						1.15							
2200pF		1.15										1.15			1.15
2700pF	0.85											1.15			1.15
3300pF	0.85											1.15			1.15
3900pF	1.15										0.85	1.15			1.15
4700pF	0.85										0.85	1.15			0.85
5600pF	1.15										0.85				0.85
6800pF					0.85						1.15				1.15
8200pF					1.15						1.15				1.15
10000pF					1.15					1.15					
12000pF										1.15					
15000pF										1.15					

● High Dielectric Constant Type X5R Characteristics

TC Code	X5R					
Part Number	GRP15	GRM18	GRM21		GRM31	
L x W(mm) [EIA]	1.00x0.50 [0402]	1.60x0.80 [0603]	2.00x1.25 [0805]		3.20x1.60 [1206]	
Rated Volt.(Vdc)	10	6.3	6.3	10	6.3	10
Capacitance and T(mm)						
68000pF	0.50					
0.1μF	0.50					
0.47μF		0.80				
1.0μF		0.80		0.85		
1.5μF			0.85			
2.2μF			1.25			0.85
3.3μF			1.25			1.30
4.7μF			1.25		1.15	1.60
10.0μF					1.60	

4.7μF for 6.3V is replaced with GRM21B series of L:2±0.15, W:1.25±0.15, T:1.25±0.15.

T:1.25±0.1mm is also available for GRM21 10V 1.0μF type.

3.3μF for 10V rated is replaced with GRM31X series of L:3.2±0.2, W:1.6±0.2, T:1.3+0/-0.3mm.

● High Dielectric Constant Type X7R Characteristics

TC Code	X7R															
Part Number	GRP15				GRM18					GRM21			GRM31			
L x W(mm) [EIA]	1.00x0.50 [0402]				1.60x0.80 [0603]					2.00x1.25 [0805]			3.20x1.60 [1206]			
Rated Volt.(Vdc)	10	16	25	50	10	16	25	50	100	16	25	50	10	16	25	50
Capacitance and T(mm)																
220pF				0.50					0.80							
330pF				0.50					0.80							
470pF				0.50					0.80							
680pF				0.50					0.80							
1000pF				0.50					0.80							
1500pF				0.50					0.80							
2200pF				0.50					0.80	0.80						
3300pF				0.50					0.80	0.80						
4700pF				0.50					0.80							
6800pF			0.50						0.80							
10000pF			0.50						0.80							
15000pF		0.50							0.80							
22000pF		0.50							0.80							
33000pF	0.50							0.80					0.85			
47000pF	0.50							0.80					1.25			
68000pF								0.80					1.25			
0.10μF						0.80	0.80					1.25	1.25			
0.15μF					0.80							1.25	1.25			
0.22μF					0.80							0.85	1.25			
0.33μF												1.25				0.85
0.47μF										0.85	1.25					1.15
0.68μF										0.85					0.85	
1.00μF										1.25			0.85	0.85	1.15	
1.5μF														1.15		
2.2μF													1.15	1.15		

0.10μF, 50V rated are GRM21 series of L:2±0.15, W:1.25±0.15, T:1.25±0.15.

T:1.25±0.1mm is also available for GRM31 1.0μF for 16V.

The tolerance will be changed to L:3.2±0.2,W:1.6±0.2 for GRM31 16V 1.0μF type. Also L:3.2±0.2, W:1.6±0.2, T:1.15±0.15 for GRM31 16V 2.2μF type.

● High Dielectric Constant Type Y5V Characteristics

TC Code	Y5V															
Part Number	GRP15			GRM18					GRM21				GRM31			
L x W(mm) [EIA]	1.00x0.50 [0402]			1.60x0.80 [0603]					2.00x1.25 [0805]				3.20x1.60 [1206]			
Rated Volt.(Vdc)	16	25	50	10	16	25	50	100	10	16	25	50	6.3	10	16	25
Capacitance and T(mm)																
2200pF			0.50													
4700pF			0.50					0.80								
10000pF			0.50				0.80									
22000pF		0.50					0.80									
47000pF	0.50						0.80									
0.10μF	0.50					0.80						0.85				
0.22μF					0.80						0.85	1.25				
0.47μF				0.80	0.80						1.25					
1.0μF				0.80					0.85	0.85	0.85				0.85	1.15
2.2μF									1.25	1.25	1.25			0.85	1.15	
4.7μF									1.25					1.15	1.15	
10.0μF													1.15	1.15		

T:1.25±0.1mm is also available for GRM21 25V or 16V 1.0μF type.

● High Dielectric Constant Type Z5U Characteristics

TC Code	Z5U		
Part Number	GRM18	GRM21	GRM31
L x W(mm) [EIA]	1.60x0.80 [0603]	2.00x1.25 [0805]	3.20x1.60 [1206]
Rated Volt.(Vdc)	50	50	50
Capacitance and T(mm)			
10000pF	0.80		
22000pF	0.80		
47000pF		0.60	
0.10μF		0.85	
0.22μF			0.85

Monolithic Ceramic Capacitors


for Reflow Soldering

● Temperature Compensating Type GRM32 Series

Part Number	GRM32								
L x W(mm) [EIA]	3.20x2.50 [1210]								
TC Code	SL				C0G				
Rated Volt.(Vdc)	500	50	100	200	500	50	100	200	500
Capacitance and T(mm)									
150pF									1.35
180pF									1.35
330pF	1.15								
390pF	1.15								
470pF					1.35				
560pF								1.35	
680pF								1.35	
820pF								1.35	
1000pF								1.35	
1500pF				1.35					
2700pF							1.35		
3300pF							1.35		
3900pF							1.35		
5600pF			1.35						
6800pF			1.35			1.35			
10000pF	1.35								
12000pF	1.35								

● Temperature Compensating Type GRM43 Series

Part Number	GRM43											
L x W(mm) [EIA]	4.50x3.20 [1812]											
TC Code	SL						C0G					
Rated Volt.(Vdc)	500	100	200	500	50	100	200	500	50	100	200	500
Capacitance and T(mm)												
220pF												2.00
270pF												2.00
330pF												2.00
390pF												2.00
470pF												2.00
560pF	2.00											
680pF	2.00											
820pF				2.00								

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Part Number	GRM43											
L x W(mm) [EIA]	4.50x3.20 [1812]											
TC Code	SL						COG					
Rated Volt.(Vdc)	500	100	200	500	50	100	200	500	50	100	200	500
Capacitance and T(mm)												
1000pF								2.00				
1200pF								2.00			2.00	
1500pF											2.00	
1800pF			2.00								2.00	
2200pF											2.00	
2700pF								2.00			2.00	
3300pF								2.00				
3900pF								2.00				
4700pF										2.00		
5600pF										2.00		
6800pF										2.00		
8200pF		2.00							2.00	2.00		
10000pF							2.00		2.00	2.00		
12000pF							2.00		2.00	2.00		
15000pF					2.00	2.00						

● Temperature Compensating Type GRM55 Series

Part Number	GRM55															
L x W(mm) [EIA]	5.70x5.00 [2220]															
TC Code	SL					COG					SL			COG		
Rated Volt.(Vdc)	50	100	50	100	200	50	100	200	50	100	200	50	100	200	500	
Capacitance and T(mm)																
560pF															2.00	
680pF															2.00	
820pF															2.00	
3300pF								2.00								
3900pF															2.00	
4700pF					2.00										2.00	
5600pF												2.00			2.00	
6800pF												2.00				
8200pF												2.00				
15000pF						2.00	2.00									
18000pF	2.00	2.00				2.00								2.00		
22000pF			2.00	2.00									2.00	2.00		
27000pF									2.00	2.00		2.00	2.00			
33000pF									2.00	2.00		2.00				
39000pF									2.00	2.00		2.00				

● High Dielectric Constant Type GRM32 Series

Part Number	GRM32							
L x W(mm) [EIA]	3.20x2.50 [1210]							
TC Code	X5R		X7R			Y5V		X7R
Rated Volt.(Vdc)	10	16	50	100	50	16	25	50
Capacitance and T(mm)								
68000pF					1.35			
0.10μF					1.35			
0.68μF			1.35					
1.0μF						1.8		1.80
2.2μF		1.15					1.80	

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Part Number	GRM32							
L x W(mm) [EIA]	3.20x2.50 [1210]							
TC Code	X5R	X7R			Y5V	X7R		
Rated Volt.(Vdc)	10	16	50	100	50	16	25	50
Capacitance and T(mm)								
3.3 μ F		1.35						
4.7 μ F						1.80		
10.0 μ F	2.50							

● High Dielectric Constant Type GRM43 Series

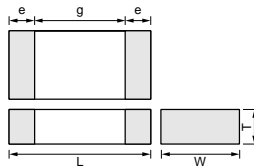
Part Number	GRM43	
L x W(mm) [EIA]	4.50x3.20 [1812]	
TC Code	X7R	
Rated Volt.(Vdc)	100	
Capacitance and T(mm)		
0.15 μ F	2.00	
0.22 μ F	2.00	

● High Dielectric Constant Type GRM55 Series

Part Number	GRM55	
L x W(mm) [EIA]	5.70x5.00 [2220]	
TC Code	X7R	
Rated Volt.(Vdc)	50	100
Capacitance and T(mm)		
0.33 μ F	2.00	
0.47 μ F	2.00	
1.0 μ F	2.00	
1.5 μ F	2.00	

Monolithic Ceramic Capacitors

Smoothing Type



Part Number	Dimensions (mm)				
	L	W	T	e min.	g min.
GJ221	2.0 ±0.1	1.25 ±0.1	1.25 ±0.1	0.2 to 0.7	0.7
GJ231	3.2 ±0.15	1.6 ±0.15	1.15 ±0.1	0.3 to 0.8	1.5
GJ232	3.2 ±0.3	2.5 ±0.2	1.35 ±0.15	0.3	1.0
			1.6 ±0.15		
			1.8 ±0.2		
GJ243	4.5 ±0.4	3.2 ±0.3	2.0 max.	0.3	2.0
			2.5 max.		

Part Number	Rated Voltage (Vdc)	TC Code	Capacitance (μ F)	Length L (mm)	Width W (mm)	Thickness T (mm)
GJ221BF50J106ZD01	6.3	Y5V	10 +80.-20%	2.00	1.25	1.25
GJ231MF50J226ZD01	6.3	Y5V	22 +80.-20%	3.20	1.60	1.15
GJ232CF50J476ZD01	6.3	Y5V	47 +80.-20%	3.20	2.50	1.60
GJ243RF50J107ZD11	6.3	Y5V	100 +80.-20%	4.50	3.20	1.80
GJ232NF51A4226ZD01	10	Y5V	22 +80.-20%	3.20	2.50	1.35

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Part Number	Rated Voltage (Vdc)	TC Code	Capacitance (μF)	Length L (mm)	Width W (mm)	Thickness T (mm)
GJ232RF51H475ZD01	50	Y5V	4.7 +80.-20%	3.20	2.50	1.80
GJ243XF51H106ZD12	50	Y5V	10 +80.-20%	4.50	3.20	2.20
GJ232RF52A105ZD01	100	Y5V	1 +80.-20%	3.20	2.50	1.8

Monolithic Ceramic Capacitors

Ultra-small Type

Part Number	GRP03		
L x W(mm)	0.6x0.3		
TC Code	COG	X7R	Y5V
Rated Volt.(Vdc)	25	16	10
Capacitance and T(mm)			
0.5pF	0.3		
1pF	0.3		
2pF	0.3		
3pF	0.3		
4pF	0.3		
5pF	0.3		
6pF	0.3		
7pF	0.3		
8pF	0.3		
9pF	0.3		
10pF	0.3		
12pF	0.3		
15pF	0.3		
18pF	0.3		
22pF	0.3		
27pF	0.3		
33pF	0.3		
39pF	0.3		
47pF	0.3		
56pF	0.3		
68pF	0.3		
82pF	0.3		
100pF	0.3	0.3	
150pF		0.3	
220pF		0.3	
330pF		0.3	
470pF		0.3	
680pF		0.3	
1000pF		0.3	
2200pF			0.3
4700pF			0.3
10000pF			0.3

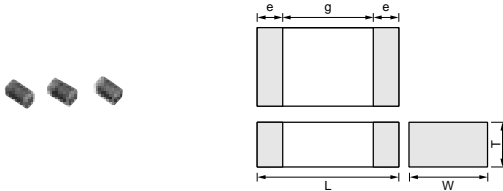
Monolithic Ceramic Capacitors

Thin Type(Flow/Reflow)

Part Number	GRP15	
L x W(mm) [EIA]	1.00x0.50 [0402]	
TC Code	C0G	
Rated Volt.(Vdc)	25	50
Capacitance and T(mm)		
1pF		0.25
2pF		0.25
3pF		0.25
4pF		0.25
5pF		0.25
6pF		0.25
7pF		0.25
8pF		0.25
9pF		0.25
10pF		0.25
12pF		0.25
15pF		0.25
18pF		0.25
22pF		0.25
27pF		0.25
33pF		0.25
39pF		0.25
47pF		0.25
56pF		0.25
68pF		0.25
82pF		0.25
100pF		0.25
120pF	0.25	
150pF	0.25	
180pF	0.25	
220pF	0.25	

Monolithic Ceramic Capacitors

High-power Type



Part Number	Dimensions (mm)				
	L	W	T	e	g min.
GJ615	1.0 ±0.05	0.5 ±0.05	0.5 ±0.05	0.15 to 0.3	0.4

Part Number	Rated Voltage (Vdc)	TC Code	Capacitance (pF)	Length L (mm)	Width W (mm)	Thickness T (mm)
GJ61555C1HR50BB01	50	C0G	0.5 ±0.1pF	1.00	0.50	0.50
GJ61555C1HR50CB01	50	C0G	0.50 ±0.25pF	1.00	0.50	0.50
GJ61555C1HR75BB01	50	C0G	0.75 ±0.1pF	1.00	0.50	0.50
GJ61555C1HR75CB01	50	C0G	0.75 ±0.25pF	1.00	0.50	0.50

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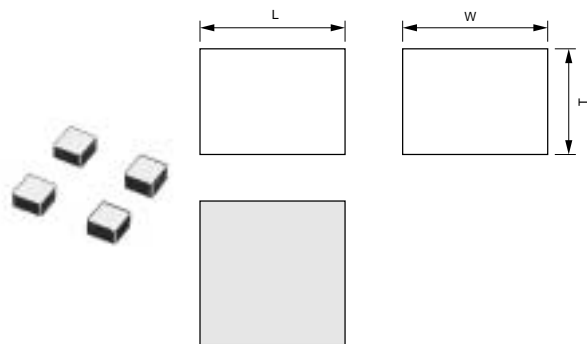
Capacitors

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Part Number	Rated Voltage (Vdc)	TC Code	Capacitance (pF)	Length L (mm)	Width W (mm)	Thickness T (mm)
GJ61555C1H1R0BB01	50	C0G	1.0 ±0.1pF	1.00	0.50	0.50
GJ61555C1H1R0CB01	50	C0G	1.0 ±0.25pF	1.00	0.50	0.50
GJ61555C1H1R1BB01	50	C0G	1.1 ±0.1pF	1.00	0.50	0.50
GJ61555C1H1R2BB01	50	C0G	1.2 ±0.1pF	1.00	0.50	0.50
GJ61555C1H1R3BB01	50	C0G	1.3 ±0.1pF	1.00	0.50	0.50
GJ61555C1H1R5BB01	50	C0G	1.5 ±0.1pF	1.00	0.50	0.50
GJ61555C1H1R5CB01	50	C0G	1.5 ±0.25pF	1.00	0.50	0.50
GJ61555C1H1R6BB01	50	C0G	1.6 ±0.1pF	1.00	0.50	0.50
GJ61555C1H1R8BB01	50	C0G	1.8 ±0.1pF	1.00	0.50	0.50
GJ61555C1H2R0BB01	50	C0G	2.0 ±0.1pF	1.00	0.50	0.50
GJ61555C1H2R0CB01	50	C0G	2.0 ±0.25pF	1.00	0.50	0.50
GJ61555C1H2R2BB01	50	C0G	2.2 ±0.1pF	1.00	0.50	0.50
GJ61555C1H2R4BB01	50	C0G	2.4 ±0.1pF	1.00	0.50	0.50
GJ61555C1H2R7BB01	50	C0G	2.7 ±0.1pF	1.00	0.50	0.50
GJ61555C1H3R0BB01	50	C0G	3.0 ±0.1pF	1.00	0.50	0.50
GJ61555C1H3R0CB01	50	C0G	3.0 ±0.25pF	1.00	0.50	0.50
GJ61555C1H3R3BB01	50	C0G	3.3 ±0.1pF	1.00	0.50	0.50
GJ61555C1H3R6BB01	50	C0G	3.6 ±0.1pF	1.00	0.50	0.50
GJ61555C1H3R9BB01	50	C0G	3.9 ±0.1pF	1.00	0.50	0.50
GJ61555C1H4R0BB01	50	C0G	4.0 ±0.1pF	1.00	0.50	0.50
GJ61555C1H4R0CB01	50	C0G	4.0 ±0.25pF	1.00	0.50	0.50
GJ61555C1H4R3BB01	50	C0G	4.3 ±0.1pF	1.00	0.50	0.50
GJ61555C1H4R7BB01	50	C0G	4.7 ±0.1pF	1.00	0.50	0.50
GJ61555C1H5R0BB01	50	C0G	5.0 ±0.1pF	1.00	0.50	0.50
GJ61555C1H5R0CB01	50	C0G	5.0 ±0.25pF	1.00	0.50	0.50
GJ61555C1H5R1CB01	50	C0G	5.1 ±0.25pF	1.00	0.50	0.50
GJ61555C1H5R6CB01	50	C0G	5.6 ±0.25pF	1.00	0.50	0.50
GJ61555C1H6R0CB01	50	C0G	6.0 ±0.25pF	1.00	0.50	0.50
GJ61555C1H6R0DB01	50	C0G	6.0 ±0.5pF	1.00	0.50	0.50
GJ61555C1H6R2CB01	50	C0G	6.2 ±0.25pF	1.00	0.50	0.50
GJ61555C1H6R8CB01	50	C0G	6.8 ±0.25pF	1.00	0.50	0.50
GJ61555C1H7R0CB01	50	C0G	7.0 ±0.25pF	1.00	0.50	0.50
GJ61555C1H7R0DB01	50	C0G	7.0 ±0.5pF	1.00	0.50	0.50
GJ61555C1H7R5CB01	50	C0G	7.5 ±0.25pF	1.00	0.50	0.50
GJ61555C1H8R0CB01	50	C0G	8.0 ±0.25pF	1.00	0.50	0.50
GJ61555C1H8R0DB01	50	C0G	8.0 ±0.5pF	1.00	0.50	0.50
GJ61555C1H8R2CB01	50	C0G	8.2 ±0.25pF	1.00	0.50	0.50
GJ61555C1H9R0CB01	50	C0G	9.0 ±0.25pF	1.00	0.50	0.50
GJ61555C1H9R0DB01	50	C0G	9.0 ±0.5pF	1.00	0.50	0.50
GJ61555C1H9R1CB01	50	C0G	9.1 ±0.25pF	1.00	0.50	0.50
GJ61555C1H100JB01	50	C0G	10.0 ±0.5pF	1.00	0.50	0.50
GJ61555C1H100RB01	50	C0G	10 ±0.25pF	1.00	0.50	0.50
GJ61555C1H120GB01	50	C0G	12 ±2%	1.00	0.50	0.50
GJ61555C1H120JB01	50	C0G	12 ±5%	1.00	0.50	0.50
GJ61555C1H150GB01	50	C0G	15 ±2%	1.00	0.50	0.50
GJ61555C1H150JB01	50	C0G	15 ±5%	1.00	0.50	0.50
GJ61555C1H180GB01	50	C0G	18 ±2%	1.00	0.50	0.50
GJ61555C1H180JB01	50	C0G	18 ±5%	1.00	0.50	0.50
GJ61555C1H200GB01	50	C0G	20 ±2%	1.00	0.50	0.50

Monolithic Ceramic Capacitors

Monolithic Microchip

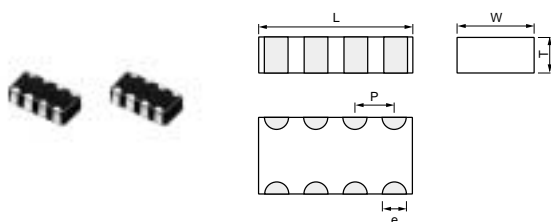


Part Number	Rated Voltage (Vdc)	TC Code	Capacitance	Length L (mm)	Width W (mm)	Thickness T (mm)
GMA05XF51A153ZD01	10	Y5V	15000pF	0.5	0.5	0.35
GMA085F51A104ZD01	10	Y5V	0.1μF	0.8	0.8	0.5
GMA05XR71C102MD01	16	X7R	1000pF	0.5	0.5	0.35
GMA05XR71C152MD01	16	X7R	1500pF	0.5	0.5	0.35
GMA05XR71C222MD01	16	X7R	2200pF	0.5	0.5	0.35
GMA085R71C103MD01	16	X7R	10000pF	0.8	0.8	0.5
GMA05XF51C472ZD01	16	Y5V	4700pF	0.5	0.5	0.35
GMA05XF51C682ZD01	16	Y5V	6800pF	0.5	0.5	0.35
GMA085F51C473ZD01	16	Y5V	47000pF	0.8	0.8	0.5
GMA05XR71H471MD01	50	X7R	470pF	0.5	0.5	0.35

Monolithic Ceramic Capacitors

Capacitor Array

● Temperature Compensating Type



Part Number	Dimensions (mm)				
	L	W	T	P	e
GNM31	3.2 ±0.15	1.6 ±0.15	0.8 ±0.1	0.8 ±0.1	0.4 ±0.15

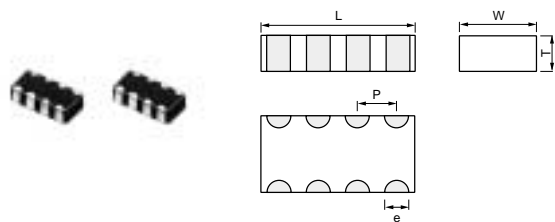
Part Number	GNM31	
L x W(mm)	3.2x1.6	
TC Code	C0G	
Rated Volt.(Vdc)	50	100
Capacitance and T(mm)		
10pF	0.8	0.8
11pF	0.8	0.8
12pF	0.8	0.8
13pF	0.8	0.8
15pF	0.8	0.8
16pF	0.8	0.8

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Part Number	GNM31	
L x W(mm)	3.2x1.6	
TC Code	C0G	
Rated Volt.(Vdc)	50	100
Capacitance and T(mm)		
18pF	0.8	0.8
20pF	0.8	0.8
22pF	0.8	0.8
24pF	0.8	0.8
27pF	0.8	0.8
30pF	0.8	0.8
33pF	0.8	0.8
36pF	0.8	0.8
39pF	0.8	0.8
43pF	0.8	0.8
47pF	0.8	0.8
51pF	0.8	0.8
56pF	0.8	0.8
62pF	0.8	0.8
68pF	0.8	0.8
75pF	0.8	0.8
82pF	0.8	0.8
91pF	0.8	0.8
100pF	0.8	0.8
110pF	0.8	0.8
120pF	0.8	0.8
130pF	0.8	0.8
150pF	0.8	0.8
160pF	0.8	
180pF	0.8	
200pF	0.8	
220pF	0.8	
240pF	0.8	
270pF	0.8	
300pF	0.8	
330pF	0.8	
360pF	0.8	

● High Dielectric Constant Type

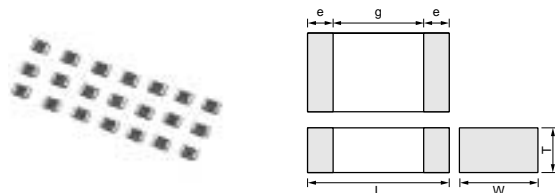


Part Number	Dimensions (mm)				
	L	W	T	P	e
GNM31	3.2 ±0.15	1.6 ±0.15	0.8 ±0.1	0.8 ±0.1	0.4 ±0.15

Part Number	GNM31						
L x W(mm)	3.2x1.6						
TC Code	X7R				Y5V		
Rated Volt.(Vdc)	16	25	50	100	16	50	100
Capacitance and T(mm)							
220pF				0.8			
270pF				0.8			
330pF				0.8			
390pF			0.8	0.8			
470pF			0.8	0.8			
560pF			0.8	0.8			
680pF			0.8	0.8			
820pF			0.8	0.8			
1000pF			0.8	0.8			
1200pF			0.8	0.8			
1500pF			0.8	0.8			
1800pF			0.8	0.8			
2200pF			0.8	0.8			0.8
2700pF			0.8	0.8			
3300pF			0.8	0.8			0.8
3900pF			0.8	0.8			
4700pF			0.8	0.8			0.8
5600pF			0.8				
6800pF			0.8				
8200pF			0.8				
10000pF			0.8				
12000pF			0.8				
15000pF			0.8				
18000pF		0.8					
22000pF	0.8					0.8	
27000pF	0.8						
33000pF	0.8					0.8	
39000pF	0.8						
47000pF	0.8					0.8	
68000pF	0.8				0.8		
100000pF	0.8				0.8		
0.15μF					0.8		

Monolithic Ceramic Capacitors

for Ultrasonic Sensors



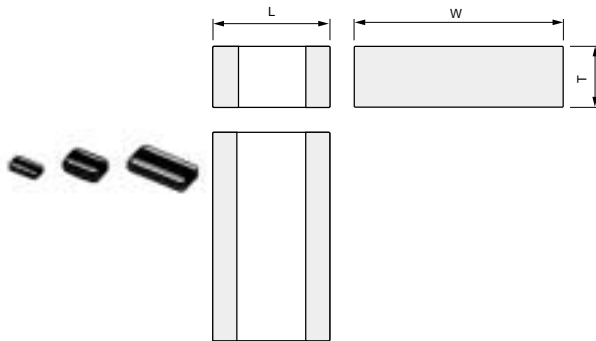
Part Number	Dimensions (mm)				
	L	W	T	e	g min.
GRM21	2.0 ±0.1	1.25 ±0.1	0.85 ±0.1	0.2 to 0.7	0.7

Part Number	Rated Voltage (Vdc)	TC Code	Capacitance (pF)	Length L (mm)	Width W (mm)	Thickness T (mm)
GRM2199E2A102KD01	100	ZLM	1000 ±10%	2.0	1.25	0.85
GRM2199E2A152KD01	100	ZLM	1500 ±10%	2.0	1.25	0.85

Monolithic Ceramic Capacitors

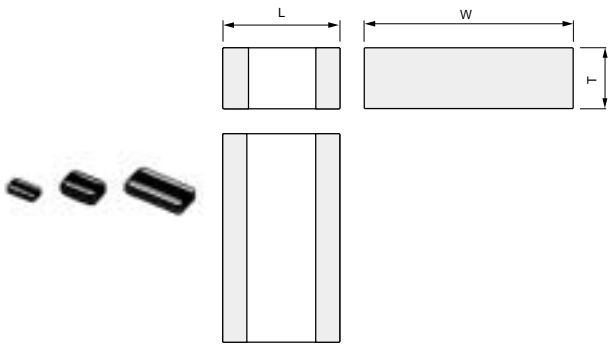
Low ESL Wide-width Type

● LLL18 Series



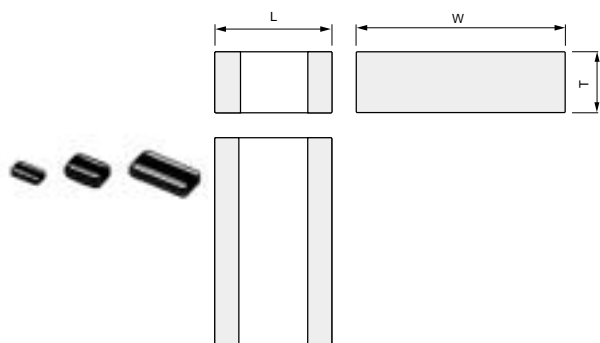
Part Number	LLL18								
L x W(mm)	0.8x1.6								
TC Code	X7R				Y5V			Z5U	
Rated Volt.(Vdc)	10	16	25	50	16	25	50	25	50
Capacitance and T(mm)									
2200pF				0.6					
2700pF				0.6					
3300pF				0.6					
3900pF				0.6					
4700pF				0.6					
5600pF				0.6					
6800pF			0.6						
8200pF			0.6						
10000pF			0.6						0.6
12000pF			0.6						
15000pF			0.6				0.6	0.6	
18000pF			0.6						
22000pF			0.6			0.6		0.6	
27000pF		0.6							
33000pF		0.6			0.6				
39000pF		0.6							
47000pF		0.6			0.6				
56000pF		0.6							
68000pF		0.6			0.6				
82000pF	0.6								
0.1μF	0.6								
0.12μF	0.6								

● LLL21 Series



Part Number	LLL21								
L x W(mm)	1.25x2.0								
TC Code	X7R				Y5V			Z5U	
Rated Volt.(Vdc)	10	16	25	50	16	25	50	25	50
Capacitance and T(mm)									
0.15pF								0.85	
0.22pF	0.6								
4700pF				0.6					
5600pF				0.6					
6800pF				0.6					
8200pF				0.6					
10000pF				0.6					
12000pF				0.6					
15000pF				0.6					
18000pF				0.6					
22000pF				0.6					
27000pF			0.6	0.85					
33000pF		0.6	0.6	0.85					0.6
39000pF		0.6	0.6	0.85					
47000pF		0.6	0.6					0.6	0.85
56000pF		0.6	0.6						
68000pF		0.6	0.6				0.6	0.6	0.85
82000pF		0.6	0.6						
0.1μF		0.6	0.6			0.6	0.85	0.85	
0.12μF		0.6	0.85						
0.15μF		0.6	0.85		0.6	0.85		0.85	
0.18μF		0.6							
0.22μF		0.85			0.6				
0.27μF	0.6								
0.33μF	0.6				0.85				
0.39μF	0.85								
0.47μF	0.85								
0.56μF	0.85								

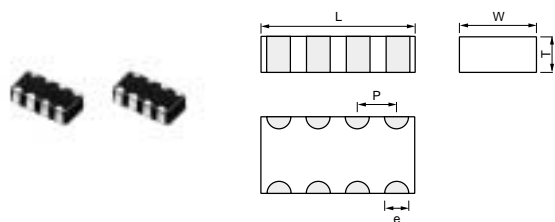
● LLL31 Series



Part Number	LLL31								
L x W(mm)	1.6x3.2								
TC Code	X7R				Y5V			Z5U	
Rated Volt.(Vdc)	10	16	25	50	16	25	50	25	50
Capacitance and T(mm)									
10000pF				0.7					
12000pF				0.7					
15000pF				0.7					
18000pF				0.7					
22000pF				0.7					
27000pF				0.7					
33000pF				0.7					
39000pF				0.7					
47000pF				0.7					
56000pF				0.7					
68000pF				0.7					
82000pF			0.7	1.15					
0.1μF		0.7	0.7	1.15					0.7
0.12μF		0.7	0.7	1.15					
0.15μF		0.7	0.7					0.7	1.15
0.18μF		0.7	0.7						
0.22μF		0.7	1.15				0.7	0.7	1.15
0.27μF		0.7	1.15						
0.33μF		0.7	1.15				1.15	1.15	
0.39μF		0.7							
0.47μF		0.7	1.15		0.7	1.15		1.15	
0.56μF	0.7	1.15							
0.68μF	0.7	1.15			0.7				
0.82μF	0.7	1.15							
1.0μF	0.7	1.15			1.15				
1.2μF	1.15								
1.5μF	1.15								
1.8μF	1.15								
2.2μF	1.15								

Monolithic Ceramic Capacitors

Eight-terminals Low ESL Type



Part Number	Dimensions (mm)			
	L	W	T	P
LLA31	3.2 ±0.15	1.6 ±0.15	0.85 ±0.1, 1.15 ±0.1	0.8 ±0.1

Part Number	LLA31			
L x W(mm)	3.2x1.6			
TC Code	X7R			
Rated Volt.(Vdc)	4	10	16	50
Capacitance and T(mm)				
1000pF				0.85
1200pF				0.85
1500pF				0.85
1800pF				0.85
2200pF				0.85
2700pF				0.85
3300pF				0.85
3900pF				0.85
4700pF				0.85
5600pF				0.85
6800pF				0.85
8200pF				0.85
10000pF				0.85
12000pF				0.85
15000pF				0.85
18000pF				0.85
22000pF				0.85
27000pF				0.85
33000pF				0.85
39000pF				0.85
47000pF				0.85
56000pF				0.85
68000pF				0.85
82000pF			0.85	1.15
0.1μF			0.85	1.15
0.12μF			0.85	1.15
0.15μF			1.15	
0.18μF			1.15	
0.22μF			1.15	
0.27μF			0.85	
0.33μF			0.85	
0.39μF			0.85	
0.47μF			0.85	
0.56μF			0.85	
0.68μF			0.85	
0.82μF			1.15	
1μF		0.85	1.15	
1.2μF		0.85		

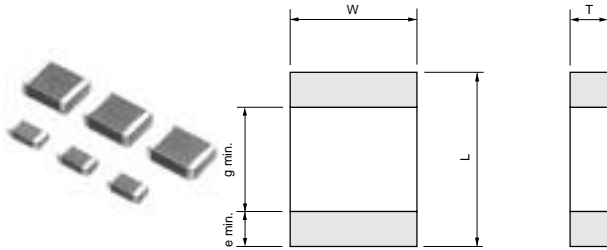
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Part Number	LLA31			
L x W(mm)	3.2x1.6			
TC Code	X7R			
Rated Volt.(Vdc)	4	10	16	50
Capacitance and T(mm)				
1.5 μ F		0.85		
1.8 μ F	0.85	1.15		
2.2 μ F	0.85	1.15		

Monolithic (Medium-voltage/Safety Standard Recognized)

Low Dissipation Factor

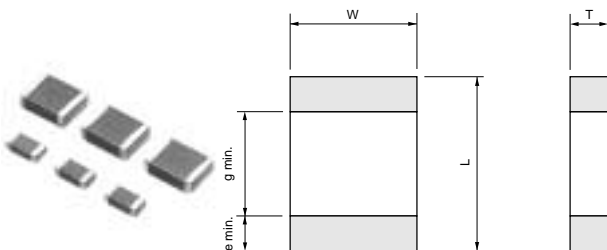


Part Number	Rated Voltage (V)	TC Code	Capacitance (pF)	Length L (mm)	Width W (mm)	Thickness T (mm)	Electrode g (mm)	Electrode e (mm)
GRM31A	DC630	R	100 to 330 +10,-10%	3.2	1.6	1.0	1.5 min.	0.3 min.
GRM31B	DC630	R	470 to 1000 +10,-10%	3.2	1.6	1.25	1.5 min.	0.3 min.
GRM31A	DC1000	R	47 to 330 +10,-10%	3.2	1.6	1.0	1.5 min.	0.3 min.
GRM31B	DC1000	R	470 +10,-10%	3.2	1.6	1.25	1.5 min.	0.3 min.
GRM31B	DC2000	SL	10 to 22 +5,-5%	3.2	1.6	1.25	1.8 min.	0.3 min.
GRM32Q	DC2000	SL	27 to 82 +5,-5%	3.2	2.5	1.5	1.8 min.	0.3 min.
GRM43D	DC2000	SL	120 to 220 +5,-5%	4.5	3.2	2.0	2.9 min.	0.3 min.
GRM42D	DC3150	SL	10 to 82 +5,-5%	4.5	2.0	2.0	2.9 min.	0.3 min.
GRM43E	DC3150	SL	100 +5,-5%	4.5	3.2	2.5	2.9 min.	0.3 min.

Capacitance step is E12 for SL characteristics and E6 for R.
Only tape packaging is available.

Monolithic (Medium-voltage/Safety Standard Recognized)

High-capacitance for General-use

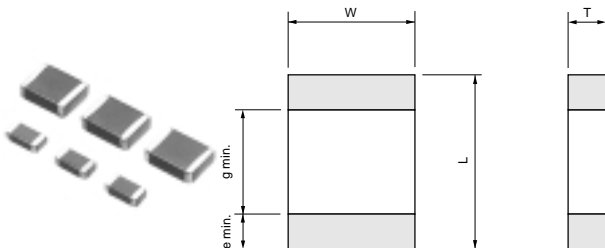


Part Number	Rated Voltage (V)	TC Code	Capacitance	Length L (mm)	Width W (mm)	Thickness T (mm)	Electrode g (mm)	Electrode e (mm)
GRM21A	DC250	X7R	1000pF to 6800pF +10,-10%	2.0	1.25	1.0	0.7 min.	0.3 min.
GRM21B	DC250	X7R	10000pF +10,-10%	2.0	1.25	1.25	0.7 min.	0.3 min.
GRM31B	DC250	X7R	15000pF to 22000pF +10,-10%	3.2	1.6	1.25	1.2 min.	0.3 min.
GRM31B	DC250	B	33000pF +10,-10%	3.2	1.6	1.25	1.5 min.	0.3 min.
GRM31C	DC250	X7R	47000pF +10,-10%	3.2	1.6	1.6	1.2 min.	0.3 min.
GRM32Q	DC250	X7R	68000pF +10,-10%	3.2	2.5	1.5	1.2 min.	0.3 min.
GRM32D	DC250	X7R	0.1μF +10,-10%	3.2	2.5	2.0	1.2 min.	0.3 min.
GRM43Q	DC250	X7R	0.15μF +10,-10%	4.5	3.2	1.5	2.2 min.	0.3 min.
GRM43D	DC250	X7R	0.22μF +10,-10%	4.5	3.2	2.0	2.2 min.	0.3 min.
GRM55D	DC250	X7R	0.33μF to 0.47μF +10,-10%	5.7	5.0	2.0	3.2 min.	0.3 min.
GRM31B	DC630	B	1000pF +10,-10%	3.2	1.6	1.25	1.5 min.	0.3 min.
GRM31B	DC630	X7R	1500pF to 4700pF +10,-10%	3.2	1.6	1.25	1.2 min.	0.3 min.
GRM31B	DC630	B	6800pF +10,-10%	3.2	1.6	1.25	1.5 min.	0.3 min.
GRM31B	DC630	X7R	10000pF +10,-10%	3.2	1.6	1.25	1.2 min.	0.3 min.
GRM31C	DC630	X7R	15000pF +10,-10%	3.2	1.6	1.6	1.2 min.	0.3 min.
GRM32Q	DC630	B	22000pF +10,-10%	3.2	2.5	1.5	1.5 min.	0.3 min.
GRM43Q	DC630	B	33000pF +10,-10%	4.5	3.2	1.5	2.5 min.	0.3 min.
GRM32D	DC630	X7R	47000pF +10,-10%	3.2	2.5	2.0	1.2 min.	0.3 min.
GRM43Q	DC630	X7R	68000pF +10,-10%	4.5	3.2	1.5	2.2 min.	0.3 min.
GRM43D	DC630	X7R	0.1μF +10,-10%	4.5	3.2	2.0	2.2 min.	0.3 min.
GRM55D	DC630	B	0.15μF +10,-10%	5.7	5.0	2.0	3.5 min.	0.3 min.
GRM55X	DC630	B	0.22μF +10,-10%	5.7	5.0	2.7	3.5 min.	0.3 min.

Capacitance step is E6.
Only tape packaging is available.

Monolithic (Medium-voltage/Safety Standard Recognized)

AC250V (r.m.s.) Type



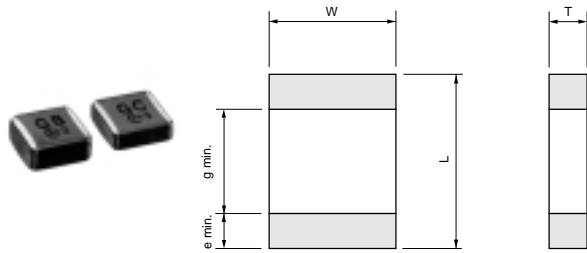
Part Number	Rated Voltage (V)	TC Code	Capacitance	Length L (mm)	Width W (mm)	Thickness T (mm)	Electrode g (mm)	Electrode e (mm)
GA252D	AC250 (r.m.s.)	B	470pF to 47000pF +20,-20%	5.7	2.8	2.0	3.5 min.	0.3 min.
GA255D	AC250 (r.m.s.)	B	0.1μF +20,-20%	5.7	5.0	2.0	3.5 min.	0.3 min.

Dielectric Strength: Nominal Capacitance $C \geq 10,000\text{pF}$ AC575V(r.m.s.) 60±1s. Nominal Capacitance $C < 10,000\text{pF}$ AC1500V(r.m.s.) 60±1s.
Capacitance step is E3
Only tape packaging is available.

Monolithic (Medium-voltage/Safety Standard Recognized)

Safety Standard Recognized

● GC Type



Standard Recognition

	Standard No.	Status of Recognition		Rated Voltage
		Type GB	Type GC	
UL	UL1414	—	◎*	AC250V (r.m.s.)
BSI	EN132400	—	◎	
VDE		◎	◎	
SEV		◎	◎	
SEMKO		◎	◎	
EN132400 Class		X2	X1, Y2	

* : Line By Pass only

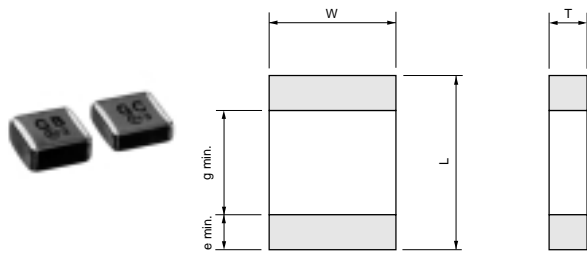
Part Number	Rated Voltage (V)	TC Code	Capacitance (pF)	Length L (mm)	Width W (mm)	Thickness T (mm)	Electrode g (mm)	Electrode e (mm)
GA355D	AC250 (r.m.s.)	X7R	100 to 4700 +10,-10%	5.7	5.0	2.0	4.0 min.	0.3 min.

Dielectric Strength: AC1500V(r.m.s.), 60±1s.

Capacitance step is E6.

Only tape packaging is available.

● GB Type



Standard Recognition

	Standard No.	Status of Recognition		Rated Voltage
		Type GB	Type GC	
UL	UL1414	—	◎*	AC250V (r.m.s.)
BSI	EN132400	—	◎	
VDE		◎	◎	
SEV		◎	◎	
SEMKO		◎	◎	
EN132400 Class		X2	X1, Y2	

* : Line By Pass only

Part Number	Rated Voltage (V)	TC Code	Capacitance (pF)	Length L (mm)	Width W (mm)	Thickness T (mm)	Electrode g (mm)	Electrode e (mm)
GA355D	AC250 (r.m.s.)	X7R	10000 to 22000 +10,-10%	5.7	5.0	2.0	4.0 min.	0.3 min.
GA355X	AC250 (r.m.s.)	X7R	33000 +10,-10%	5.7	5.0	2.7	4.0 min.	0.3 min.

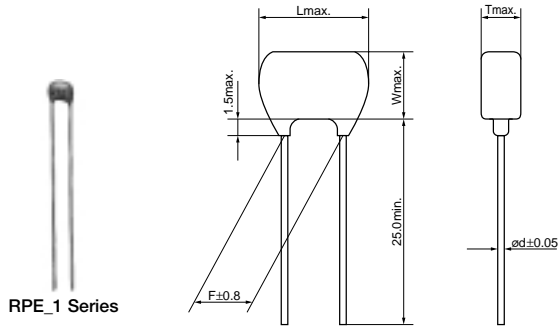
Dielectric Strength: DC1075V, 60±1s.

Capacitance step is E6.

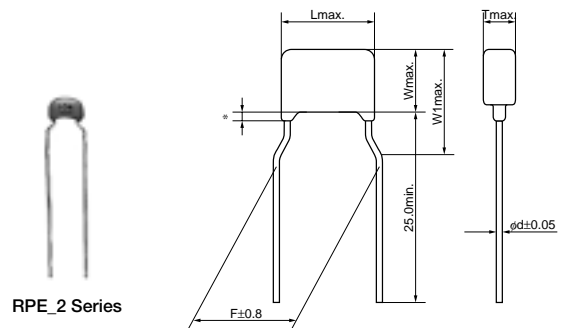
Only tape packaging is available.

Monolithic Ceramic Capacitors (lead type)

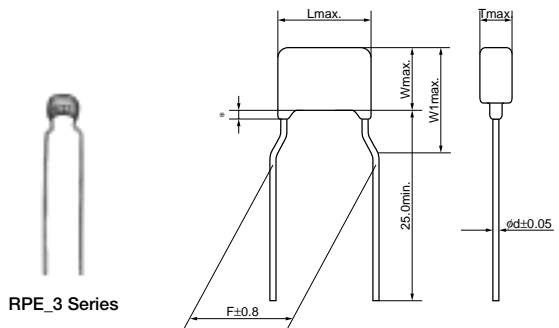
● Temperature Compensating Type



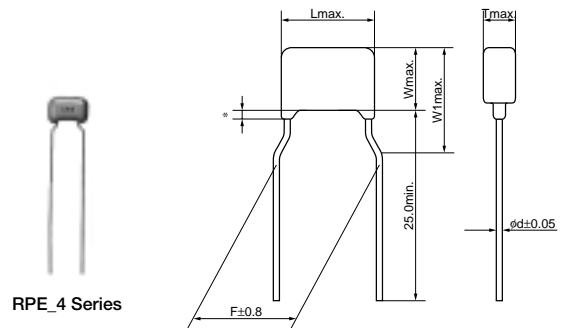
* Coating extension does not exceed the end of the lead bend.
in mm



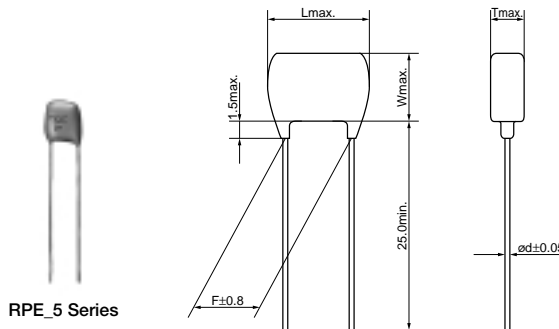
* Coating extension does not exceed the end of the lead bend.
(in mm)



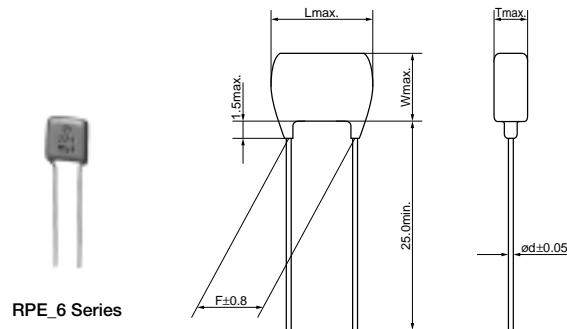
* Coating extension does not exceed the end of the lead bend.
(in mm)



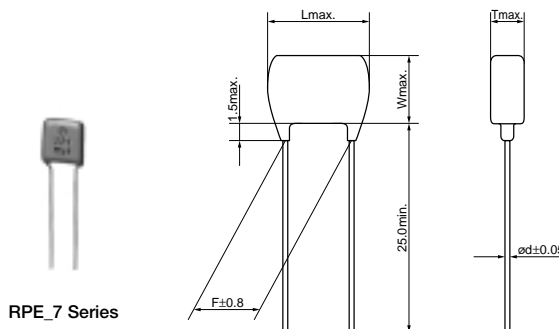
* Coating extension does not exceed the end of the lead bend.
(in mm)



* Coating extension does not exceed the end of the lead bend.
in mm



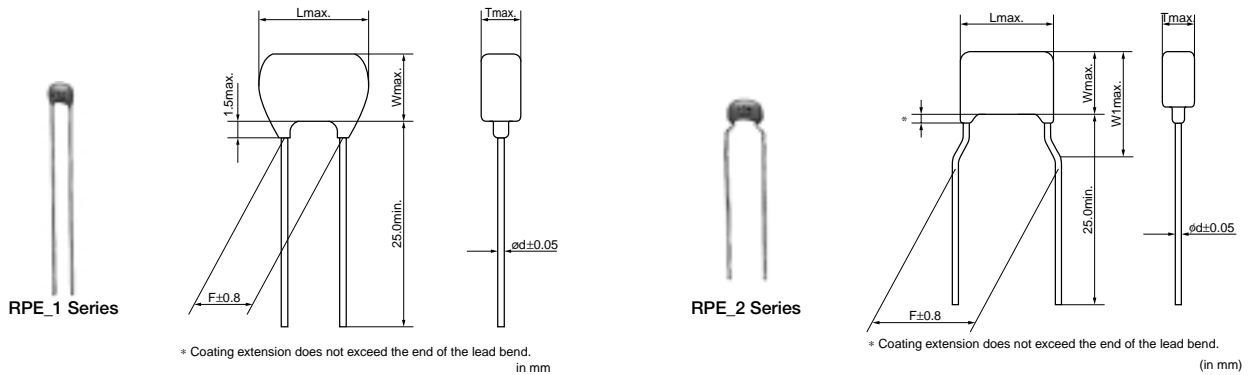
* Coating extension does not exceed the end of the lead bend.
in mm



* Coating extension does not exceed the end of the lead bend.
in mm

Part Number	Rated Voltage (Vdc)	TC Code	Capacitance (pF)	Length L (mm)	Width W (mm)	Thickness T (mm)	Lead Space F (mm)
RPE_1	50	C0G	0.5 to 2200	3.5 max.	3.0 max.	2.5 max.	2.5
	100	C0G	1.0 to 1000	3.5 max.	3.0 max.	2.5 max.	2.5
	200	C0G	1.0 to 120	3.5 max.	3.0 max.	2.5 max.	2.5
	50	R2H	3.0 to 560	3.5 max.	3.0 max.	2.5 max.	2.5
	100	R2H	3.0 to 560	3.5 max.	3.0 max.	2.5 max.	2.5
	200	R2H	3.0 to 100	3.5 max.	3.0 max.	2.5 max.	2.5
	50	U2J	3.0 to 1800	3.5 max.	3.0 max.	2.5 max.	2.5
	100	U2J	3.0 to 820	3.5 max.	3.0 max.	2.5 max.	2.5
RPE_2	50	C0G	1.0 to 1000	5.0 max.	3.5 max.	2.5 max.	5.0
	50	C0G	1200 to 5600	5.0 max.	3.5 max.	3.2 max.	5.0
	100	C0G	1 to 680	5.0 max.	3.5 max.	2.5 max.	5.0
	100	C0G	820 to 2200	5.0 max.	3.5 max.	3.2 max.	5.0
	200	C0G	1.0 to 150	5.0 max.	3.5 max.	2.5 max.	5.0
	200	C0G	180 to 390	5.0 max.	3.5 max.	3.2 max.	5.0
RPE_3	100	C0G	2700 to 3900	5.0 max.	4.5 max.	3.2 max.	5.0
	200	C0G	470 to 1000	5.0 max.	4.5 max.	3.2 max.	5.0
RPE_4	50	C0G	6800 to 15000	7.5 max.	5.0 max.	3.2 max.	5.0
	100	C0G	4700	7.5 max.	5.0 max.	2.5 max.	5.0
	100	C0G	5600 to 6800	7.5 max.	5.0 max.	3.2 max.	5.0
	200	C0G	1200 to 1500	7.5 max.	5.0 max.	3.2 max.	5.0
RPE_5	50	C0G	18000	7.5 max.	7.5 max.	4.0 max.	5.0
	100	C0G	8200 to 12000	7.5 max.	7.5 max.	4.0 max.	5.0
	200	C0G	1800 to 3900	7.5 max.	7.5 max.	4.0 max.	5.0
RPE_6	50	C0G	22000 to 39000	10.0 max.	10.0 max.	4.0 max.	5.0
	100	C0G	15000 to 33000	10.0 max.	10.0 max.	4.0 max.	5.0
	200	C0G	4700 to 10000	10.0 max.	10.0 max.	4.0 max.	5.0
RPE_7	50	C0G	47000 to 68000	12.5 max.	12.5 max.	5.0 max.	10.0
	100	C0G	39000 to 56000	12.5 max.	12.5 max.	5.0 max.	10.0
	200	C0G	12000 to 27000	12.5 max.	12.5 max.	5.0 max.	10.0

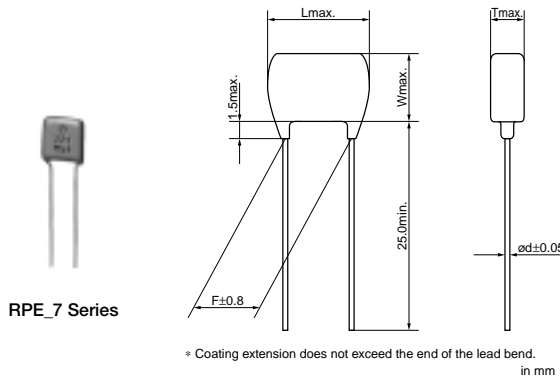
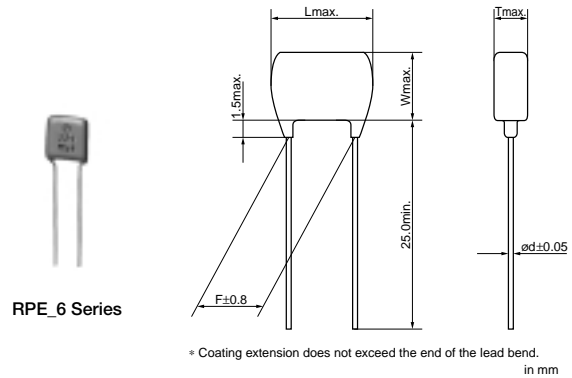
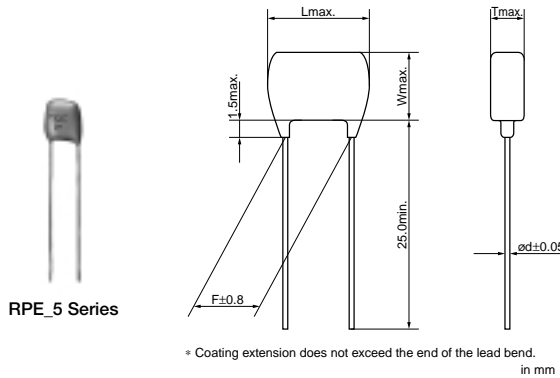
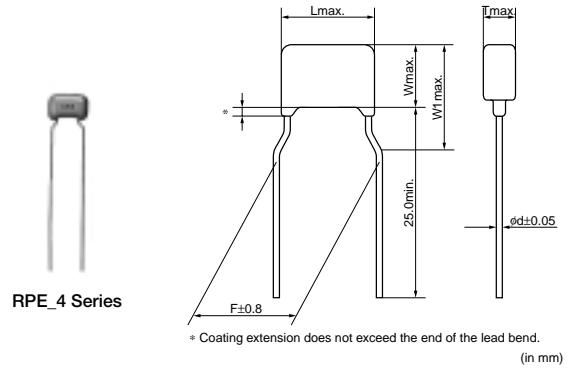
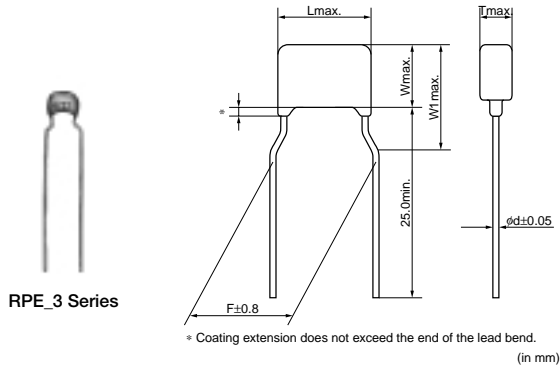
● High Dielectric Constant Type



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Capacitors

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Part Number	Rated Voltage (Vdc)	TC Code	Capacitance	Length L (mm)	Width W (mm)	Thickness T (mm)	Lead Space F (mm)
RPE_1	50	X7R	220pF to 0.1µF	3.5 max.	3.0 max.	2.5 max.	2.5
	100	X7R	220pF to 10000pF	3.5 max.	3.0 max.	2.5 max.	2.5
	200	X7R	220pF to 4700pF	3.5 max.	3.0 max.	2.5 max.	2.5
	50	Y5V	1000pF to 0.22µF	3.5 max.	3.0 max.	2.5 max.	2.5
	100	Y5V	1000pF to 10000pF	3.5 max.	3.0 max.	2.5 max.	2.5
	50	Z5U	1000pF to 0.10µF	3.5 max.	3.0 max.	2.5 max.	2.5
	100	Z5U	1000pF to 10000pF	3.5 max.	3.0 max.	2.5 max.	2.5
	200	Z5U	1000pF to 2200pF	3.5 max.	3.0 max.	2.5 max.	2.5
RPE_2	50	X7R	220pF to 22000pF	5.0 max.	3.5 max.	2.5 max.	5.0
	50	X7R	33000pF to 0.22µF	5.0 max.	3.5 max.	3.2 max.	5.0
	100	X7R	220pF to 15000pF	5.0 max.	3.5 max.	2.5 max.	5.0
	100	X7R	22000pF to 33000pF	5.0 max.	3.5 max.	3.2 max.	5.0
	200	X7R	220pF to 2200pF	5.0 max.	3.5 max.	2.5 max.	5.0
	200	X7R	3300pF to 10000pF	5.0 max.	3.5 max.	3.2 max.	5.0
	50	Y5V	1000pF to 0.10µF	5.0 max.	3.5 max.	2.5 max.	5.0
	50	Y5V	0.22µF	5.0 max.	3.5 max.	3.2 max.	5.0

Continued on the following page.

Capacitors

Continued from the preceding page.

Part Number	Rated Voltage (Vdc)	TC Code	Capacitance	Length L (mm)	Width W (mm)	Thickness T (mm)	Lead Space F (mm)
RPE_2	100	Y5V	1000pF to 22000pF	5.0 max.	3.5 max.	2.5 max.	5.0
	50	Z5U	1000pF to 0.10μF	5.0 max.	3.5 max.	2.5 max.	5.0
	100	Z5U	1000pF to 22000pF	5.0 max.	3.5 max.	2.5 max.	5.0
	200	Z5U	1000pF	5.0 max.	3.5 max.	2.5 max.	2.5
	200	Z5U	1000pF	5.0 max.	3.5 max.	3.2 max.	5.0
	200	Z5U	2200pF	5.0 max.	3.5 max.	2.5 max.	2.5
	200	Z5U	2200pF to 4700pF	5.0 max.	3.5 max.	3.2 max.	5.0
RPE_3	50	X7R	0.22μF to 1.0μF	5.0 max.	4.5 max.	3.2 max.	5.0
	100	X7R	47000pF to 0.10μF	5.0 max.	4.5 max.	3.2 max.	5.0
	200	X7R	15000pF to 47000pF	5.0 max.	4.5 max.	3.2 max.	5.0
	25	Y5V	1.0μF	5.0 max.	4.5 max.	3.2 max.	5.0
	50	Y5V	0.47μF	5.0 max.	4.5 max.	3.2 max.	5.0
	100	Y5V	47000pF	5.0 max.	4.5 max.	2.5 max.	5.0
	25	Z5U	1.0μF	5.0 max.	4.5 max.	2.5 max.	5.0
	50	Z5U	0.22μF	5.0 max.	4.5 max.	2.5 max.	5.0
	50	Z5U	0.47μF	5.0 max.	4.5 max.	3.2 max.	5.0
	100	Z5U	47000pF	5.0 max.	4.5 max.	2.5 max.	2.5
	100	Z5U	47000pF to 0.10μF	5.0 max.	4.5 max.	3.2 max.	5.0
	200	Z5U	10000pF	5.0 max.	4.5 max.	2.5 max.	5.0
	200	Z5U	22000pF to 47000pF	5.0 max.	4.5 max.	3.2 max.	5.0
RPE_4	100	X7R	0.15μF	7.5 max.	5.0 max.	3.2 max.	5.0
	200	X7R	68000pF	7.5 max.	5.0 max.	3.2 max.	5.0
	50	Y5V	1.0μF	7.5 max.	5.0 max.	2.5 max.	5.0
	100	Y5V	0.10μF	7.5 max.	5.0 max.	2.5 max.	5.0
	50	Z5U	1.0μF	7.5 max.	5.0 max.	3.2 max.	5.0
RPE_5	100	X7R	0.22μF to 0.47μF	7.5 max.	7.5 max.	4.0 max.	5.0
	200	X7R	0.10μF to 0.15μF	7.5 max.	7.5 max.	4.0 max.	5.0
	100	Y5V	0.22μF to 0.47μF	7.5 max.	7.5 max.	4.0 max.	5.0
	100	Z5U	0.22μF to 0.47μF	7.5 max.	7.5 max.	4.0 max.	5.0
	200	Z5U	0.10μF	7.5 max.	7.5 max.	4.0 max.	5.0
RPE_6	50	X7R	1.5μF to 2.2μF	10.0 max.	10.0 max.	4.0 max.	5.0
	100	X7R	0.68μF to 1.0μF	10.0 max.	10.0 max.	4.0 max.	5.0
	200	X7R	0.22μF to 0.47μF	10.0 max.	10.0 max.	4.0 max.	5.0
	50	Y5V	2.2μF	10.0 max.	10.0 max.	4.0 max.	5.0
	100	Y5V	1.0μF	10.0 max.	10.0 max.	4.0 max.	5.0
	50	Z5U	2.2μF	10.0 max.	10.0 max.	4.0 max.	5.0
	100	Z5U	1.0μF	10.0 max.	10.0 max.	4.0 max.	5.0
	200	Z5U	0.22μF	10.0 max.	10.0 max.	4.0 max.	5.0
RPE_7	50	X7R	3.3μF	12.5 max.	12.5 max.	5.0 max.	10.0
	100	X7R	1.5μF to 2.2μF	12.5 max.	12.5 max.	5.0 max.	10.0
	200	X7R	0.68μF to 1.5μF	12.5 max.	12.5 max.	5.0 max.	10.0
	100	Y5V	2.2μF	12.5 max.	12.5 max.	5.0 max.	10.0
	50	Z5U	4.7μF	12.5 max.	12.5 max.	5.0 max.	10.0
	100	Z5U	2.2μF	12.5 max.	12.5 max.	5.0 max.	10.0
	200	Z5U	0.47μF	12.5 max.	12.5 max.	5.0 max.	10.0

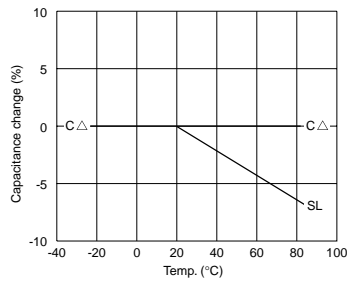
Disc Ceramic Capacitors

● Disc Ceramic Capacitors

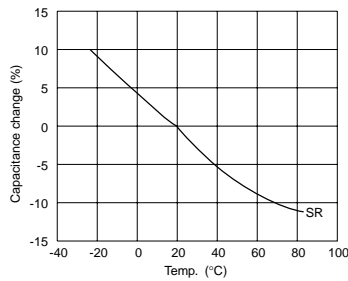
Description	Series	Rated Voltage	Temp. Char.	Capacitance Range (pF)															
				1	3	5	10	30	50	100	300	500	1000	3000	5000	10000	30000	50000	100000
Ceramic Capacitors	DD100	DC50V	C△	1 to 270															
			SL	1 to 1000															
			B	100 to 10000															
			F	2200 to 47000															
	DD10	DC500V	C△	1 to 270															
			SL	1 to 560															
			B	100 to 10000															
			E	1000 to 10000															
BC Capacitors	DD300	DC12V to 50V	F	22000 to 470000															
	DD400	DC16V to 25V	SR	1000 to 100000															
High-Voltage Ceramic Capacitors	DEB DEC DEA KX DEH	DC250V to 6.3kV	SL	10 to 560															
			B	100 to 6800															
			R	150 to 10000															
			C	330 to 4700															
			E	1000 to 10000															
			F	1000 to 10000															
Safety Standard Recognized Ceramic Capacitors	KY KH KX DEJ	AC250V(r.m.s.)	B	100 to 680															
			E	1000 to 4700															
			F	4700 to 10000															

● Typical Examples of Temperature Characteristics

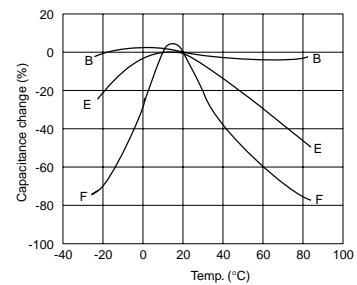
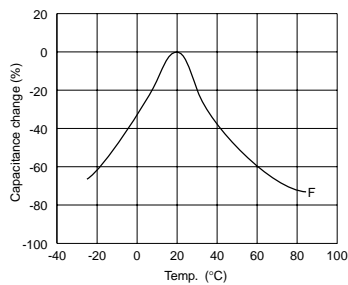
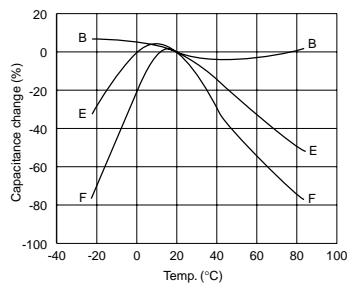
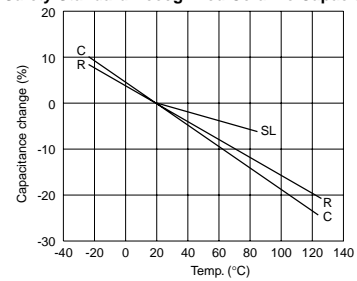
● DD100/DD10 Series



● DD300/DD400 Series



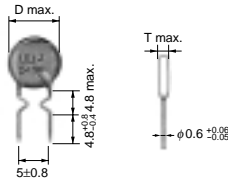
● High-Voltage Ceramic Capacitors/
Safety Standard Recognized Ceramic Capacitors



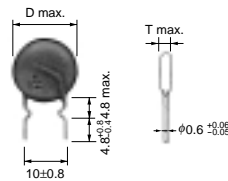
Ceramic Capacitors (12-500V)

50V DD100 Series/500V DD10 Series

Inside Crimp
(Lead Code:-63)



(Lead Code:-64)



Operating Temp. Range -25 to +85°C

in mm

● Part number configuration (Please see page 19 for details)



● 50V DD100 Series

Type	③ DC Rated Volt.(V)	④ Lead Code		⑤ Temp. Char./⑥ Capacitance Range (pF)				Dimensions (mm)				
		Bulk	Taping	C Δ ¹⁾	SL	B	F	D	T			
DD104	50	-63	-989	1, 1.5, 2 to 47 ³⁾	1, 1.5, 2 to 120 ³⁾	100 to 1500	2200, 4700	4	3.5 ²⁾			
DD105				56	150	1800	6800	5				
DD106				68, 82	180, 220	2200, 2700	10000	6				
DD107			-959	100, 120	270 to 390	3300 to 4700	—	7.5				
DD108				150	470	5600	22000	8				
DD109				180, 220	560	6800	—	9.5				
DD110				270	680, 820	8200	47000	10.5				
DD111			—	—	—	10000	—	11				
DD112			—	—	—	1000	—	—		12.5		
⑦ Capacitance Tolerance				5pF max. : C, 6 to 10pF : D, 12pF min. : J		K	Z	—				
Capacitance Step				E12	E12	E12	E3, 682	—				

The above Temp. Char. C Δ is approved by IECQ.

1) Temp. Char. tolerance code (Δ) is as follows: 2pF max.: K, 3pF: J, 4pF min.: H.

2) T=4mm in the case of temperature compensating type of 22pF and under, and high dielectric constant type of 470pF and under.

3) Capacitance values 2-10pF are treated as belonging to 1pF step.

● 500V DD10 Series

Type	③ DC Rated Volt.(V)	④ Lead Code		⑤ Temp. Char./⑥ Capacitance Range (pF)				Dimensions (mm)		
		Bulk	Taping	C Δ ¹⁾	SL	B	E	D	T	
DD05	500	-63	-989	1, 1.5, 2 to 22 ²⁾	1, 1.5, 2 to 68 ²⁾	100 to 560	—	5	4	
DD06				27	82, 100	680, 820	1000	6		
DD07				33 to 47	12, 150	1000, 1200	1500	7.5		
DD08			-959	56	180	1500, 1800	2200	8		
DD09				68, 82	220, 270	2200	3300	9.5		
DD10				100, 120	330, 390	2700	4700	10.5		
DD11				150	470	3300, 3900	—	11		
DD12			180	560	4700	6800	12.5			
DD14			-64	—	220, 270	—	5600, 6800	10000		14.5
DD16					—	—	8200	—		16.5
DD18					—	—	10000	—		18.5
⑦ Capacitance Tolerance					5pF max. : C, 6 to 10pF : D, 12pF min. : J		K	P		—
Capacitance Step				E12	E12	E12	E6	—		

1) Temp. Char. tolerance code (Δ) is as follows: 2pF max.: K, 3pF: J, 4pF min.: H.

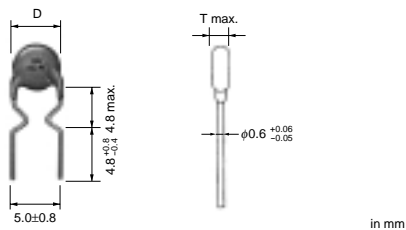
2) Capacitance values 2 to 10pF are treated as belonging to 1pF step.

Ceramic Capacitors (12-500V)

BC Capacitors DD300/DD400 Series

Inside Crimp

(Lead Code:-63)



Operating Temp. Range -25 to +85 °C

● Part number configuration (Please see page 19 for details)

(Ex.)

DD	3	04	-63	F	223	Z	25
①	②	③	④	⑤	⑥	⑦	⑧

Type ¹⁾	④ Lead Code		⑤ Temp. Char./⑥ Capacitance Range (pF)/⑧ DC Rated Volt.(V)				Dimensions (mm)	
			F					
	Bulk	Taping	50	25	16	12	D	T
DD304	-63	-989	22000	22000, 33000, 47000	—	—	4±1	3
DD305		-999	33000	—	—	100000	5±1	
DD306		-959	47000	100000	—	—	6.3±1	
DD308			100000	—	—	220000	8±1	
DD310			—	—	220000	330000	10±1	
DD312		—	—	—	—	470000	12.5±1.3	3.5
⑦ Capacitance Tolerance		Z				—		

Type ¹⁾	④ Lead Code		⑤ Temp. Char./⑥ Capacitance Range (pF)/⑧ DC Rated Volt.(V)		Dimensions (mm)	
			SR			
	Bulk	Taping	25	16	D	T
DD404	-63	-989	1000 to 15000	1000 to 22000	4±1	3
DD405		-999	18000, 22000	27000 to 47000	5±1	
DD406		-959	27000, 33000	56000, 68000	6.3±1	
DD407			39000, 47000	82000, 100000	7±1	
DD408			56000, 68000	—	8±1	
DD410		82000, 100000	—	10±1		
⑦ Capacitance Tolerance		M ²⁾		—		
Capacitance Step		E12		—		

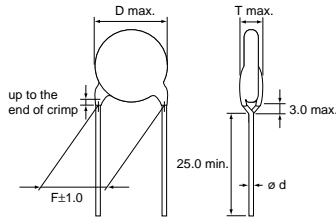
1) DD3XX: Surface Layer, DD4XX: Boundary Layer.

2) K tol. available on request.

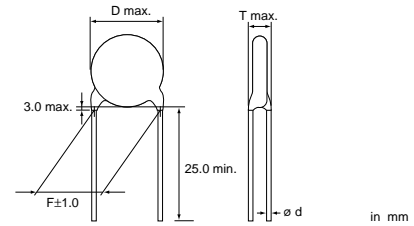
High-Voltage Ceramic Capacitors (250V-6.3kV)

DEB/DEC Series

Vertical Crimp Long type
(Lead Code: A*)

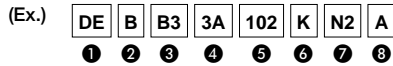


Straight Long type
(Lead Code: C*)



Operating Temp. Range -25 to +85°C

● Part number configuration (Please see page 20 for details)



● DEB Series

Part Number	DC Rated Volt. (V)	⑦ Lead Code and ⑧ Packaging Code		Temp. Char. / ⑤ Capacitance Range (pF)			Dimensions (mm)			
		Bulk	Taping	B	E	F	D	F	T	φd
Char. B: DEBB33A□□□K□□□ ⑤ ⑦ ⑧ Char. E: DEBE33A□□□Z□□□ ⑤ ⑦ ⑧ Char. F: DEBF33A□□□Z□□□ ⑤ ⑦ ⑧	1k	C1B	P2A	100 to 330	—	—	4.5	5	4	0.5±0.05 ¹⁾
				470	1000	—	5			
				680, 1000	—	2200	6			
				—	2200	4700	7			
				1500	—	—	8			
				2200	4700	—	9			
		A2B	N2A	3300	—	10000	10			
				A3B	N3A	4700	—	—	12	
						—	10000	—	13	
						7.5	15			
				N7A	6800	—	—	15		
					7.5	15				
Char. B: DEBB33D□□□K□□□ ⑤ ⑦ ⑧ Char. E: DEBE33D□□□Z□□□ ⑤ ⑦ ⑧ Char. F: DEBF33D□□□Z□□□ ⑤ ⑦ ⑧	2k	C1B	P2A	100 to 220	—	—	4.5	5	5	0.5±0.05 ¹⁾
				330	—	1000	5			
				470	1000	—	6			
				680	—	2200	7			
				1000	2200	—	8			
				1500	—	4700	9			
		A2B	N2A	2200	—	—	10			
				—	4700	—	11			
				A3B	N3A	3300	—	10000	12	
						4700	—	—	15	
						7.5	16			
				N7A	—	10000	—	16		
7.5	16									
Char. B: DEBB33F□□□K□□□ ⑤ ⑦ ⑧ Char. E: DEBE33F□□□Z□□□ ⑤ ⑦ ⑧	3.15k	CDB	P3A	100 to 220	—	—	5	7.5	6	0.5±0.05 ¹⁾
				330	—	—	6			
				470	1000	—	7			
		C3B	N3A	680	—	—	8			
				1000	—	—	9			
				—	2200	—	10			
				1500	—	—	11			
				2200	4700	—	13			
				7.5	15					
		N7A	3300	—	—	15				
			7.5	15						
			7.5	15						
Capacitance Tolerance				K	Z	Z	—			
Capacitance Step				E6	E3	E3	—			

1) 0.6±0.05mm for Lead Code P2 and P3.

●DEC Series

Part Number	DC Rated Volt. (V)	⑦Lead Code and ⑧Packaging Code		Temp. Char. / ⑤Capacitance Range (pF)			Dimensions (mm)			
		Bulk	Taping	SL	B	E	D	F	T	φd
Char. SL : DEC1X3J□□□J□□□ ⑤ ⑦ ⑧ Char. B : DECB33J□□□K□□□ ⑤ ⑦ ⑧ Char. E : DECE33J□□□Z□□□ ⑤ ⑦ ⑧	6.3k	C4B	—	22 to 47	100 to 330	—	9	10	7	0.6±0.05
				56	470	—	10			
				—	680	1000	11			
				68 , 82	—	—	12			
				100	1000	—	13			
				120	—	—	14			
				150	—	2200	15			
Capacitance Tolerance				J	K	Z	—			
Capacitance Step				E12	E6	E3	—			

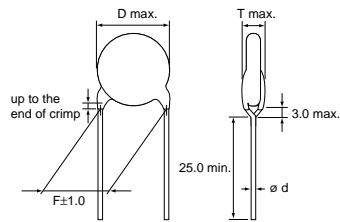
Please see below for SL Characteristics. (1 to 3.15kV)

High-Voltage Ceramic Capacitors (250V-6.3kV)

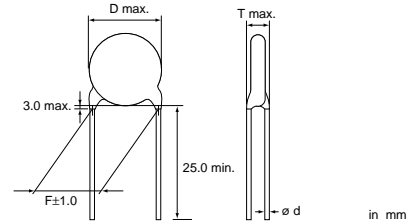
DEA/DEH Series



Vertical Crimp Long type
(Lead Code: A*)

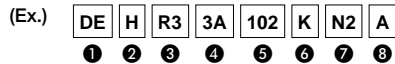


Straight Long type
(Lead Code: C*)



Operating Temp. Range -25 to +125°C

●Part number configuration (Please see page 20 for details)



Part Number	DC Rated Volt. (V)	⑦Lead Code and ⑧Packaging Code		Temp. Char. / ⑤Capacitance Range (pF)			Dimensions (mm)			
		Bulk	Taping	SL (DEA Series)	R (DEH Series)	C (DEH Series)	D	F	T	φd
Char. R : DEHR32E□□□K□□□ ⑤ ⑦ ⑧	250	A2B	N2A	—	220 to 1000	—	6	5	4	0.6±0.05
				—	1500	—	7			
				—	2200	—	8			
				—	3300	—	9			
				—	4700	—	10			
				—	6800 , 10000	—	12			
Char. C : DEHC32H□□□K□□□ ⑤ ⑦ ⑧	500	A2B	N2A	—	—	330 , 470	6	5	4	0.6±0.05
				—	—	680	7			
				—	—	1000	8			
				—	—	1500	9			
				—	—	2200	10			
				—	—	3300	12			
		A4B	—	4700	14	10				
Char. SL : DEA1X3A□□□J□□□ ⑤ ⑦ ⑧ Char. R : DEHR33A□□□K□□□ ⑤ ⑦ ⑧	1k	C1B	P2A	10 to 47	—	—	4.5	5	4	0.5±0.05 ¹⁾
				56 , 68	—	—	5			
		A2B	N2A	82 to 120	—	—	6		4.5 ²⁾	0.6±0.05
				150 , 180	220 to 470	—	7			
				220	680	—	8			
				270	1000	—	9			
				330 , 390	—	—	10			
				470	1500	—	11			

Continued on the following page.

Capacitors

Continued from the preceding page.

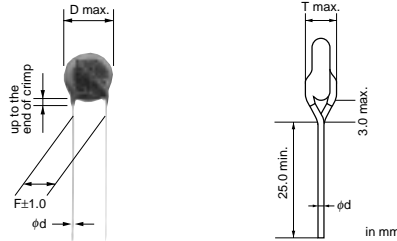
Part Number	DC Rated Volt. (V)	Lead Code and Packaging Code		Temp. Char./Capacitance Range (pF)			Dimensions (mm)				
		Bulk	Taping	SL (DEA Series)	R (DEH Series)	C (DEH Series)	D	F	T	φd	
Char. SL : DEA1X3A□□□J□□□ 5 7 8 Char. R : DEHR33A□□□K□□□ 5 7 8	1k	A3B	N3A	560	—	—	12	7.5	4.5 ²⁾	0.6±0.05	
				—	2200	—	13				
			N7A	—	3300	—	15				
				—	4700	—	17				
Char. SL : DEA1X3D□□□J□□□ 5 7 8 Char. R : DEHR33D□□□K□□□ 5 7 8	2k	C1B	P2A	10 to 33	—	—	4.5	5	5	0.5±0.05 ¹⁾	
				39	—	—	5				
		A2B	N2A	47 to 68	—	—	6				
				82, 100	—	—	7				
				120, 150	—	—	8				
				180	—	—	9				
				220	—	—	10				
				270	—	—	11				
		C3B	P3A	—	220, 270	—	7				
				—	330, 390	—	8				
		A3B	N3A	—	470, 560	—	9				
				—	680	—	10				
				—	820	—	11				
				330	1000 to 1500	—	12				
				390	—	—	13				
				470	1800	—	14				
				560	2200	—	15				
				—	2700	—	17				
		A4B	—	—	3300	—	19				
				—	3900	—	20				
—	4700			—	21						
Char. SL : DEA1X3F□□□J□□□ 5 7 8 Char. R : DEHR33F□□□K□□□ 5 7 8	3.15k	CDB	P3A	10 to 22	—	—	5	7.5	6	0.6±0.05 ¹⁾	
				27 to 39	—	—	6				
		C3B	P3A	47, 56	150 to 270	—	7				
				68, 82	330	—	8				
		A3B	N3A	100	390	—	9				
				120	470, 560	—	10				
				150, 180	680	—	11				
				220	820	—	12				
				—	1000	—	13				
				270	1200	—	14				
				330	1500	—	15				
				390	1800	—	16				
		A4B	—	—	2200	—	17				
				—	2700	—	19				
				—	3300	—	19				
				—	3900	—	19				
Capacitance Tolerance				J	K	K	—				
Capacitance Step				E12	E6 (250V to 1kV) E12 (2kV, 3.15kV)			—			

1) 0.6±0.05 mm for Lead Code P2 and P3.
2) 4mm for Characteristics SL.

Safety Standard Recognized Ceramic Capacitors

Type KY (Basic insulation) — IEC60384-14 Class X1, Y2—

Vertical Crimp Long type
(Lead code: A2, A3)



Operating Temp. Range -25 to +125°C (Except standard of UL)
-25 to +85°C (Standard of UL)

	Standard No.	Rated Voltage
UL	UL1414*1	AC250V(r.m.s.)
BSI	EN60065 (clause 8.8/14.2) EN132400	
SEMKO	EN132400	
SEV		
VDE		
FIMKO		
NEMKO		
DEMKO		
NSW		

*1 Line By Pass only

*2 Capacitance values less than 100pF are also recognized.
Please contact us for details.

● Part number configuration (Please see page 20 for details)

(Ex.)

DE	2	E3	KY	102	M	N2	A
①	②	③	④	⑤	⑥	⑦	⑧

Part Number	Lead Code and Packaging Code		Temp. Char.	Cap. (pF)	Cap. Tol. (%)	Dimensions (mm)			
	Bulk	Taping				D	F	T	φ d
DE2B3KY101K□□□	A2B	N2A	B	100	±10	8	5	5	0.6±0.05
DE2B3KY151K□□□				150					
DE2B3KY221K□□□				220					
DE2B3KY331K□□□				330					
DE2B3KY471K□□□				470					
DE2B3KY681K□□□				680					
DE2E3KY102M□□□			E	1000	±20	8			
DE2E3KY152M□□□				1500		8			
DE2E3KY222M□□□				2200		9			
DE2E3KY332M□□□				3300		10			
DE2E3KY392M□□□				3900		11			
DE2E3KY472M□□□				4700		11			

Dielectric Strength : AC1500V (r.m.s.), 60 s

Three blank columns are filled with Lead Code and Packaging Code.

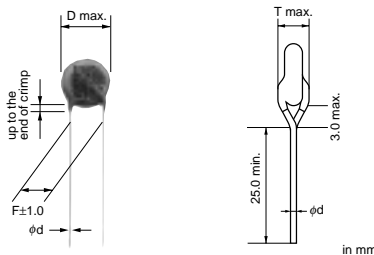
Murata part numbers might be changed depending on lead code or any other changes.

Therefore, please specify only the type name(KY) and capacitance of products in the parts list when it is required for applying safety standard of electric equipment.

Safety Standard Recognized Ceramic Capacitors

Type KH (Basic insulation) — IEC60384-14 Class X1, Y2—

Vertical Crimp Long type
(Lead code: A3)



Operating Temp. Range -25 to +125°C (Except standard of UL, CSA)
-25 to +85°C (Standard of UL, CSA)

	Standard No.	Rated Voltage
UL	UL1414	AC250V(r.m.s.)
CSA	C22.2 No.1	
BSI	EN60065 (clause 8.8/14.2) EN132400	
SEMKO	EN132400	
SEV		
VDE		
FIMKO		
NEMKO		
DEMKO		
NSW		

*CCEE (Chinese Safety Standard) Safety Standard is also available as special specification.

Please contact us for details.

● Part number configuration (Please see page 20 for details)

(Ex.)

DE	2	E3	KH	102	M	N3	A
①	②	③	④	⑤	⑥	⑦	⑧

Part Number	Lead Code and Packaging Code		Temp. Char.	Cap. (pF)	Cap. Tol. (%)	Dimensions (mm)					
	Bulk	Taping				D	F	T	φ d		
DE2B3KH101K□□□	A3B	N3A	B	100	±10	8	7.5	7	0.6±0.05		
DE2B3KH151K□□□				150							
DE2B3KH221K□□□				220							
DE2B3KH331K□□□				330							
DE2B3KH471K□□□				470							
DE2B3KH681K□□□				680							
DE2E3KH102M□□□			E	N3A	E	1000	±20	8	7.5	7	0.6±0.05
DE2E3KH152M□□□						1500					
DE2E3KH222M□□□						2200					
DE2E3KH332M□□□						3300					
DE2E3KH472M□□□						4700					
DE2F3KH103M□□□						10000					
				N7A	F	10000		16			

Dielectric Strength : AC2600V (r.m.s.), 60 s

Three blank columns are filled with Lead Code and Packaging Code.

Murata part numbers might be changed depending on lead code or any other changes.

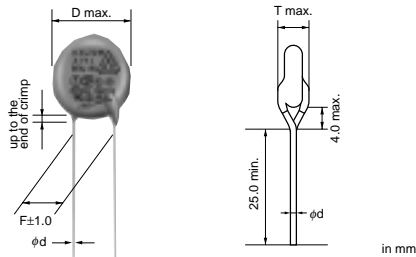
Therefore, please specify only the type name(KH) and capacitance of products in the parts list when it is required for applying safety standard of electric equipment.

Safety Standard Recognized Ceramic Capacitors

Type KX (Reinforced insulation) — IEC60384-14 Class X1, Y1 —

Vertical Crimp Long type

(Lead code: A5)



	Standard No.	Rated Voltage
UL	UL1414	AC250V (r.m.s.)
CSA	C22.2 No.1	
BSI	EN60065 (clause 8.8/14.2) EN132400	
SEMKO	EN132400	
SEV		
VDE		
FIMKO		
NEMKO		
DEMKO		
IMQ		

Operating Temp. Range -25 to +125°C (Except standard of UL, CSA)
-25 to + 85°C (Standard of UL, CSA)

*Capacitance values less than 100pF are also recognized.

Please contact us for details.

*CCEE (Chinese Safety Standard) Safety Standard is also available as special specification.

Please contact us for details.

● Part number configuration (Please see page 20 for details)

(Ex.)

DE	1	E3	KX	102	M	N5	A	□
①	②	③	④	⑤	⑥	⑦	⑧	⑨

Part Number	Lead Code and Packaging Code		Temp. Char.	Cap. (pF)	Cap. Tol. (%)	Dimensions (mm)					
	Bulk	Taping				D	F	T	φ d		
DE1B3KX101K□□□	A5B	N5A	B	100	±10	9	10	8	0.6 ^{+0.1} _{-0.05}		
DE1B3KX151K□□□				150							
DE1B3KX221K□□□				220							
DE1B3KX331K□□□				330							
DE1B3KX471K□□□				470							
DE1B3KX681K□□□				680							
DE1E3KX102M□□□A01			E	N5A	E	1000	±20	8	10	8	0.6 ^{+0.1} _{-0.05}
DE1E3KX152M□□□A01						1500					
DE1E3KX222M□□□A01						2200					
DE1E3KX222M□□□A01						2200					

Continued on the following page.

Continued from the preceding page.

Part Number	Lead Code and Packaging Code		Temp. Char.	Cap. (pF)	Cap. Tol. (%)	Dimensions (mm)			
	Bulk	Taping				D	F	T	φ d
DE1E3KX332M□□□A01	A5B	N5A	E	3300	±20	12	10	8	0.6 ^{+0.1} _{-0.05}
DE1E3KX392M□□□A01				3900		13			
DE1E3KX472M□□□A01				4700		15			

Dielectric Strength : AC4000V(r.m.s.), 60 s

Three blank columns are filled with Lead Code and Packaging Code.

Individual specification code "A01" expresses small size.

Murata part numbers might be changed depending on lead code or any other changes.

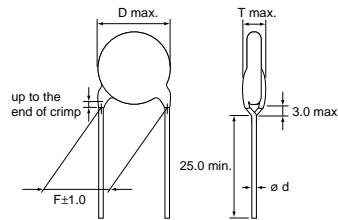
Therefore, please specify only the type name(KX) and capacitance of products in the parts list when it is required for applying safety standard of electric equipment.

Safety Standard Recognized Ceramic Capacitors

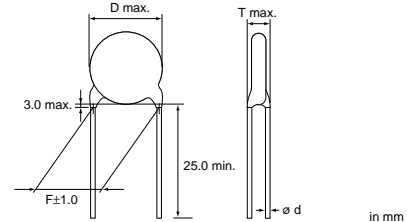
DEJ Series—Products which are Based on the Electrical Appliance and Material Control Law of Japan—



Vertical Crimp Long type
(Lead Code: A*)



Straight Long type
(Lead Code: C*)



Operating Temp. Range -25 to +85°C

● Part number configuration (Please see page 20 for details)

(Ex.)

DE	J	E3	E2	102	Z	N2	A
①	②	③	④	⑤	⑥	⑦	⑧

Part Number	Lead Code and Packaging Code		Temp. Char.	Cap. (pF)	Cap. Tol. (%)	Dimensions (mm)			
	Bulk	Taping				D	F	T	φ d
DEJE3E2102Z□□□	C3B	P3A	E	1000	+80 -20	7	7.5 ¹⁾	4	0.6±0.05
DEJE3E2222Z□□□	A3B	N2A		2200		8			
DEJE3E2332Z□□□				3300		9			
DEJE3E2472Z□□□			4700	11					
DEJF3E2472Z□□□	A3B	N3A	F	4700	+80 -20	8	7.5 ¹⁾	4	0.6±0.05
DEJF3E2103Z□□□				10000		11			

Dielectric Strength : AC1500V(r.m.s.), 60 s

1) 5mm for Lead Code N2

Three blank columns are filled with Lead Code and Packaging Code.

● Minimum Quantity (order in sets only)/Minimum Order Quantity

		Minimum Quantity	Minimum Order Quantity	
Ceramic Capacitors (50V, 500V)/ BC Capacitors	Bulk	1,000	10,000	
	Taping	2,000		
High-Voltage Ceramic Capacitors/ Safety Standard Recognized Ceramic Capacitors	Bulk	1,000	3,000	
	Lead Code	P2, N2	1,500 ¹⁾	3,000
		P3, N3	1,000 ²⁾	3,000 ³⁾
		N7	500 ⁴⁾	2,000
		N5	500	2,000

1) 1,000 pcs. for Type KY.

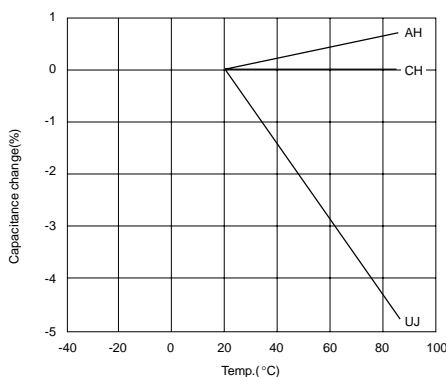
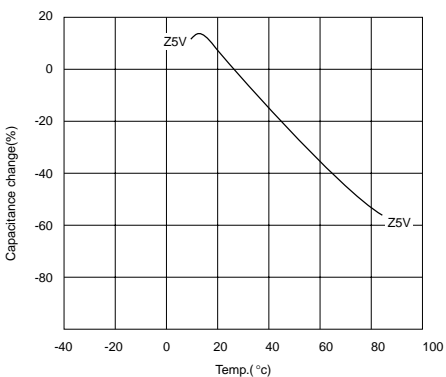
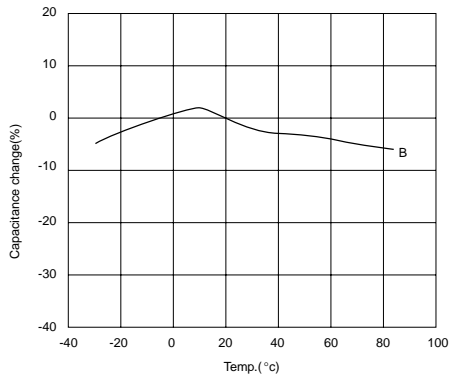
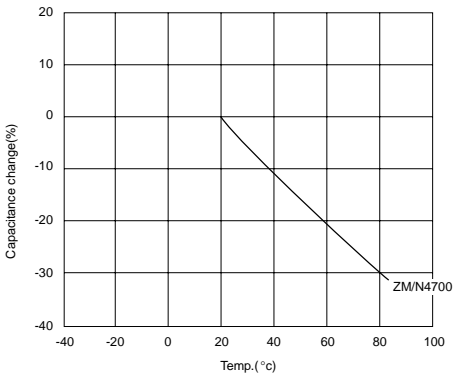
2) 900 pcs. for 2kV and 3.15kV rated voltages and Type KH/KY.

3) 2,700 pcs. for 2kV and 3.15kV rated voltages and Type KH/KY.

4) 400 pcs. for Type KH.

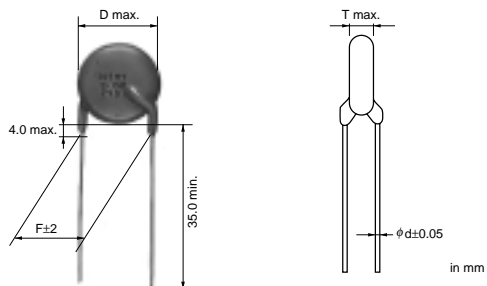
High-voltage Ceramic Capacitors (10-40kV)

● Typical Example of Temperature Characteristics



High-voltage Ceramic Capacitors (10-40kV)

Radial Type DHR Series



Operating Temp. Range -25 to +100°C

● Part number configuration (Please see page 21 for details)

(Ex.)

DH	R	B3	4A	102	M	2B	B
1	2	3	4	5	6	7	8

Part Number	7 Lead Code	DC Rated Volt. (kV)	Temp. Char./		Dimensions (mm)					
			5 Capacitance (pF)		D	T		F	d	
			B	ZM		B	ZM			
Char. B : DHRB34A□□□M□□B 5 7 Char. ZM : DHR4E4A□□□K□□B 5 7	2B	10	100, 150		8	7.0	7.3		9.5	0.65
			220		9		7.0			
			330		10		7.0			
			470		12		7.0			
			680		13		7.0			
			1000		15		7.0			
Char. B : DHRB34B□□□M□□B 5 7 Char. ZM : DHR4E4B□□□K□□B 5 7	2B	12	100		8	7.5	7.7		9.5	0.65
			150, 220		9		7.3			
			330		11		7.3			
			470		12		7.3			
			680		14		7.3			
			1000		16		7.3			
Char. B : DHRB34C□□□M□□B 5 7 Char. ZM : DHR4E4C□□□K□□B 5 7	2B	15	100		8	8.2	8.5		12.7	0.8
			150		9		8.2			
			220		10		8.2			
			330		12		8.2			
			470		13		8.2			
			680		15		8.2			
1000		18	8.2							
2F										
Capacitance Tolerance			Char. B : ±20% , Char. ZM : ±10%							

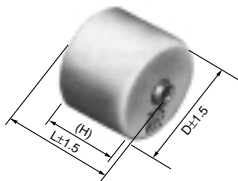
● Applications

1. Tuning capacitor in focus circuit for display
2. High-voltage DC power supplies (PPCs. X-ray apparatus, air cleaner, lasers, etc.)
3. Color TV doublers and triplers

● Minimum Quantity (order in sets only) : 100 pcs.
Minimum Order Quantity: 500 pcs.

High-Voltage Ceramic Capacitors (10-40kV)

DHS Series



Operating Temp. Range -20 to +85°C

● Part number configuration (Please see page 21 for details)

(Ex.)

DH	S	4E	4D	142	K	LX	B
①	②	③	④	⑤	⑥	⑦	⑧

Part Number	⑦ Terminal Type Code	Temp. Char./⑤ Cap. (pF) ¹⁾		DC Rated Voltage (kV)	Dimensions (mm)		
		ZM (N4700)	Z5V		D	L	H
Char. ZM : DHS4E4D□□□M□□B ⑤ ⑦	CX	280	—	20	20	24 (26) ²⁾	20 (24) ²⁾
	DX	—	600		24		
	HX	880	1000		30		
	LX	1400	—		38		
	NX	—	2400		43		
	RX	2500	3300		52		
	TX	4000	4800		60		
Char. Z5V : DHSF44D□□□Z□□B ⑤ ⑦	CX	190	—	30	20	28 (34) ²⁾	24 (32) ²⁾
	DX	—	460		24		
	HX	590	780		30		
	LX	940	—		38		
	NX	—	1800		43		
	RX	1700	2500		52		
	TX	2700	3600		60		
Char. ZM : DHS4E4F□□□M□□B ⑤ ⑦	CX	140	—	40	20	36 (41) ²⁾	32 (39) ²⁾
	DX	—	340		24		
	HX	440	570		30		
	LX	700	—		38		
	NX	—	1300		43		
	RX	1300	1900		52		
	TX	2000	2700		60		
Char. Z5V : DHSF44G□□□Z□□B ⑤ ⑦	CX	140	—	40	20	36 (41) ²⁾	32 (39) ²⁾
	DX	—	340		24		
	HX	440	570		30		
	LX	700	—		38		
	NX	—	1300		43		
	RX	1300	1900		52		
	TX	2000	2700		60		

1) Cap. tolerance codes are M for ZM and Z for Z5V.
2) ():Z5V Char.

● Applications

1. Lasers
2. High-voltage DC power supplies

High-frequency Power Ceramic Capacitors

For Transmitters DC5 Series



Operating Temp. Range -10 to +75°C

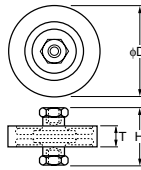
Part Number	Nom. Cap. (pF)	Cap. Tol.	Temp. Coeff.	DC Rated Volt. (kV)	DC Test Volt. (kV)	Max. Current 1MHz [A(r.m.s.)]	Rated Power 1MHz (kVA)	Dimensions (mm)	
								φ D	H
DC52C3H030DC3B	3	±0.5pF	CH (NP0)	5.0	7.5	0.07	0.23	6.3±0.8	8.5±0.8
DC53U3H400KC1B	40	±10%	UJ (N750)	5.0	7.5	0.89	3.1	12.0±0.8	11.0±0.8
DC52CAD500KC6B	50	±10%	CH (NP0)	7.5	11.25	1.7	8.9	20.0±0.8	15.5±0.8
DC53U3H101KC6B	100	±10%	UJ (N750)	5.0	7.5	3.4	19.0	20.0±0.8	15.5±0.8
DC5F33H102MC8B	1000	±20%	F (—)	5.0	7.5	1.4	0.3	20.0±0.8	15.5±0.8
DC52C4C500KC4B	50	±10%	CH (NP0)	15.0	22.5	3.3	35.0	30.0±2.0	33.0±1.0
DC53UAD201KC4B	200	±10%	UJ (N750)	7.5	11.25	5.1	23.0	30.0±2.0	33.0±1.0

High-frequency Power Ceramic Capacitors

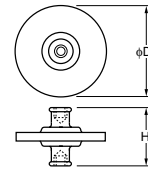
For RF Heaters DCT/DCA Series



DCT Series



DCA Series



Part Number	Nom. Cap. (pF)	Rated Volt.(kV)		Rated Allowable Power (kVA)	Max. Current [A(r.m.s.)]	Dimensions (mm)		
		HF Peak Value	D.C			φ D±10%	T±2	H±2
DCT3UF4102KB8B	1000	30	25	300	60	200	33	73
DCT3UF4501KB6B	500	30	25	90	35	140	25	53
DCT3UE4102KB6B	1000	25	21	90	35	140	22	50
DCT3UC4152KB6B	1500	15	13	90	35	140	19	47
DCT3UAT152KB5B	1500	9	7	22	27	110	16	44
DCT3UAF501KB4B	500	14	12	15	20	80	16	31
DCT3UB4301KB3B	300	12	10	7.5	15	60	15	26
DCT2CAZ101KB6B	100	31.5	37	135	35	140	26	52
DCT2CAX101KB4B	100	16	19	30	20	80	17	32
DCT2AAZ500KB6B	50	31.5	34	90	35	140	31	51
DCA3UD3501KA2B	500	2	3.5	2.2	8.5	40	—	22

Operating Temp. Range : -10 to +75°C

High-frequency Power Ceramic Capacitors

Water-cooled Ceramic RF Power Capacitors DCW Series



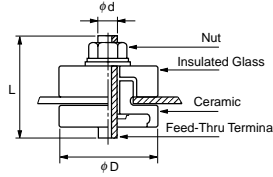
in mm

Part Number	Temp. Coefficient	Nom. Cap. (pF)	Cap. Tol. (%)	Rated Volt.(kV) HF Peak	Rated Power (kVA)	Max. Current [A(r.m.s.)]	Min. Water Flow Rate (ℓ/min.)	Dimensions (mm)	
								φ D	L
DCW3UC4252MF1B	UJ (N750)	2500	± 20	15	1000	100	1.0	100	135
DCW3UAF502MF2B	UJ (N750)	5000	± 20	14	2000	200	1.0	122	249
DCW3UD4502KF3B	UJ (N750)	5000	± 10	20	3000	250	1.5	135	283

Operating Temp. Range : 0 to +55°C

High-frequency Power Ceramic Capacitors

Small Size Feed-thru Type DC6 Series

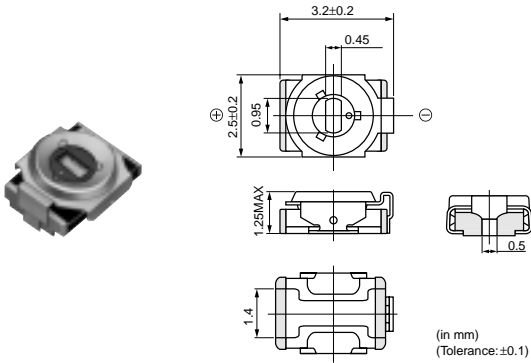


Part Number	Cap. (pF)	Cap. Tol. (%)	DC Rated Volt. (kV)	DC Test Volt. (kV)	Dimensions (mm)			Torque (N·m)
					ϕ D	L	ϕ d	
DC6F33G502PE2B	5000	+100 - 0	4	6	60	48	8	0.5
DC6F33D502PE1B	5000	+100 - 0	2	3	40	48	8	0.3

Operating Temp. Range : -10 to +75°C

Ceramic Trimmer Capacitors

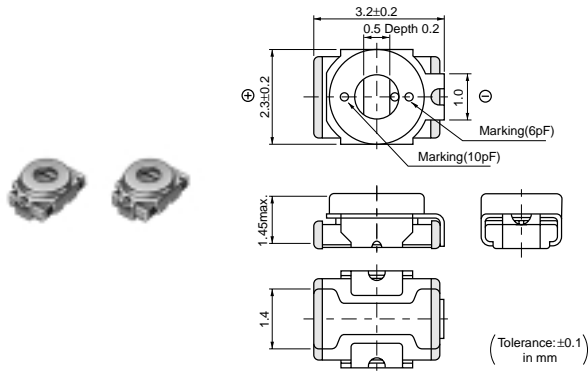
● TZY2 Series



Part Number	Cmin. (pF)	Cmax. (pF)	TC	Q	Rated Voltage	Withstanding Voltage	Stator/Case Color
TZY2Z2R5A001	0.65 max.	2.5 +100/-0%	NP0±300ppm/°C	200min. at 200MHz, Cmax.	25Vdc	55Vdc	White
TZY2Z030A001	1.5 max.	3.0 +100/-0%	NP0±300ppm/°C	300min. at 1MHz, Cmax.	25Vdc	55Vdc	Light green
TZY2Z060A001	2.5 max.	6.0 +100/-0%	NP0±300ppm/°C	500min. at 1MHz, Cmax.	25Vdc	55Vdc	Light green
TZY2Z100A001	3.0 max.	10.0 +100/-0%	NP0±300ppm/°C	500min. at 1MHz, Cmax.	25Vdc	55Vdc	Light green
TZY2R200A001	4.5 max.	20.0 +100/-0%	N750±500ppm/°C	500min. at 1MHz, Cmax.	25Vdc	55Vdc	Brown
TZY2R250A001	5.5 max.	25.0 +100/-0%	N750±500ppm/°C	300min. at 1MHz, Cmax.	25Vdc	55Vdc	Brown
TZY2K450A001	8.0 max.	45.0 +100/-0%	N1000±500ppm/°C	300min. at 1MHz, Cmax.	25Vdc	55Vdc	Light Brown

Insulation Resistance : 10000M ohm min. Torque : 0.5-5.0mNm Operating Temperature Range : -25-+85°C

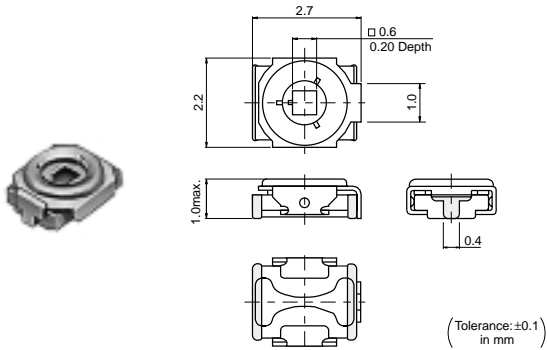
● TZV2 Series



Part Number	Cmin. (pF)	Cmax. (pF)	TC	Q	Rated Voltage	Withstanding Voltage	Stator/Case Color
TZV2Z2R5A110	0.65 max.	2.5 +100/-0%	NP0±300ppm/°C	200min. at 200MHz, Cmax.	25Vdc	55Vdc	White
TZV2Z030A110	1.5 max.	3.0 +100/-0%	NP0±300ppm/°C	300min. at 1MHz, Cmax.	25Vdc	55Vdc	LightGreen
TZV2Z060A110	2.5 max.	6.0 +100/-0%	NP0±300ppm/°C	500min. at 1MHz, Cmax.	25Vdc	55Vdc	LightGreen+Marking
TZV2Z100A110	3.0 max.	10.0 +100/-0%	NP0±300ppm/°C	500min. at 1MHz, Cmax.	25Vdc	55Vdc	LightGreen+Marking
TZV2R200A110	4.5 max.	20.0 +100/-0%	N750±500ppm/°C	500min. at 1MHz, Cmax.	25Vdc	55Vdc	Brown

Insulation Resistance : 10000M ohm min. Torque : 1.0~10.0mNm Operating Temperature Range : -25~+85°C

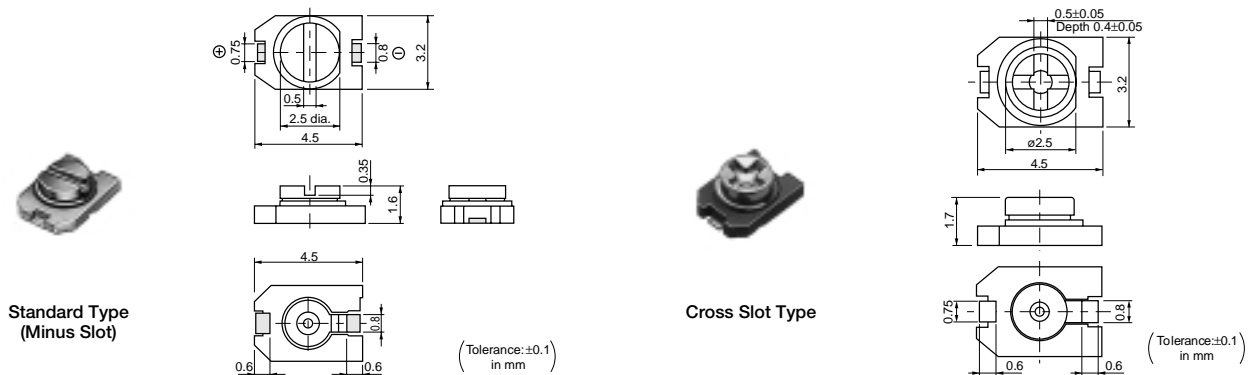
● TZS2 Series



Part Number	Cmin. (pF)	Cmax. (pF)	TC	Q	Rated Voltage	Withstanding Voltage	Stator/Case Color
TZS2Z060A001	3.0 max.	6.0 +100/-0%	NP0±300ppm/°C	500min. at 1MHz, Cmax.	25Vdc	55Vdc	Light Green
TZS2Z100A001	3.5 max.	10.0 +100/-0%	NP0±300ppm/°C	500min. at 1MHz, Cmax.	25Vdc	55Vdc	Light Green
TZS2R200A001	7.0 max.	20.0 +100/-0%	N750±500ppm/°C	500min. at 1MHz, Cmax.	25Vdc	55Vdc	Brown

Insulation Resistance : 10000M ohm min. Torque : 0.5~5.0mNm Operating Temperature Range : -25~+85°C

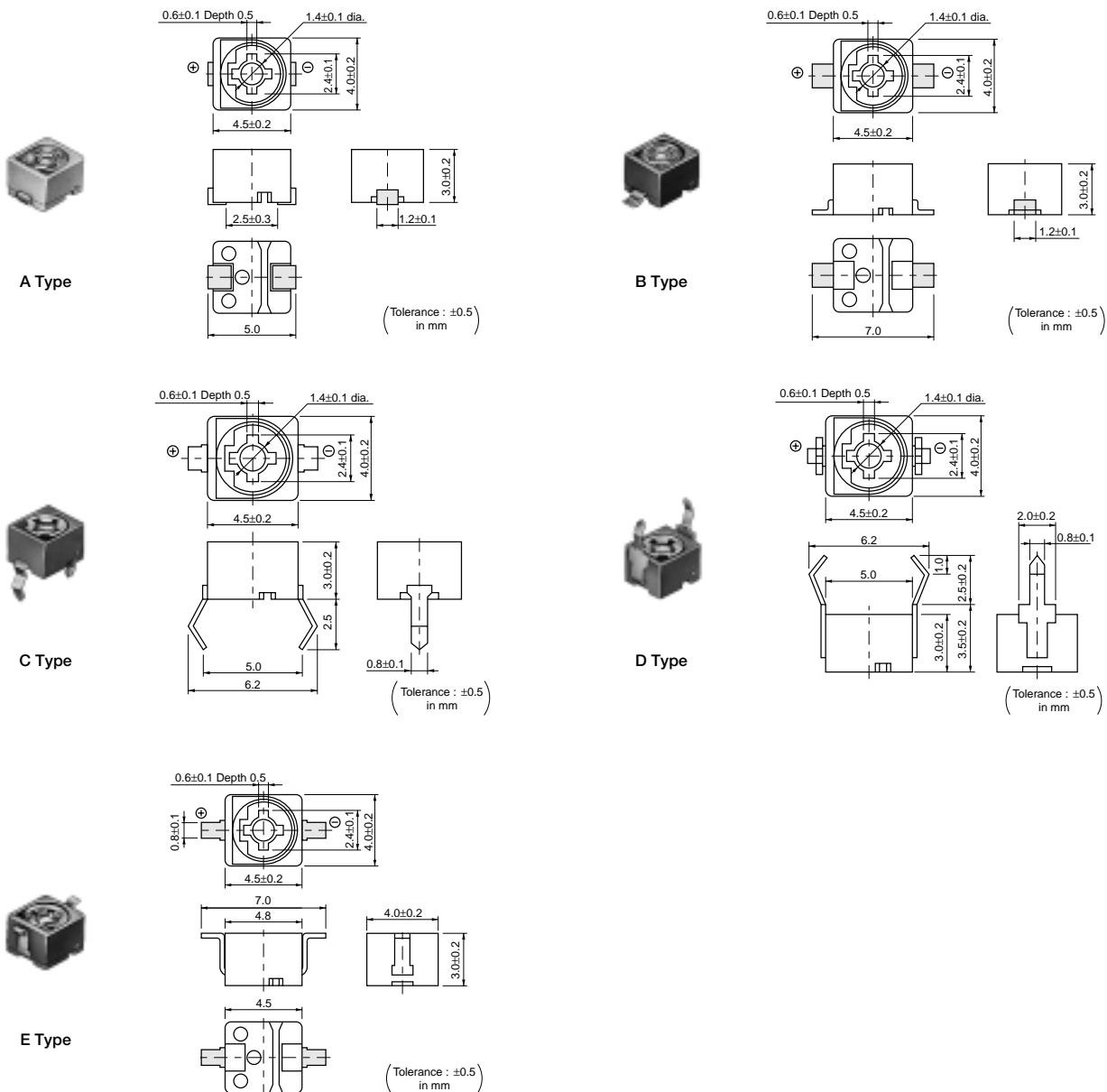
● TZC3 Series



Part Number	Cmin. (pF)	Cmax. (pF)	TC	Q	Rated Voltage	Withstanding Voltage	Stator/Case Color
TZC3Z030A□□□	1.4 max.	3.0 +50/-0%	NP0±300ppm/°C	300min. at 1MHz, Cmax.	100Vdc	220Vdc	Brown
TZC3Z060A□□□	2.0 max.	6.0 +50/-0%	NP0±300ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	Blue
TZC3R100A□□□	3.0 max.	10.0 +50/-0%	N750±300ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	White
TZC3P200A□□□	5.0 max.	20.0 +50/-0%	N1200±500ppm/°C	300min. at 1MHz, Cmax.	100Vdc	220Vdc	Red
TZC3P300A□□□	6.5 max.	30.0 +50/-0%	N1200±500ppm/°C	300min. at 1MHz, Cmax.	100Vdc	220Vdc	Green

Insulation Resistance : 10000M ohm min. Torque : 1.5~10.0mNm Operating Temperature Range : -25~+85°C
The last three digits show the slot type. 110:standard(minus) type, 310:plus type.

● TZB4 Series



Part Number	Cmin. (pF)	Cmax. (pF)	TC	Q	Rated Voltage	Withstanding Voltage	Stator/Case Color
TZB4Z030□□10	1.4 max.	3.0 +50/-0%	NP0±200ppm/°C	300min. at 1MHz, Cmax	100Vdc	220Vdc	Brown
TZB4Z060□□10	2.0 max.	6.0 +50/-0%	NP0±200ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	Blue
TZB4Z100□□10	3.0 max.	10.0 +50/-0%	NP0±300ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	White
TZB4R200□□10	4.5 max.	20.0 +50/-0%	N750±300ppm/°C	500min. at 1MHz, Cmax	100Vdc	220Vdc	Red
TZB4P300□□10	6.5 max.	30.0 +50/-0%	N1200±500ppm/°C	300min. at 1MHz, Cmax	100Vdc	220Vdc	Green

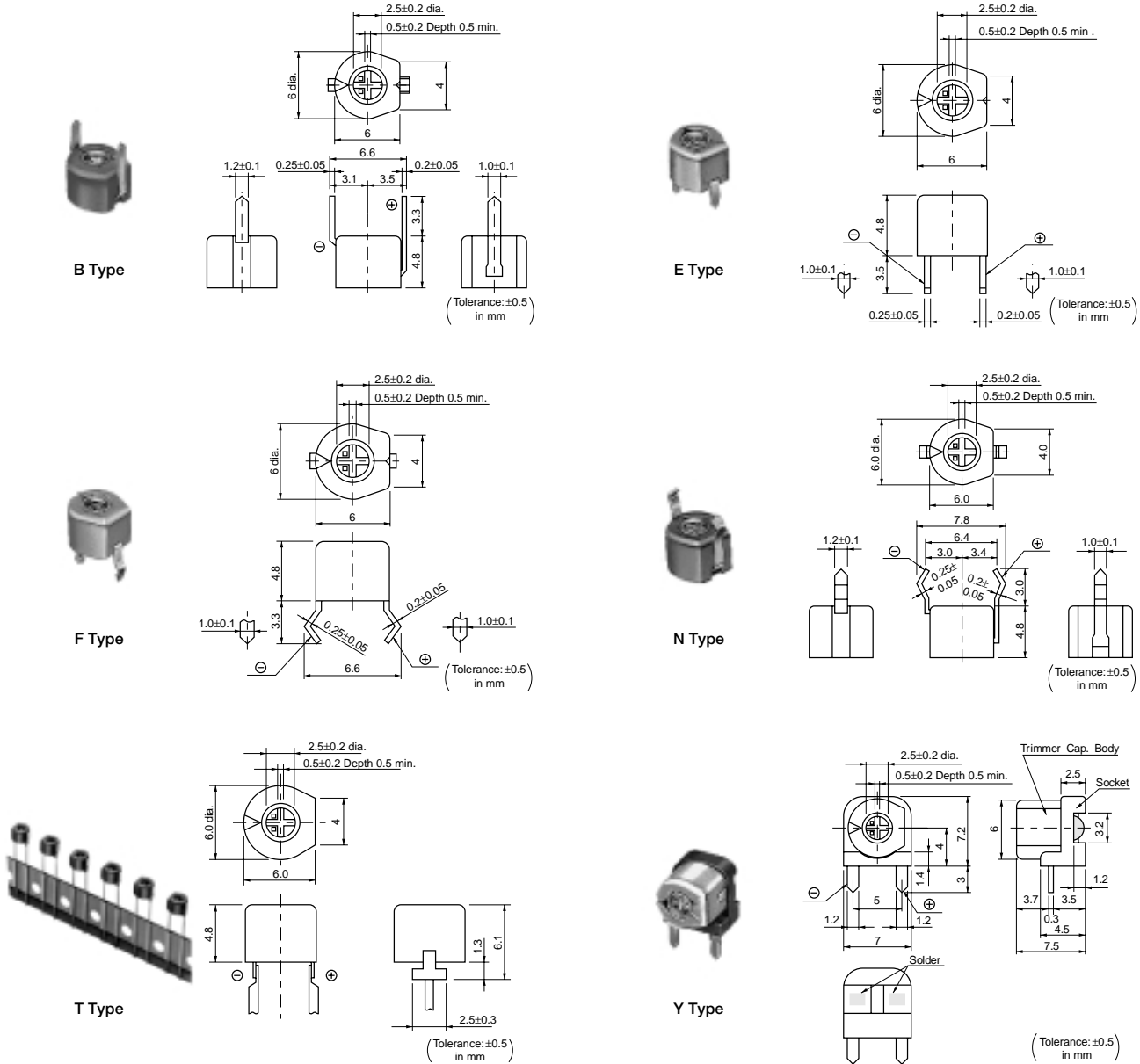
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Part Number	Cmin. (pF)	Cmax. (pF)	TC	Q	Rated Voltage	Withstanding Voltage	Stator/Case Color
TZB4P400□□10	8.5 max.	40.0 +50/-0%	N1200±500ppm/°C	300min. at 1MHz, Cmax	100Vdc	220Vdc	Yellow
TZB4Z250□□10	4.0 max.	25.0 +100/-0%	NP0±300ppm/°C	300min. at 1MHz, Cmax.	50Vdc	110Vdc	Black+Marking
TZB4R500□□10	7.0 max.	50.0 +100/-0%	N750±300ppm/°C	300min. at 1MHz, Cmax	50Vdc	110Vdc	Black+Marking

Insulation Resistance : 10000M ohm min. Torque : 1.5~10.0mNm Operating Temperature Range : -25~+85°C
Two blank columns are filled with cover film codes(A: not provided, B: provided) and terminal type codes.

● TZ03 Series



Part Number	Cmin. (pF)	Cmax. (pF)	TC	Q	Rated Voltage	Withstanding Voltage	Stator/Case Color
TZ03Z2R3□169	1.25 max.	2.3 +50/-0%	NP0±200ppm/°C	300min. at 1MHz, Cmax.	100Vdc	220Vdc	Black
TZ03Z050□169	1.5 max.	5.0 +50/-0%	NP0±200ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	Blue
TZ03Z070□169	2.0 max.	7.0 +50/-0%	NP0±200ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	Blue
TZ03N100□169	2.1 max.	10.0 +50/-0%	N200±200ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	White
TZ03Z100□169	2.7 max.	10.0 +50/-0%	NP0±200ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	Blue
TZ03T110□169	3.0 max.	11.0 +50/-0%	N450±300ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	White
TZ03R200□169	4.2 max.	20.0 +50/-0%	N750±300ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	Red

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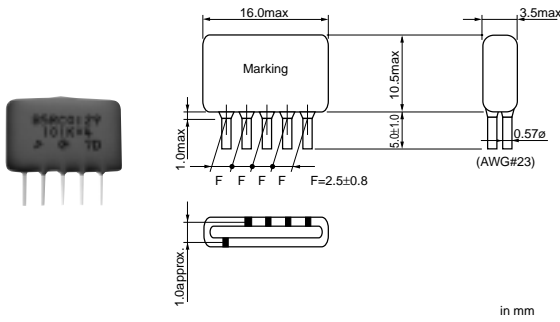
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Part Number	Cmin. (pF)	Cmax. (pF)	TC	Q	Rated Voltage	Withstanding Voltage	Stator/Case Color
TZ03T200□169	4.2 max.	20.0 +50/-0%	N450±300ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	Pink
TZ03R300□169	5.2 max.	30.0 +50/-0%	N750±300ppm/°C	500min. at 1MHz, Cmax.	100Vdc	220Vdc	Green
TZ03P450□169	6.8 max.	45.0 +50/-0%	N1200±500ppm/°C	300min. at 1MHz, Cmax.	100Vdc	220Vdc	Yellow
TZ03P600□169	9.8 max.	60.0 +50/-0%	N1200±500ppm/°C	300min. at 1MHz, Cmax.	100Vdc	220Vdc	Brown
TZ03Z500□169	6.0 max.	50.0 +100/-0%	NP0±300ppm/°C	300min. at 1MHz, Cmax.	50Vdc	110Vdc	Orange
TZ03R900□169	9.0 max.	90.0 +100/-0%	N750±300ppm/°C	300min. at 1MHz, Cmax.	50Vdc	110Vdc	Black+Dot
TZ03R121□169	10.0 max.	120.0 +100/-0%	N750±300ppm/°C	300min. at 1MHz, Cmax.	50Vdc	110Vdc	Black

Insulation Resistance : 10000M ohm min. Torque : 2.0~15.0mNm Operating Temperature Range : -25~+85°C
A blank column is filled with terminal type codes.

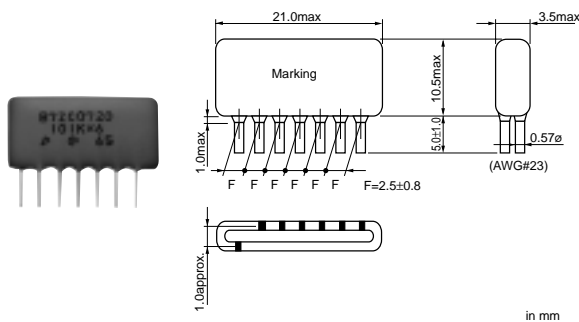
C Networks

● 4 Elements BXXC Series



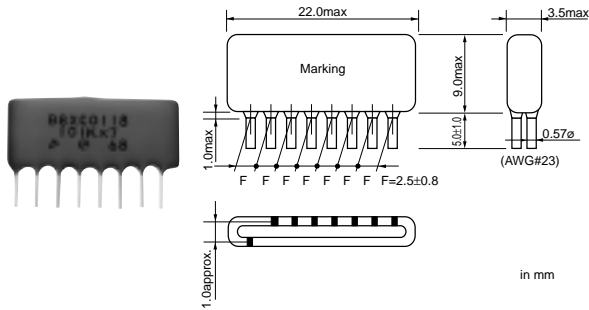
Part Number	Number of Elements	Capacitance (pF)	Cap. Tolerance (%)	TC Code	Rated Voltage (Vdc)
B5RC0129-33N	4	100	±10	Y5P	50
B5RC0128-33N	4	220	±10	Y5P	50
B5RC0122-33N	4	330	±20	Y5P	50
B5RC0123-33N	4	470	±20	Y5P	50
B5RC0135-33N	4	560	±20	Y5P	50
B5RC0124-33N	4	1000	±20	Y5P	50
B5RC0125-33N	4	2200	±20	Y5T	50
B5RC0126-33N	4	4700	+80,-20	FZ	50
B5RC0127-65N	4	10000	+80,-20	FZ	50

● 6 Elements BXXC Series



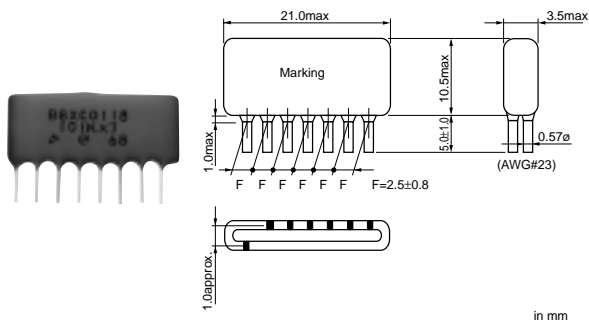
Part Number	Number of Elements	Capacitance (pF)	Cap. Tolerance (%)	TC Code	Rated Voltage (Vdc)
B7ZC0720-33N	6	100	±10	Y5P	50
B7ZC0713-33N	6	220	±10	Y5P	50
B7ZC0719-33N	6	330	±20	Y5P	50
B7ZC0717-33N	6	470	±20	Y5P	50
B7ZC0718-33N	6	560	±20	Y5P	50
B7ZC0716-33N	6	1000	±20	Y5P	50
B7ZC0715-33N	6	2200	±20	Y5T	50
B7ZC0714-33N	6	4700	+80,-20	FZ	50
B7ZC0711-65N	6	10000	+80,-20	FZ	50

● 7 Elements BXXC Series



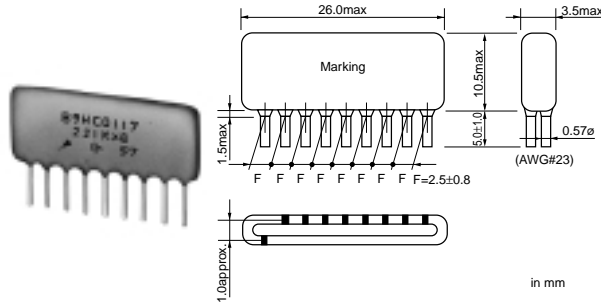
Part Number	Number of Elements	Capacitance (pF)	Cap. Tolerance (%)	TC Code	Rated Voltage (Vdc)
B8XC0118-33N	7	100	±10	Y5P	50
B8XC0117-33N	7	220	±10	Y5P	50
B8XC0116-33N	7	330	±20	Y5P	50
B8XC0119-33N	7	470	±20	Y5P	50
B8XC0115-33N	7	560	±20	Y5P	50
B8XC0114-33N	7	1000	±20	Y5P	50
B8XC0113-33N	7	2200	+40,-20	Y5U	50
B8XC0112-33N	7	4700	+80,-20	FZ	50

● 7 Elements B8ZC Series



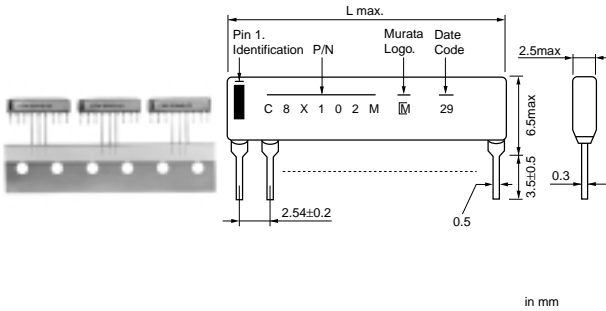
Part Number	Number of Elements	Capacitance (pF)	Cap. Tolerance (%)	TC Code	Rated Voltage (Vdc)
B8ZC0111-33N	7	8200	+80,-20	FZ	50

● 8 Elements BXXC Series



Part Number	Number of Elements	Capacitance (pF)	Cap. Tolerance (%)	TC Code	Rated Voltage (Vdc)
B9HC0118-33N	8	100	±10	Y5P	50
B9HC0117-33N	8	220	±10	Y5P	50
B9HC0119-33N	8	330	±20	Y5P	50
B9HC0115-33N	8	470	±20	Y5P	50
B9HC0116-33N	8	560	±20	Y5P	50
B9HC0114-33N	8	1000	±20	Y5P	50
B9HC0113-33N	8	2200	+40,-20	Y5U	50

● Low-Profile CGSD Series



Part Number	Number of Elements	Capacitance (pF)	Cap. Tolerance (%)	TC Code	Rated Voltage (Vdc)
CGSD4X101M-T21	4	100	±20	Y5P	50
CGSD4X221M-T21	4	220	±20	Y5P	50
CGSD4X331M-T21	4	330	±20	Y5P	50
CGSD4X102M-T21	4	1000	±20	Y5R	50
CGSD4X222M-T21	4	2200	±20	Y5R	50
CGSD4X103N-T21	4	10000	±30	Y5R	16
CGSD6X101M-T21	6	100	±20	Y5P	50
CGSD6X221M-T21	6	220	±20	Y5P	50
CGSD6X331M-T21	6	330	±20	Y5P	50
CGSD6X102M-T21	6	1000	±20	Y5R	50
CGSD6X222M-T21	6	2200	±20	Y5R	50
CGSD6X103N-T21	6	10000	±30	Y5R	16
CGSD8X101M-T21	8	100	±20	Y5P	50
CGSD8X221M-T21	8	220	±20	Y5P	50
CGSD8X331M-T21	8	330	±20	Y5P	50
CGSD8X102M-T21	8	1000	±20	Y5R	50
CGSD8X222M-T21	8	2200	±20	Y5R	50
CGSD8X103N-T21	8	10000	±30	Y5R	16