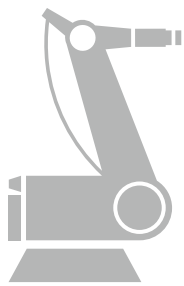
CATALOG 2014

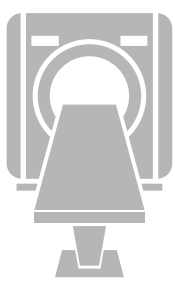
For High Quality Equipment

English

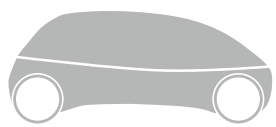
SMART METER



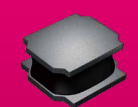
INDUSTRIAL ROBOT



MEDICAL EQUIPMENT

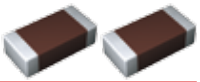


AUTOMOTIVE



TAIYO YUDEN

MULTILAYER CERAMIC CAPACITORS



REFLOW

■PARTS NUMBER

J	M	K	3 1 6	△	B J	1 0 6	M	L	H	T	△
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫

△=Blank space

①Rated voltage

Code	Rated voltage[VDC]
A	4
J	6.3
L	10
E	16
T	25
G	35
U	50
H	100
Q	250
S	630

②Series name

Code	Series name
M	Multilayer ceramic capacitor
W	LW reverse type multilayer capacitor

③End termination

Code	End termination
K	Plated
R	High Reliability Application

④Dimension(L×W)

Type	Dimensions (L×W)[mm]	EIA(inch)
105	1.0 × 0.5	0402
	0.52× 1.0 ※	0204
107	1.6 × 0.8	0603
	0.8 × 1.6 ※	0306
212	2.0 × 1.25	0805
	1.25× 2.0 ※	0508
316	3.2 × 1.6	1206
325	3.2 × 2.5	1210
432	4.5 × 3.2	1812

Note : ※LW reverse type(□WK) only

⑤Dimension tolerance

Code	Type	L[mm]	W[mm]	T[mm]
△	ALL	Standard	Standard	Standard
A	105	1.0±0.10	0.5±0.10	0.5±0.10
	107	1.6+0.15/−0.05	0.8+0.15/−0.05	0.8+0.15/−0.05
	212	2.0+0.15/−0.05	1.25+0.15/−0.05	0.85±0.10
				1.25+0.15/−0.05
	316	3.2±0.20	1.6±0.20	1.6±0.20
	325	3.2±0.30	2.5±0.30	2.5±0.30
B	105	1.0+0.15/−0.05	0.5+0.15/−0.05	0.5+0.15/−0.05
	107	1.6+0.20/−0	0.8+0.20/−0	0.8+0.20/−0
	212	2.0+0.20/−0	1.25+0.20/−0	0.85±0.10
				1.25+0.20/−0
	316	3.2±0.30	1.6±0.30	1.6±0.30
C	105	1.0+0.20/−0	0.5+0.20/−0	0.5+0.20/−0

Note: P.17 Standard external dimensions

△= Blank space

⑥Temperature characteristics code

■High dielectric type

Code	Applicable standard		Temperature range[℃]	Ref. Temp.[℃]	Capacitance change	Capacitance tolerance	Tolerance code
BJ	EIA	X5R	−55～+ 85	25	±15%	±10%	K
						±20%	M
B7	EIA	X7R	−55～+125	25	±15%	±10%	K
						±20%	M
C6	EIA	X6S	−55～+105	25	±22%	±10%	K
						±20%	M
C7	EIA	X7S	−55～+125	25	±22%	±10%	K
						±20%	M

■Temperature compensating type

Code	Applicable standard		Temperature range[℃]	Ref. Temp.[℃]	Capacitance change	Capacitance tolerance	Tolerance code
CG	JIS	CG	−55～+125	20	0±30ppm/℃	±0.1pF	B
						±0.25pF	C
						±0.5pF	D
	EIA	C0G		25		±1pF	F
						±5%	J
						±10%	K

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⑦Nominal capacitance

Code (example)	Nominal capacitance
0R5	0.5pF
010	1pF
100	10pF
101	100pF
102	1,000pF
103	10,000pF
104	0.1μF
105	1.0μF
106	10μF
107	100μF

Note : R=Decimal point

⑧Capacitance tolerance

Code	Capacitance tolerance
B	±0.1pF
C	±0.25pF
D	±0.5pF
J	±5%
K	±10%
M	±20%

⑫Internal code

Code	Internal code
△	Standard

⑨Thickness

Code	Thickness[mm]
V	0.5
A	0.8
D	0.85(212type or more)
F	1.15
G	1.25
H	1.5
L	1.6
N	1.9
M	2.5

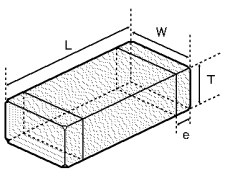
⑩Special code

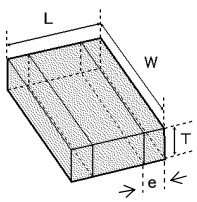
Code	Special code
—	
H	MLCC for Industrial, Automotive Comfort and Safety

⑪Packaging

Code	Packaging
F	φ178mm Taping (2mm pitch)
T	φ178mm Taping (4mm pitch)
P	φ178mm Taping (4mm pitch, 1000 pcs/reel) 325 type(Thickness code M)

■STANDARD EXTERNAL DIMENSIONS





※ LW reverse type

Type(EIA)	Dimension [mm]				
	L	W	T	*1	e
□MK105(0402)	1.0±0.05	0.5±0.05	0.5±0.05	V	0.25±0.10
□WK105(0204)※	0.52±0.05	1.0±0.05	0.3±0.05	P	0.18±0.08
□MK107(0603)	1.6±0.10	0.8±0.10	0.8±0.10	A	0.35±0.25
□MR107(0603)	1.6±0.10	0.8±0.10	0.8±0.10	A	0.1～0.6
□WK107(0306)※	0.8±0.10	1.6±0.10	0.5±0.05	V	0.25±0.15
□MK212(0805)	2.0±0.10	1.25±0.10	0.85±0.10	D	0.5±0.25
			1.25±0.10	G	
□MR212(0805)	2.0±0.10	1.25±0.10	1.25±0.10	G	0.25～0.75
□WK212(0508)※	1.25±0.15	2.0±0.15	0.85±0.1	D	0.3±0.2
□MK316(1206)	3.2±0.15	1.6±0.15	1.15±0.10	F	0.5+0.35/−0.25
			1.6±0.20	L	
□MR316(1206)	3.2±0.15	1.6±0.15	1.6±0.20	L	0.25～0.85
□MK325(1210)	3.2±0.30	2.5±0.20	1.15±0.10	F	0.6±0.3
			1.5±0.10	H	
			1.9±0.20	N	
			2.5±0.20	M	
□MR325(1210)	3.2±0.30	2.5±0.20	1.9±0.20	N	0.3～0.9
			2.5±0.20	M	
□MK432(1812)	4.5±0.40	3.2±0.30	2.5±0.20	M	0.9±0.6

Note : ※. LW reverse type, *1.Thickness code

■STANDARD QUANTITY

Type	EIA(inch)	Dimension		Standard quantity[pcs]	
		[mm]	Code	Paper tape	Embossed tape
105	0402	0.5	V	10000	—
	0204 ※	0.30	P		
107	0603	0.8	A	4000	—
	0306 ※	0.50	V	—	4000
212	0805	0.85	D	4000	—
		1.25	G	—	3000
	0508 ※	0.85	D	4000	—
316	1206	1.15	F	—	3000
		1.6	L	—	2000
325	1210	1.15	F	—	2000
		1.5	H		
		1.9	N		
		2.5	M	—	500(T), 1000(P)
432	1812	2.5	M	—	500

Note : ※.LW Reverse type(□WK)

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・All the Multilayer Ceramic Capacitors of Catalog Lineup are Compliance RoHS.
・Capacitance tolerance code is applied to □ of part number.

Note)
*1 We may provide X7R/X7S for some items according to the individual specification.
*2 The exchange of individual specification is necessary depending on the application and circuit condition. Please contact TAIYO YUDEN sales channels.
*3 The size standard should look at ④Dimension, ⑤Dimension tolerance, and ⑨Thickness, and P.17 Standard external dimensions.

Multilayer Ceramic Capacitors (High dielectric type)

●105TYPE

【Temperature Characteristic BJ : X5R】 0.5mm thickness(V)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK105 BJ102□VHF		50	X5R	1000 p	±10, ±20	2.5	200	0.5±0.05	R
UMK105 BJ152□VHF			X5R	1500 p	±10, ±20	2.5	200	0.5±0.05	R
UMK105 BJ222□VHF			X5R	2200 p	±10, ±20	2.5	200	0.5±0.05	R
UMK105 BJ332□VHF			X5R	3300 p	±10, ±20	2.5	200	0.5±0.05	R
UMK105 BJ472□VHF			X5R	4700 p	±10, ±20	2.5	200	0.5±0.05	R
UMK105 BJ682□VHF			X5R	6800 p	±10, ±20	2.5	150	0.5±0.05	R
UMK105 BJ103□VHF			X5R	10000 p	±10, ±20	3.5	200	0.5±0.05	R
UMK105 BJ104□VHF			X5R	0.1 μ	±10, ±20	10	150	0.5±0.05	R
TMK105 BJ472□VHF		25	X5R	4700 p	±10, ±20	2.5	200	0.5±0.05	R
TMK105 BJ682□VHF			X5R	6800 p	±10, ±20	2.5	200	0.5±0.05	R
TMK105 BJ103□VHF			X5R	10000 p	±10, ±20	3.5	200	0.5±0.05	R
TMK105 BJ223□VHF			X5R	0.022 μ	±10, ±20	3.5	200	0.5±0.05	R
TMK105 BJ473□VHF			X5R	0.047 μ	±10, ±20	3.5	150	0.5±0.05	R
TMK105 BJ104□VHF			X5R	0.1 μ	±10, ±20	5	150	0.5±0.05	R
TMK105 BJ224□VHF			X5R	0.22 μ	±10, ±20	10	150	0.5±0.05	R
TMK105ABJ474□VHF			X5R	0.47 μ	±10, ±20	10	150	0.5±0.10	R
EMK105 BJ223□VHF		16	X5R	0.022 μ	±10, ±20	3.5	200	0.5±0.05	R
EMK105 BJ473□VHF			X5R	0.047 μ	±10, ±20	3.5	150	0.5±0.05	R
EMK105 BJ104□VHF			X5R	0.1 μ	±10, ±20	5	150	0.5±0.05	R
EMK105 BJ224□VHF			X5R	0.22 μ	±10, ±20	10	150	0.5±0.05	R
EMK105ABJ474□VHF			X5R	0.47 μ	±10, ±20	10	150	0.5±0.10	R
EMK105 BJ105□VHF			X5R	1 μ	±10, ±20	10	150	0.5±0.05	R
LMK105 BJ224□VHF		10	X5R	0.22 μ	±10, ±20	10	150	0.5±0.05	R
LMK105ABJ474□VHF			X5R	0.47 μ	±10, ±20	10	150	0.5±0.10	R
LMK105 BJ105□VHF			X5R	1 μ	±10, ±20	10	150	0.5±0.05	R
LMK105ABJ225MVHF			X5R	2.2 μ	±20	10	150	0.5±0.10	R
JMK105 BJ224□VHF		6.3	X5R	0.22 μ	±10, ±20	5	150	0.5±0.05	R
JMK105 BJ474□VHF			X5R	0.47 μ	±10, ±20	10	150	0.5±0.05	R
JMK105 BJ105□VHF			X5R	1 μ	±10, ±20	10	150	0.5±0.05	R
JMK105 BJ225MVHF			X5R	2.2 μ	±20	10	150	0.5±0.05	R
JMK105BBJ475MVHF			X5R	4.7 μ	±20	10	150	0.5+0.15/−0.05	R
AMK105 BJ225MVHF		4	X5R	2.2 μ	±20	10	150	0.5±0.05	R
AMK105BBJ475MVHF			X5R	4.7 μ	±20	10	150	0.5+0.15/−0.05	R
AMK105CBJ106MVHF			X5R	10 μ	±20	10	150	0.5+0.20/−0	R

【Temperature Characteristic B7 : X7R】 0.5mm thickness(V)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK105 B7102□VHF		50	X7R	1000 p	±10, ±20	2.5	200	0.5±0.05	R
UMK105 B7152□VHF			X7R	1500 p	±10, ±20	2.5	200	0.5±0.05	R
UMK105 B7222□VHF			X7R	2200 p	±10, ±20	2.5	200	0.5±0.05	R
UMK105 B7332□VHF			X7R	3300 p	±10, ±20	2.5	200	0.5±0.05	R
UMK105 B7472□VHF			X7R	4700 p	±10, ±20	2.5	150	0.5±0.05	R
UMK105 B7682□VHF			X7R	6800 p	±10, ±20	2.5	150	0.5±0.05	R
UMK105 B7103□VHF			X7R	10000 p	±10, ±20	3.5	150	0.5±0.05	R
TMK105 B7472□VHF		25	X7R	4700 p	±10, ±20	2.5	200	0.5±0.05	R
TMK105 B7682□VHF			X7R	6800 p	±10, ±20	2.5	200	0.5±0.05	R
TMK105 B7103□VHF			X7R	10000 p	±10, ±20	3.5	200	0.5±0.05	R
TMK105 B7104□VHF			X7R	0.1 μ	±10, ±20	10	150	0.5±0.05	R
EMK105 B7223□VHF		16	X7R	0.022 μ	±10, ±20	3.5	150	0.5±0.05	R
EMK105 B7473□VHF			X7R	0.047 μ	±10, ±20	3.5	150	0.5±0.05	R
EMK105 B7104□VHF			X7R	0.1 μ	±10, ±20	10	150	0.5±0.05	R
EMK105 B7224□VHF			X7R	0.22 μ	±10, ±20	10	150	0.5±0.05	R
LMK105 B7104□VHF		10	X7R	0.1 μ	±10, ±20	10	150	0.5±0.05	R
LMK105 B7224□VHF			X7R	0.22 μ	±10, ±20	10	150	0.5±0.05	R
JMK105 B7224□VHF		6.3	X7R	0.22 μ	±10, ±20	10	150	0.5±0.05	R
JMK105 B7474□VHF			X7R	0.47 μ	±10, ±20	10	150	0.5±0.05	R

●107TYPE

【Temperature Characteristic BJ : X5R】 0.8mm thickness(A)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK107 BJ104□AHT		50	X5R	0.1 μ	±10, ±20	3.5	150	0.8±0.10	R
UMK107 BJ224□AHT			X5R	0.22 μ	±10, ±20	10	150	0.8±0.10	R
UMK107 BJ474□AHT			X5R	0.47 μ	±10, ±20	10	150	0.8±0.10	R
UMK107ABJ105□AHT			X5R	1 μ	±10, ±20	10	150	0.8±0.10	R
GMK107 BJ223□AHT		35	X5R	0.022 μ	±10, ±20	2.5	200	0.8±0.10	R
GMK107 BJ473□AHT			X5R	0.047 μ	±10, ±20	3.5	200	0.8±0.10	R
GMK107 BJ104□AHT			X5R	0.1 μ	±10, ±20	3.5	150	0.8±0.10	R
GMK107 BJ224□AHT			X5R	0.22 μ	±10, ±20	10	150	0.8±0.10	R
GMK107ABJ474□AHT			X5R	0.47 μ	±10, ±20	10	150	0.8+0.15/−0.05	R
GMK107 BJ105□AHT			X5R	1 μ	±10, ±20	10	150	0.8±0.10	R
TMK107 BJ223□AHT		25	X5R	0.022 μ	±10, ±20	2.5	200	0.8±0.10	R
TMK107 BJ473□AHT			X5R	0.047 μ	±10, ±20	3.5	200	0.8±0.10	R
TMK107 BJ104□AHT			X5R	0.1 μ	±10, ±20	3.5	150	0.8±0.10	R
TMK107 BJ224□AHT			X5R	0.22 μ	±10, ±20	5	150	0.8±0.10	R
TMK107 BJ474□AHT			X5R	0.47 μ	±10, ±20	3.5	150	0.8±0.10	R
TMK107 BJ105□AHT			X5R	1 μ	±10, ±20	10	150	0.8±0.10	R

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■PARTS NUMBER

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
EMK107 BJ104□AHT		16	X5R	0.1 μ	±10, ±20	3.5	150	0.8±0.10	R
EMK107 BJ224□AHT			X5R	0.22 μ	±10, ±20	5	150	0.8±0.10	R
EMK107 BJ474□AHT			X5R	0.47 μ	±10, ±20	3.5	150	0.8±0.10	R
EMK107 BJ105□AHT			X5R	1 μ	±10, ±20	5	150	0.8±0.10	R
EMK107ABJ225□AHT			X5R	2.2 μ	±10, ±20	10	150	0.8+0.15/−0.05	R
LMK107 BJ474□AHT		10	X5R	0.47 μ	±10, ±20	3.5	150	0.8±0.10	R
LMK107 BJ105□AHT			X5R	1 μ	±10, ±20	5	150	0.8±0.10	R
LMK107 BJ225□AHT			X5R	2.2 μ	±10, ±20	10	150	0.8±0.10	R
LMK107 BJ475□AHT			X5R	4.7 μ	±10, ±20	10	150	0.8±0.10	R
LMK107BBJ106MAHT			X5R	10 μ	±20	10	150	0.8+0.20/−0	R
JMK107 BJ225□AHT		6.3	X5R	2.2 μ	±10, ±20	10	150	0.8±0.10	R
JMK107 BJ475□AHT			X5R	4.7 μ	±10, ±20	10	150	0.8±0.10	R
JMK107ABJ106MAHT			X5R	10 μ	±20	10	150	0.8+0.15/−0.05	R
AMK107ABJ106MAHT		4	X5R	10 μ	±20	10	150	0.8+0.15/−0.05	R
AMK107BBJ226MAHT			X5R	22 μ	±20	10	150	0.8+0.20/−0	R

【Temperature Characteristic B7 : X7R , C7 : X7S】 0.8mm thickness(A)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK107 B7102□AHT		50	X7R	1000 p	±10, ±20	3.5	200	0.8±0.10	R
UMK107 B7152□AHT			X7R	1500 p	±10, ±20	3.5	200	0.8±0.10	R
UMK107 B7222□AHT			X7R	2200 p	±10, ±20	3.5	200	0.8±0.10	R
UMK107 B7332□AHT			X7R	3300 p	±10, ±20	3.5	200	0.8±0.10	R
UMK107 B7472□AHT			X7R	4700 p	±10, ±20	3.5	200	0.8±0.10	R
UMK107 B7682□AHT			X7R	6800 p	±10, ±20	3.5	200	0.8±0.10	R
UMK107 B7103□AHT			X7R	10000 p	±10, ±20	3.5	200	0.8±0.10	R
UMK107 B7223□AHT			X7R	0.22 p	±10, ±20	3.5	200	0.8±0.10	R
UMK107 B7473□AHT			X7R	0.47 p	±10, ±20	3.5	200	0.8±0.10	R
UMK107 B7104□AHT			X7R	0.1 μ	±10, ±20	3.5	200	0.8±0.10	R
GMK107 B7473□AHT		35	X7R	0.047 μ	±10, ±20	3.5	200	0.8±0.10	R
GMK107 B7104□AHT			X7R	0.1 μ	±10, ±20	3.5	150	0.8±0.10	R
GMK107 B7224□AHT			X7R	0.22 μ	±10, ±20	10	150	0.8±0.10	R
GMK107 B7474□AHT			X7R	0.47 μ	±10, ±20	10	150	0.8±0.10	R
GMK107AB7105□AHT			X7R	1 μ	±10, ±20	10	150	0.8+0.15/−0.05	R
TMK107 B7223□AHT		25	X7R	0.022 μ	±10, ±20	2.5	200	0.8±0.10	R
TMK107 B7473□AHT			X7R	0.047 μ	±10, ±20	3.5	200	0.8±0.10	R
TMK107 B7104□AHT			X7R	0.1 μ	±10, ±20	3.5	150	0.8±0.10	R
TMK107 B7224□AHT			X7R	0.22 μ	±10, ±20	10	150	0.8±0.10	R
TMK107 B7474□AHT			X7R	0.47 μ	±10, ±20	10	150	0.8±0.10	R
TMK107AB7105□AHT			X7R	1 μ	±10, ±20	10	150	0.8+0.15/−0.05	R
EMK107 B7473□AHT		16	X7R	0.047 μ	±10, ±20	3.5	200	0.8±0.10	R
EMK107 B7104□AHT			X7R	0.1 μ	±10, ±20	3.5	150	0.8±0.10	R
EMK107 B7224□AHT			X7R	0.22 μ	±10, ±20	5	150	0.8±0.10	R
EMK107 B7474□AHT			X7R	0.47 μ	±10, ±20	10	150	0.8±0.10	R
EMK107 B7105□AHT			X7R	1 μ	±10, ±20	10	150	0.8±0.10	R
LMK107 B7224□AHT		10	X7R	0.22 μ	±10, ±20	5	150	0.8±0.10	R
LMK107 B7474□AHT			X7R	0.47 μ	±10, ±20	3.5	150	0.8±0.10	R
LMK107 B7105□AHT			X7R	1 μ	±10, ±20	5	150	0.8±0.10	R
JMK107 C7225□AHT		6.3	X7S	2.2 μ	±10, ±20	10	150	0.8±0.10	R

●212TYPE

【Temperature Characteristic BJ : X5R】 1.25mm thickness(G)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK212 BJ104□GHT		50	X5R	0.1 μ	±10, ±20	3.5	200	1.25±0.10	R
UMK212 BJ224□GHT			X5R	0.22 μ	±10, ±20	3.5	150	1.25±0.10	R
UMK212 BJ474□GHT			X5R	0.47 μ	±10, ±20	3.5	150	1.25±0.10	R
UMK212 BJ105□GHT			X5R	1 μ	±10, ±20	5	150	1.25±0.10	R
GMK212 BJ104□GHT		35	X5R	0.1 μ	±10, ±20	3.5	200	1.25±0.10	R
GMK212 BJ224□GHT			X5R	0.22 μ	±10, ±20	3.5	150	1.25±0.10	R
GMK212 BJ474□GHT			X5R	0.47 μ	±10, ±20	3.5	150	1.25±0.10	R
GMK212 BJ105□GHT			X5R	1 μ	±10, ±20	5	150	1.25±0.10	R
TMK212 BJ104□GHT		25	X5R	0.1 μ	±10, ±20	3.5	200	1.25±0.10	R
TMK212 BJ224□GHT			X5R	0.22 μ	±10, ±20	3.5	150	1.25±0.10	R
TMK212 BJ474□GHT			X5R	0.47 μ	±10, ±20	3.5	200	1.25±0.10	R
TMK212 BJ105□GHT			X5R	1 μ	±10, ±20	3.5	150	1.25±0.10	R
TMK212 BJ225□GHT			X5R	2.2 μ	±10, ±20	5	150	1.25±0.10	R
TMK212BBJ475□GHT			X5R	4.7 μ	±10, ±20	10	150	1.25+0.20/−0	R
EMK212 BJ105□GHT		16	X5R	1 μ	±10, ±20	3.5	150	1.25±0.10	R
EMK212 BJ225□GHT			X5R	2.2 μ	±10, ±20	5	200	1.25±0.10	R
EMK212ABJ475□GHT			X5R	4.7 μ	±10, ±20	10	150	1.25+0.15/−0.05	R
EMK212BBJ106□GHT			X5R	10 μ	±10, ±20	10	150	1.25+0.20/−0	R
LMK212 BJ225□GHT		10	X5R	2.2 μ	±10, ±20	5	200	1.25±0.10	R
LMK212ABJ475□GHT			X5R	4.7 μ	±10, ±20	10	150	1.25+0.15/−0.05	R
LMK212ABJ106□GHT			X5R	10 μ	±10, ±20	10	150	1.25+0.15/−0.05	R
JMK212ABJ475□GHT		6.3	X5R	4.7 μ	±10, ±20	5	200	1.25+0.15/−0.05	R
JMK212ABJ106□GHT			X5R	10 μ	±10, ±20	10	150	1.25+0.15/−0.05	R
JMK212BBJ226MGHT			X5R	22 μ	±20	10	150	1.25+0.20/−0	R
AMK212ABJ226MGHT		4	X5R	22 μ	±20	10	150	1.25+0.15/−0.05	R
AMK212BBJ476MGHT			X5R	47 μ	±20	10	150	1.25+0.20/−0	R

【Temperature Characteristic BJ : X5R】 0.85mm thickness(D)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
EMK212 BJ105□DHT		16	X5R	1 μ	±10, ±20	5	200	0.85±0.10	R
EMK212ABJ225□DHT			X5R	2.2 μ	±10, ±20	5	150	0.85±0.10	R
EMK212BBJ475□DHT			X5R	4.7 μ	±10, ±20	10	150	0.85±0.10	R

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■PARTS NUMBER

【Temperature Characteristic B7 : X7R】 1.25mm thickness(G)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK212 B7103□GHT		50	X7R	10000 p	±10, ±20	3.5	200	1.25±0.10	R
UMK212 B7223□GHT			X7R	0.022 μ	±10, ±20	3.5	200	1.25±0.10	R
UMK212 B7473□GHT			X7R	0.047 μ	±10, ±20	3.5	200	1.25±0.10	R
UMK212 B7104□GHT			X7R	0.1 μ	±10, ±20	3.5	200	1.25±0.10	R
UMK212 B7224□GHT			X7R	0.22 μ	±10, ±20	3.5	150	1.25±0.10	R
GMK212 B7224□GHT		35	X7R	0.22 μ	±10, ±20	3.5	150	1.25±0.10	R
GMK212 B7105□GHT			X7R	1 μ	±10, ±20	5	150	1.25±0.10	R
TMK212 B7224□GHT		25	X7R	0.22 μ	±10, ±20	3.5	150	1.25±0.10	R
TMK212 B7474□GHT			X7R	0.47 μ	±10, ±20	3.5	150	1.25±0.10	R
TMK212 B7105□GHT			X7R	1 μ	±10, ±20	3.5	150	1.25±0.10	R
TMK212 B7225□GHT			X7R	2.2 μ	±10, ±20	10	150	1.25±0.10	R
EMK212 B7224□GHT		16	X7R	0.22 μ	±10, ±20	3.5	150	1.25±0.10	R
EMK212 B7474□GHT			X7R	0.47 μ	±10, ±20	3.5	150	1.25±0.10	R
EMK212 B7105□GHT			X7R	1 μ	±10, ±20	3.5	150	1.25±0.10	R
EMK212 B7225□GHT			X7R	2.2 μ	±10, ±20	10	150	1.25±0.10	R
EMK212AB7475□GHT			X7R	4.7 μ	±10, ±20	10	150	1.25+0.15/−0.05	R
LMK212 B7105□GHT		10	X7R	1 μ	±10, ±20	3.5	150	1.25±0.10	R
LMK212 B7225□GHT			X7R	2.2 μ	±10, ±20	10	150	1.25±0.10	R
LMK212 B7475□GHT			X7R	4.7 μ	±10, ±20	10	150	1.25±0.10	R

●316TYPE

【Temperature Characteristic BJ : X5R】 1.6mm thickness(L)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK316 BJ474□LHT		50	X5R	0.47 μ	±10, ±20	3.5	200	1.6±0.20	R
UMK316 BJ105□LHT			X5R	1 μ	±10, ±20	3.5	200	1.6±0.20	R
UMK316 BJ225□LHT			X5R	2.2 μ	±10, ±20	10	150	1.6±0.20	R
UMK316ABJ475□LHT			X5R	4.7 μ	±10, ±20	10	150	1.6±0.20	R
GMK316 BJ105□LHT		35	X5R	1 μ	±10, ±20	3.5	200	1.6±0.20	R
GMK316 BJ225□LHT			X5R	2.2 μ	±10, ±20	10	150	1.6±0.20	R
GMK316 BJ475□LHT			X5R	4.7 μ	±10, ±20	10	150	1.6±0.20	R
TMK316 BJ225□LHT		25	X5R	2.2 μ	±10, ±20	3.5	200	1.6±0.20	R
TMK316 BJ475□LHT			X5R	4.7 μ	±10, ±20	5	150	1.6±0.20	R
TMK316 BJ106□LHT			X5R	10 μ	±10, ±20	5	150	1.6±0.20	R
EMK316 BJ225□LHT		16	X5R	2.2 μ	±10, ±20	3.5	200	1.6±0.20	R
EMK316 BJ475□LHT			X5R	4.7 μ	±10, ±20	5	150	1.6±0.20	R
EMK316 BJ106□LHT			X5R	10 μ	±10, ±20	5	150	1.6±0.20	R
EMK316BBJ226MLHT			X5R	22 μ	±20	10	150	1.6±0.30	R
LMK316 BJ475□LHT		10	X5R	4.7 μ	±10, ±20	5	150	1.6±0.20	R
LMK316 BJ106□LHT			X5R	10 μ	±10, ±20	5	150	1.6±0.20	R
LMK316ABJ226□LHT			X5R	22 μ	±10, ±20	10	150	1.6±0.20	R
JMK316 BJ106□LHT		6.3	X5R	10 μ	±10, ±20	5	200	1.6±0.20	R
JMK316ABJ226□LHT			X5R	22 μ	±10, ±20	10	150	1.6±0.20	R
JMK316ABJ476MLHT			X5R	47 μ	±20	10	150	1.6±0.20	R
JMK316BBJ107MLHT			X5R	100 μ	±20	10	150	1.6±0.30	R
AMK316ABJ107MLHT		4	X5R	100 μ	±20	10	150	1.6±0.20	R

【Temperature Characteristic B7 : X7R】 1.6mm thickness(L)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK316 B7473□LHT		50	X7R	0.047 μ	±10, ±20	3.5	200	1.6±0.20	R
UMK316 B7104□LHT			X7R	0.1 μ	±10, ±20	3.5	200	1.6±0.20	R
UMK316 B7224□LHT			X7R	0.22 μ	±10, ±20	3.5	200	1.6±0.20	R
UMK316 B7474□LHT			X7R	0.47 μ	±10, ±20	3.5	200	1.6±0.20	R
UMK316 B7105□LHT			X7R	1 μ	±10, ±20	3.5	200	1.6±0.20	R
UMK316 B7225□LHT			X7R	2.2 μ	±10, ±20	10	150	1.6±0.20	R
GMK316 B7105□LHT		35	X7R	1 μ	±10, ±20	3.5	200	1.6±0.20	R
GMK316 B7225□LHT			X7R	2.2 μ	±10, ±20	10	150	1.6±0.20	R
GMK316AB7475□LHT			X7R	4.7 μ	±10, ±20	10	150	1.6±0.20	R
TMK316 B7225□LHT		25	X7R	2.2 μ	±10, ±20	3.5	200	1.6±0.20	R
TMK316AB7475□LHT			X7R	4.7 μ	±10, ±20	10	150	1.6±0.20	R
TMK316AB7106□LHT			X7R	10 μ	±10, ±20	10	150	1.6±0.20	R
EMK316 B7225□LHT		16	X7R	2.2 μ	±10, ±20	3.5	200	1.6±0.20	R
EMK316AB7475□LHT			X7R	4.7 μ	±10, ±20	10	150	1.6±0.20	R
EMK316AB7106□LHT			X7R	10 μ	±10, ±20	10	150	1.6±0.20	R
LMK316 B7475□LHT		10	X7R	4.7 μ	±10, ±20	5	150	1.6±0.20	R
LMK316AB7106□LHT			X7R	10 μ	±10, ±20	10	150	1.6±0.20	R
JMK316AB7106□LHT		6.3	X7R	10 μ	±10, ±20	10	150	1.6±0.20	R
JMK316AB7226□LHT			X7R	22 μ	±10, ±20	10	150	1.6±0.20	R
AMK316AB7226□LHT		4	X7R	22 μ	±10, ±20	10	150	1.6±0.20	R

●325TYPE

【Temperature Characteristic BJ : X5R】 2.5mm thickness(M)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK325 BJ106□MHT		50	X5R	10 μ	±10, ±20	5	150	2.5±0.20	R
GMK325 BJ106□MHT		35	X5R	10 μ	±10, ±20	5	150	2.5±0.20	R
TMK325 BJ106□MHT		25	X5R	10 μ	±10, ±20	5	150	2.5±0.20	R
EMK325 BJ226□MHT		16	X5R	22 μ	±10, ±20	5	150	2.5±0.20	R
LMK325 BJ226□MHT		10	X5R	22 μ	±10, ±20	5	150	2.5±0.20	R
LMK325 BJ476MMHT			X5R	47 μ	±20	10	150	2.5±0.20	R
LMK325ABJ107MMHT			X5R	100 μ	±20	10	150	2.5±0.30	R
JMK325 BJ476MMHT		6.3	X5R	47 μ	±20	10	150	2.5±0.20	R
JMK325ABJ107MMHT			X5R	100 μ	±20	10	150	2.5±0.30	R
AMK325ABJ107MMHT		4	X5R	100 μ	±20	10	150	2.5±0.30	R
AMK325ABJ227MMHT			X5R	220 μ	±20	10	150	2.5±0.30	R

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■PARTS NUMBER

【Temperature Characteristic BJ : X5R】 1.9mm thickness(N)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK325 BJ475□NHT		50		X5R	4.7 μ	±10, ±20	10	150	1.9±0.20	R
GMK325 BJ225MNHT		35		X5R	2.2 μ	±20	3.5	200	1.9±0.20	R
GMK325 BJ475□NHT				X5R	4.7 μ	±10, ±20	10	150	1.9±0.20	R
TMK325 BJ475□NHT		25		X5R	4.7 μ	±10, ±20	10	150	1.9±0.20	R
EMK325 BJ475MNHT		16		X5R	4.7 μ	±20	3.5	200	1.9±0.20	R
EMK325 BJ106□NHT				X5R	10 μ	±10, ±20	5	150	1.9±0.20	R

【Temperature Characteristic BJ : X5R】 1.5mm thickness(H)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK325 BJ105MHHT		50		X5R	1 μ	±20	3.5	200	1.5±0.10	R
TMK325 BJ225MHHT		25		X5R	2.2 μ	±20	3.5	200	1.5±0.10	R

【Temperature Characteristic C6 : X6S】 2.5mm thickness(M)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
JMK325AC6107MMHT		6.3		X6S	100 μ	±20	10	150	2.5±0.30	R

【Temperature Characteristic B7 : X7R , C7 : X7S】 2.5mm thickness(M)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK325 B7475□MHT		50		X7R	4.7 μ	±10, ±20	5	150	2.5±0.20	R
UMK325AC7106MMHT				X7S	10 μ	±20	10	150	2.5±0.30	R
GMK325 C7106□MHT		35		X7S	10 μ	±10, ±20	5	150	2.5±0.30	R
TMK325AB7106□MHTR		25		X7R	10 μ	±10, ±20	10	150	2.5±0.30	R
EMK325 B7226□MHT		16		X7R	22 μ	±10, ±20	10	150	2.5±0.20	R
LMK325 C7226MMHT		10		X7S	22 μ	±20	5	150	2.5±0.20	R
JMK325 B7226□MHTR		6.3		X7R	22 μ	±10, ±20	10	150	2.5±0.20	R
JMK325 B7476□MHTR				X7R	47 μ	±10, ±20	10	150	2.5±0.20	R

【Temperature Characteristic B7 : X7R】 1.9mm thickness(N)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
GMK325 B7225□NHT		35		X7R	2.2 μ	±10, ±20	3.5	200	1.9±0.20	R
GMK325 B7475MNHTR				X7R	4.7 μ	±20	10	150	1.9±0.20	R
TMK325 B7475□NHT		25		X7R	4.7 μ	±10, ±20	10	150	1.9±0.20	R
EMK325 B7106□NHT		16		X7R	10 μ	±10, ±20	5	150	1.9±0.20	R

【Temperature Characteristic B7 : X7R】 1.5mm thickness(H)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK325 B7105□HHT		50		X7R	1 μ	±10, ±20	3.5	200	1.5±0.10	R

Multilayer Ceramic Capacitors (Temperature compensating type)

●105TYPE

【Temperature Characteristic CG : CG/C0G】 0.5mm thickness(V)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	Q	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK105 CG0R5CVHF		50	CG	C0G	0.5 p	±0.25pF	410	200	0.5±0.05	R
UMK105 CG010CVHF			CG	C0G	1 p	±0.25pF	420	200	0.5±0.05	R
UMK105 CG1R5CVHF			CG	C0G	1.5 p	±0.25pF	430	200	0.5±0.05	R
UMK105 CG020CVHF			CG	C0G	2 p	±0.25pF	440	200	0.5±0.05	R
UMK105 CG030CVHF			CG	C0G	3 p	±0.25pF	460	200	0.5±0.05	R
UMK105 CG040CVHF			CG	C0G	4 p	±0.25pF	480	200	0.5±0.05	R
UMK105 CG050CVHF			CG	C0G	5 p	±0.25pF	500	200	0.5±0.05	R
UMK105 CG060DVHF			CG	C0G	6 p	±0.5pF	520	200	0.5±0.05	R
UMK105 CG070DVHF			CG	C0G	7 p	±0.5pF	540	200	0.5±0.05	R
UMK105 CG080DVHF			CG	C0G	8 p	±0.5pF	560	200	0.5±0.05	R
UMK105 CG090DVHF			CG	C0G	9 p	±0.5pF	580	200	0.5±0.05	R
UMK105 CG100DVHF			CG	C0G	10 p	±0.5pF	600	200	0.5±0.05	R
UMK105 CG120JVHF			CG	C0G	12 p	±5%	640	200	0.5±0.05	R
UMK105 CG150JVHF			CG	C0G	15 p	±5%	700	200	0.5±0.05	R
UMK105 CG180JVHF			CG	C0G	18 p	±5%	760	200	0.5±0.05	R
UMK105 CG220JVHF			CG	C0G	22 p	±5%	840	200	0.5±0.05	R
UMK105 CG270JVHF			CG	C0G	27 p	±5%	940	200	0.5±0.05	R
UMK105 CG330JVHF			CG	C0G	33 p	±5%	1000	200	0.5±0.05	R
UMK105 CG390JVHF			CG	C0G	39 p	±5%	1000	200	0.5±0.05	R
UMK105 CG470JVHF			CG	C0G	47 p	±5%	1000	200	0.5±0.05	R
UMK105 CG560JVHF			CG	C0G	56 p	±5%	1000	200	0.5±0.05	R
UMK105 CG680JVHF			CG	C0G	68 p	±5%	1000	200	0.5±0.05	R
UMK105 CG820JVHF			CG	C0G	82 p	±5%	1000	200	0.5±0.05	R
UMK105 CG101JVHF			CG	C0G	100 p	±5%	1000	200	0.5±0.05	R
UMK105 CG121JVHF			CG	C0G	120 p	±5%	1000	200	0.5±0.05	R
UMK105 CG151JVHF			CG	C0G	150 p	±5%	1000	200	0.5±0.05	R
UMK105 CG181JVHF			CG	C0G	180 p	±5%	1000	200	0.5±0.05	R
UMK105 CG221JVHF			CG	C0G	220 p	±5%	1000	200	0.5±0.05	R
UMK105 CG271JVHF			CG	C0G	270 p	±5%	1000	200	0.5±0.05	R
UMK105 CG331JVHF			CG	C0G	330 p	±5%	1000	200	0.5±0.05	R
UMK105 CG361JVHF			CG	C0G	360 p	±5%	1000	200	0.5±0.05	R
UMK105 CG391JVHF			CG	C0G	390 p	±5%	1000	200	0.5±0.05	R
UMK105 CG431JVHF			CG	C0G	430 p	±5%	1000	200	0.5±0.05	R
UMK105 CG471JVHF			CG	C0G	470 p	±5%	1000	200	0.5±0.05	R
UMK105 CG511JVHF			CG	C0G	510 p	±5%	1000	200	0.5±0.05	R
UMK105 CG561JVHF			CG	C0G	560 p	±5%	1000	200	0.5±0.05	R
UMK105 CG621JVHF			CG	C0G	620 p	±5%	1000	200	0.5±0.05	R
UMK105 CG681JVHF			CG	C0G	680 p	±5%	1000	200	0.5±0.05	R

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■PARTS NUMBER

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	Q	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMK105 CG751JVHF		50	CG	C0G	750 p	±5%	1000	200	0.5±0.05	R
UMK105 CG821JVHF			CG	C0G	820 p	±5%	1000	200	0.5±0.05	R
UMK105 CG102JVHF			CG	C0G	1000 p	±5%	1000	200	0.5±0.05	R

Medium-High Voltage Multilayer Ceramic Capacitors

●107TYPE

【Temperature Characteristic B7 : X7R】 0.8mm thickness(A)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
HMK107 B7102□AHT		100	X7R	1000 p	±10, ±20	3.5	200	0.8±0.10	R
HMK107 B7152□AHT			X7R	1500 p	±10, ±20	3.5	200	0.8±0.10	R
HMK107 B7222□AHT			X7R	2200 p	±10, ±20	3.5	200	0.8±0.10	R
HMK107 B7332□AHT			X7R	3300 p	±10, ±20	3.5	200	0.8±0.10	R
HMK107 B7472□AHT			X7R	4700 p	±10, ±20	3.5	200	0.8±0.10	R
HMK107 B7682□AHT			X7R	6800 p	±10, ±20	3.5	200	0.8±0.10	R
HMK107 B7103□AHT			X7R	10000 p	±10, ±20	3.5	200	0.8±0.10	R
HMK107 B7153□AHT			X7R	0.015 μ	±10, ±20	3.5	200	0.8±0.10	R
HMK107 B7223□AHT			X7R	0.022 μ	±10, ±20	3.5	200	0.8±0.10	R
HMK107 B7333□AHT			X7R	0.033 μ	±10, ±20	3.5	200	0.8±0.10	R

●212TYPE

【Temperature Characteristic B7 : X7R】 1.25mm thickness(G)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
HMK212 B7103□GHT		100	X7R	10000 p	±10, ±20	3.5	200	1.25±0.10	R
HMK212 B7153□GHT			X7R	0.015 μ	±10, ±20	3.5	200	1.25±0.10	R
HMK212 B7223□GHT			X7R	0.022 μ	±10, ±20	3.5	200	1.25±0.10	R
HMK212 B7333□GHT			X7R	0.033 μ	±10, ±20	3.5	200	1.25±0.10	R
HMK212 B7473□GHT			X7R	0.047 μ	±10, ±20	3.5	200	1.25±0.10	R
HMK212 B7683□GHT			X7R	0.068 μ	±10, ±20	3.5	200	1.25±0.10	R
HMK212 B7104□GHT			X7R	0.1 μ	±10, ±20	3.5	200	1.25±0.10	R
HMK212 B7224□GHT			X7R	0.22 μ	±10, ±20	3.5	200	1.25±0.10	R
QMK212 B7472□GHT		250	X7R	4700 p	±10, ±20	2.5	150	1.25±0.10	R
QMK212 B7682□GHT			X7R	6800 p	±10, ±20	2.5	150	1.25±0.10	R
QMK212 B7103□GHT			X7R	10000 p	±10, ±20	2.5	150	1.25±0.10	R
QMK212 B7153□GHT			X7R	0.015 μ	±10, ±20	2.5	150	1.25±0.10	R
QMK212 B7223□GHT			X7R	0.022 μ	±10, ±20	2.5	150	1.25±0.10	R

【Temperature Characteristic B7 : X7R】 0.85mm thickness(D)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
QMK212 B7102□DHT		250	X7R	1000 p	±10, ±20	2.5	150	0.85±0.10	R
QMK212 B7152□DHT			X7R	1500 p	±10, ±20	2.5	150	0.85±0.10	R
QMK212 B7222□DHT			X7R	2200 p	±10, ±20	2.5	150	0.85±0.10	R
QMK212 B7332□DHT			X7R	3300 p	±10, ±20	2.5	150	0.85±0.10	R

●316TYPE

【Temperature Characteristic B7 : X7R】 1.6mm thickness(L)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
HMK316 B7473□LHT		100	X7R	0.047 μ	±10, ±20	3.5	200	1.6±0.20	R
HMK316 B7104□LHT			X7R	0.1 μ	±10, ±20	3.5	200	1.6±0.20	R
HMK316 B7154□LHT			X7R	0.15 μ	±10, ±20	3.5	200	1.6±0.20	R
HMK316 B7224□LHT			X7R	0.22 μ	±10, ±20	3.5	200	1.6±0.20	R
HMK316 B7334□LHT			X7R	0.33 μ	±10, ±20	3.5	200	1.6±0.20	R
HMK316 B7474□LHT			X7R	0.47 μ	±10, ±20	3.5	200	1.6±0.20	R
HMK316 B7105□LHT			X7R	1 μ	±10, ±20	3.5	200	1.6±0.20	R
QMK316 B7333□LHT		250	X7R	0.033 μ	±10, ±20	2.5	150	1.6±0.20	R
QMK316 B7473□LHT			X7R	0.047 μ	±10, ±20	2.5	150	1.6±0.20	R
QMK316 B7683□LHT			X7R	0.068 μ	±10, ±20	2.5	150	1.6±0.20	R
QMK316 B7104□LHT			X7R	0.1 μ	±10, ±20	2.5	150	1.6±0.20	R
SMK316 B7153□LHT		630	X7R	0.015 μ	±10, ±20	2.5	120	1.6±0.20	R
SMK316 B7223□LHT			X7R	0.022 μ	±10, ±20	2.5	120	1.6±0.20	R

【Temperature Characteristic B7 : X7R】 1.15mm thickness(F)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
SMK316 B7102□FHT		630	X7R	1000 p	±10, ±20	2.5	120	1.15±0.10	R
SMK316 B7152□FHT			X7R	1500 p	±10, ±20	2.5	120	1.15±0.10	R
SMK316 B7222□FHT			X7R	2200 p	±10, ±20	2.5	120	1.15±0.10	R
SMK316 B7332□FHT			X7R	3300 p	±10, ±20	2.5	120	1.15±0.10	R
SMK316 B7472□FHT			X7R	4700 p	±10, ±20	2.5	120	1.15±0.10	R
SMK316 B7682□FHT			X7R	6800 p	±10, ±20	2.5	120	1.15±0.10	R
SMK316 B7103□FHT			X7R	10000 p	±10, ±20	2.5	120	1.15±0.10	R

●325TYPE

【Temperature Characteristic B7 : X7R】 2.5mm thickness(M)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
HMK325 B7225□MHT		100	X7R	2.2 μ	±10, ±20	3.5	200	2.5±0.20	R

【Temperature Characteristic B7 : X7R】 1.9mm thickness(N)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
HMK325 B7224□NHT		100	X7R	0.22 μ	±10, ±20	3.5	200	1.9±0.20	R
HMK325 B7474□NHT			X7R	0.47 μ	±10, ±20	3.5	200	1.9±0.20	R

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■PARTS NUMBER

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
HMK325 B7684□NHT		100	X7R	0.68 μ	±10, ±20	3.5	200	1.9±0.20	R
HMK325 B7105□NHT			X7R	1 μ	±10, ±20	3.5	200	1.9±0.20	R
QMK325 B7473□NHT		250	X7R	0.047 μ	±10, ±20	2.5	150	1.9±0.20	R
QMK325 B7104□NHT			X7R	0.1 μ	±10, ±20	2.5	150	1.9±0.20	R
QMK325 B7154□NHT			X7R	0.15 μ	±10, ±20	2.5	150	1.9±0.20	R
QMK325 B7224□NHT			X7R	0.22 μ	±10, ±20	2.5	150	1.9±0.20	R
SMK325 B7223□NHT		630	X7R	0.022 μ	±10, ±20	2.5	120	1.9±0.20	R
SMK325 B7333□NHT			X7R	0.033 μ	±10, ±20	2.5	120	1.9±0.20	R
SMK325 B7473□NHT			X7R	0.047 μ	±10, ±20	2.5	120	1.9±0.20	R

【Temperature Characteristic B7 : X7R】 1.15mm thickness(F)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
HMK325 B7104□FHT		100	X7R	0.1 μ	±10, ±20	3.5	200	1.15±0.10	R

●432TYPE

【Temperature Characteristic B7 : X7R】 2.5mm thickness(M)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
HMK432 B7474□MHT		100	X7R	0.47 μ	±10, ±20	3.5	200	2.5±0.20	R
HMK432 B7105□MHT			X7R	1 μ	±10, ±20	3.5	200	2.5±0.20	R
HMK432 B7155□MHT			X7R	1.5 μ	±10, ±20	3.5	200	2.5±0.20	R
HMK432 B7225□MHT			X7R	2.2 μ	±10, ±20	3.5	200	2.5±0.20	R
QMK432 B7104□MHT		250	X7R	0.1 μ	±10, ±20	2.5	150	2.5±0.20	R
QMK432 B7224□MHT			X7R	0.22 μ	±10, ±20	2.5	150	2.5±0.20	R
QMK432 B7334□MHT			X7R	0.33 μ	±10, ±20	2.5	150	2.5±0.20	R
QMK432 B7474□MHT			X7R	0.47 μ	±10, ±20	2.5	150	2.5±0.20	R
SMK432 B7473□MHT		630	X7R	0.047 μ	±10, ±20	2.5	120	2.5±0.20	R
SMK432 B7683□MHT			X7R	0.068 μ	±10, ±20	2.5	120	2.5±0.20	R
SMK432 B7104□MHT			X7R	0.1 μ	±10, ±20	2.5	120	2.5±0.20	R

LW Reversal Decoupling Capacitors (LWDC™)

●105TYPE

【Temperature Characteristic BJ : X5R】 0.3mm thickness(P)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
TWK105 BJ104MPHF		25	X5R	0.1 μ	±20	5	150	0.3±0.05	R
EWK105 BJ224MPHF		16	X5R	0.22 μ	±20	10	150	0.3±0.05	R
LWK105 BJ474MPHF		10	X5R	0.47 μ	±20	10	150	0.3±0.05	R
AWK105 BJ105MPHF		4	X5R	1 μ	±20	10	150	0.3±0.05	R

【Temperature Characteristic C6 : X6S , C7 : X7S】 0.3mm thickness(P)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
EWK105 C6104MPHF		16	X6S	0.1 μ	±20	5	150	0.3±0.05	R
LWK105 C7104MPHF		10	X7S	0.1 μ	±20	5	150	0.3±0.05	R
LWK105 C6224MPHF			X6S	0.22 μ	±20	10	150	0.3±0.05	R
JWK105 C7104MPHF		6.3	X7S	0.1 μ	±20	5	150	0.3±0.05	R
JWK105 C7224MPHF			X7S	0.22 μ	±20	10	150	0.3±0.05	R
JWK105 C6474MPHF			X6S	0.47 μ	±20	10	150	0.3±0.05	R
AWK105 C7224MPHF		4	X7S	0.22 μ	±20	10	150	0.3±0.05	R
AWK105 C6474MPHF			X6S	0.47 μ	±20	10	150	0.3±0.05	R

●107TYPE

【Temperature Characteristic BJ : X5R】 0.5mm thickness(V)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
LWK107 BJ105MVHT		10	X5R	1 μ	±20	10	150	0.5±0.05	R
JWK107 BJ225MVHT		6.3	X5R	2.2 μ	±20	10	150	0.5±0.05	R
JWK107 BJ475MVHT			X5R	4.7 μ	±20	10	150	0.5±0.05	R

【Temperature Characteristic B7 : X7R , C6 : X6S , C7 : X7S】 0.5mm thickness(V)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
TWK107 B7104MVHT		25	X7R	0.1 μ	±20	5	150	0.5±0.05	R
EWK107 B7224MVHT		16	X7R	0.22 μ	±20	5	150	0.5±0.05	R
EWK107 B7474MVHT			X7R	0.47 μ	±20	5	150	0.5±0.05	R
LWK107 B7474MVHT		10	X7R	0.47 μ	±20	5	150	0.5±0.05	R
JWK107 C7105MVHT		6.3	X7S	1 μ	±20	10	150	0.5±0.05	R
AWK107 C6225MVHT		4	X6S	2.2 μ	±20	10	150	0.5±0.05	R
AWK107 C6475MVHT			X6S	4.7 μ	±20	10	150	0.5±0.05	R

●212TYPE

【Temperature Characteristic BJ : X5R】 0.85mm thickness(D)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
LWK212 BJ475□DHT		10	X5R	4.7 μ	±10, ±20	10	150	0.85±0.10	R
JWK212 BJ106MDHT		6.3	X5R	10 μ	±20	10	150	0.85±0.10	R
AWK212 BJ226MDHT		4	X5R	22 μ	±20	10	150	0.85±0.10	R

【Temperature Characteristic C6 : X6S】 0.85mm thickness(D)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics	Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
JWK212 C6475□DHT		6.3	X6S	4.7 μ	±10, ±20	10	150	0.85±0.10	R

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High Reliability Application Multilayer Ceramic Capacitors

●107TYPE

【Temperature Characteristic B7 : X7R】0.8mm thickness(A)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMR107 B7104□A-T		50		X7R	0.1 μ	±10, ±20	3.5	200	0.8±0.10	R
TMR107 B7224□A-T		25		X7R	0.22 μ	±10, ±20	3.5	200	0.8±0.10	R
EMR107 B7474□A-T		16		X7R	0.47 μ	±10, ±20	3.5	200	0.8±0.10	R
LMR107 B7105□A-T		10		X7R	1 μ	±10, ±20	5	200	0.8±0.10	R

●212TYPE

【Temperature Characteristic B7 : X7R】1.25mm thickness(G)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMR212 B7473□G-T		50		X7R	0.047 μ	±10, ±20	3.5	200	1.25±0.10	R
UMR212 B7104□G-T				X7R	0.1 μ	±10, ±20	3.5	200	1.25±0.10	R
UMR212 B7224□G-T				X7R	0.22 μ	±10, ±20	3.5	200	1.25±0.10	R
TMR212 B7474□G-T		25		X7R	0.47 μ	±10, ±20	3.5	200	1.25±0.10	R
TMR212 B7105□G-T				X7R	1 μ	±10, ±20	5	200	1.25±0.10	R
LMR212 B7225□G-T		10		X7R	2.2 μ	±10, ±20	5	200	1.25±0.10	R

●316TYPE

【Temperature Characteristic B7 : X7R】1.6mm thickness(L)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMR316 B7224□L-T		50		X7R	0.22 μ	±10, ±20	3.5	200	1.6±0.20	R
TMR316 B7474□L-T		25		X7R	0.47 μ	±10, ±20	3.5	200	1.6±0.20	R
TMR316 B7105□L-T				X7R	1 μ	±10, ±20	3.5	200	1.6±0.20	R
EMR316 B7225□L-T		16		X7R	2.2 μ	±10, ±20	3.5	200	1.6±0.20	R
LMR316 B7475□L-T		10		X7R	4.7 μ	±10, ±20	5	200	1.6±0.20	R
JMR316 B7106□L-T		6.3		X7R	10 μ	±10, ±20	5	200	1.6±0.20	R

●325TYPE

【Temperature Characteristic B7 : X7R】2.5mm thickness(M)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
TMR325 B7106□M-T		25		X7R	10 μ	±10, ±20	5	200	2.5±0.20	R

【Temperature Characteristic B7 : X7R】1.9mm thickness(N)

Part number 1	Part number 2	Rated voltage [V]	Temperature characteristics		Capacitance [F]	Capacitance tolerance [%]	tan δ [%]	HALT Rated voltage x %	Thickness*3 [mm]	Soldering R:Reflow W:Wave
UMR325 B7474□N-T		50		X7R	0.47 μ	±10, ±20	3.5	200	1.9±0.20	R
UMR325 B7105□N-T				X7R	1 μ	±10, ±20	3.5	200	1.9±0.20	R
TMR325 B7225□N-T		25		X7R	2.2 μ	±10, ±20	3.5	200	1.9±0.20	R
TMR325 B7475□N-T				X7R	4.7 μ	±10, ±20	3.5	200	1.9±0.20	R

▶ This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our specification. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our Web site (http://www.ty-top.com/) .