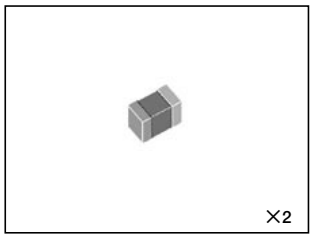
3225(1210)Size chip capacitors : MCH32

- High capacitance
- Achieved high capacitance by thin and multi layer technology
- Lead-free plating terminal
- No polarity



■Quick Reference

The design and specifications are subject to change without prior notice. Before ordering or using, please check the latest technical specifications. For more detail information regarding temperature characteristic code and packaging style code, please check product destination.

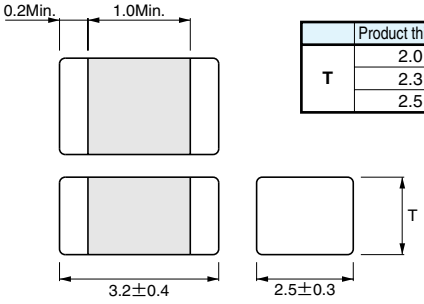
●Range of thermal compensation capacitors

MCH32	Temperature	A,AN(CG)(C0G)(CH)Characteristic	Packing style code
	Rated voltage(V)	50V	
	Product thickness(mm)	2.5±0.3	
	Capacitance(pF)	100,000	
Capacitance tolerance		J(±5%)	K, P
Nominal capacitance series		—	

●Range of high dielectric constant capacitors

MCH32	Temperature	CN(R)(B)(X7R)Characteristic	CN(X5R)Characteristic	FN(F)(Y5V)Characteristic		Packing style code
	Rated voltage(V)	16V	10V	16V	16V	
	Product thickness(mm)	2.0±0.2	2.3±0.2	2.0±0.2		
	Capacitance(pF)	4,700,000～10,000,000	15,000,000～22,000,000	22,000,000	47,000,000	
Capacitance tolerance		M(±20%)		Z(+80%, −20%)		K, P
Nominal capacitance series		E6		E3		

■External dimensions (Unit : mm)



	Product thickness(mm)
T	2.0±0.2
	2.3±0.2
	2.5±0.3

■Production designation

Code	Prduct thickness	Packing specification	Reel	Basic ordering unit(pcs.)
K	0.85mm	Paper tape(width 8mm, pitch 4mm)	φ180mm(7in.)	4,000
P	2.3mm	Pulastic tape(width 8mm, pitch 4mm)	φ180mm(7in.)	1,000
P	2.5mm	Pulastic tape(width 12mm, pitch 4mm)	φ180mm(7in.)	1,000

Reel(φ180mm):compatible with EIAJ ET-7200A

Part No. / Packing style

M C H 3 2 3 F N 2 2 6 Z K

Rated voltage

Code	Voltage
4	10V
3	16V
5	50V

Capacitance-temperature characteristics				Nominal capacitance	Capacitance tolerance	
Code	EIA code	Operating temp. range(℃)	Temp. coefficient or percent change		Code	Tolerance
A,AN	CG(C0G)	−55～+125	0±30ppm/℃	3-digit designation accordijg to IEC	J	±5%(11pF or more)
	CH	−55～+125	0±60ppm/℃			
CN	R	−55～+125	±15%		M	±20%
	B	−25～+ 85	±10%			
	(X5R)	(−55～+ 85)	(±15%)			
	(X7R)	(−55～+125)	(±15%)			
FN	F	−25～+ 85	+30%, −80%		Z	+80%, −20%
	(Y5V)	(−30～+ 85)	(+22%, −82%)			

■Product No. list

●Thermal compensation capacitors

Capacitance (pF)	Temperature		A・AN(CG)(COG)(CH)Characteristic
	Rated voltage(V)		50V
	Tolerance	Product thickness(mm)	Product No.
100,000	J(±5%)	2.5±0.3	MCH325A(AN)104JP

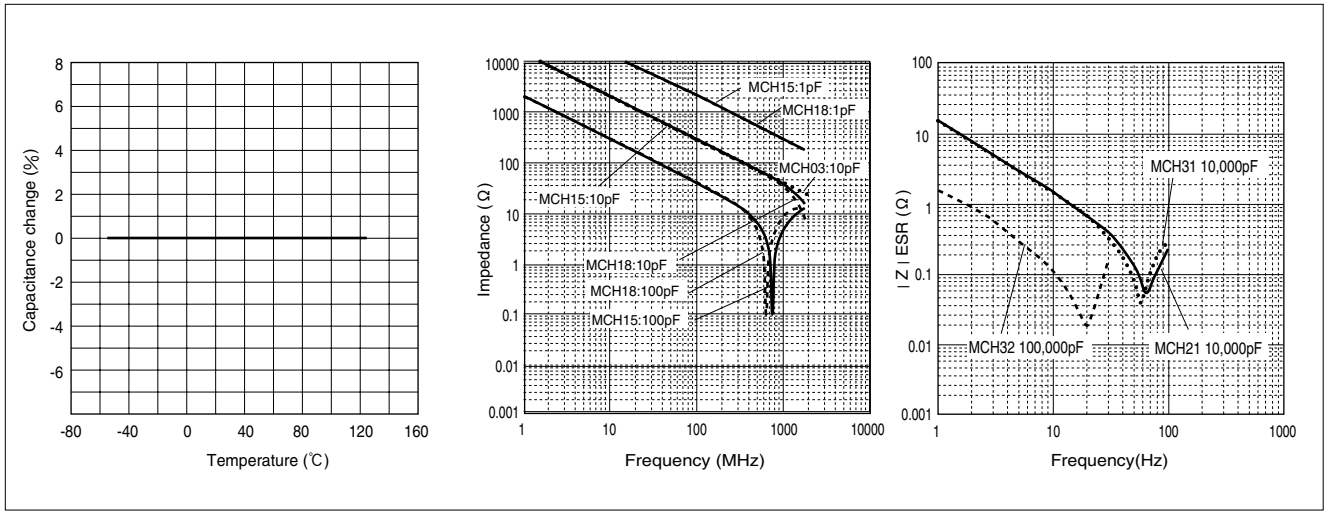
●High dielectric constant capacitors

Capacitance (pF)	Temperature		CN(R)(B)(X7R)Characteristic	CN(X5R)Characteristic
	Rated voltage(V)		16V	16V
	Tolerance	Product thickness(mm)	Product No.	Product No.
4,700,000	K(±10%)	2.0±0.2	MCH323CN475MP	
6,800,000			MCH323CN685MP	
10,000,000			MCH323CN106MP	
15,000,000		2.3±0.2		MCH324CN156MP
22,000,000				MCH324CN226MP

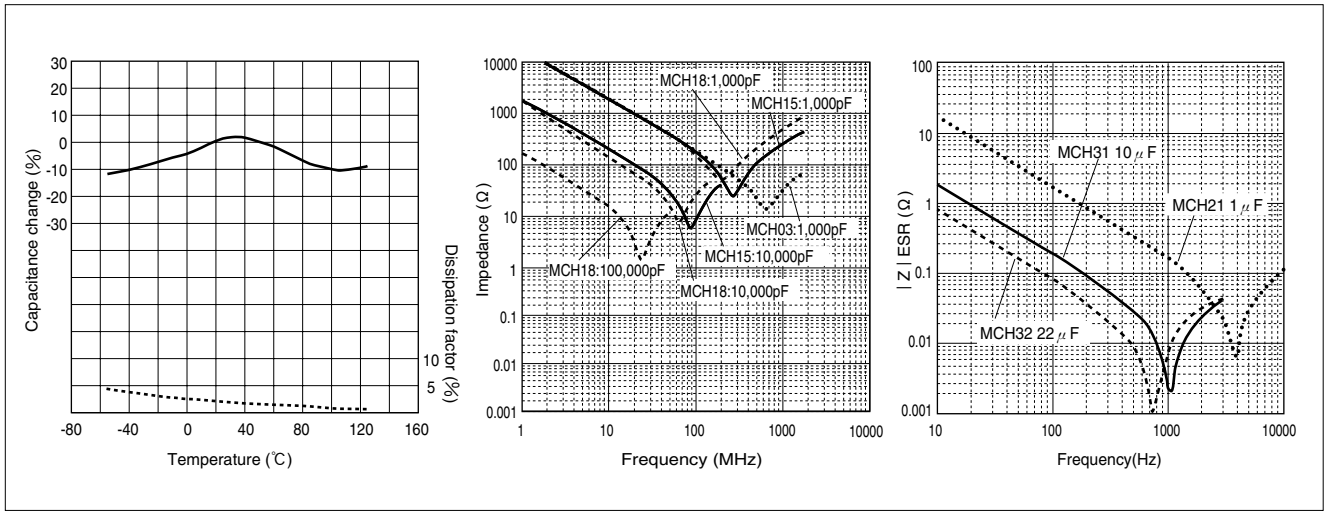
Capacitance (pF)	Temperature		FN(F)(Y5V)Characteristic	
	Rated voltage(V)		16V	10V
	Tolerance	Product thickness(mm)	Product No.	Product No.
22,000,000	Z(+80%, −20%)	2.0±0.2	MCH323FN226ZP	
47,000,000				MCH324FN476ZP

■Characteristics

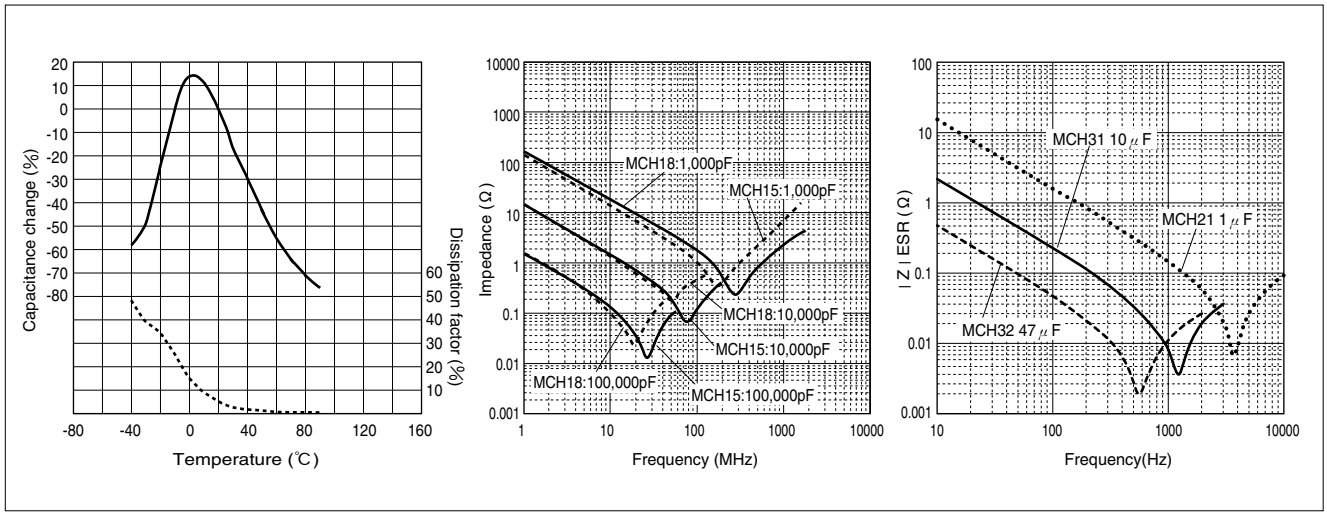
●A(CG)(C0G)(CH)Characteristics



●CN(R)(B)(X5R)(X7R)Characteristics



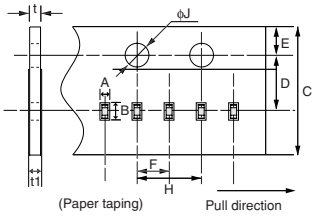
● FN(F)(Y5V)Characteristics



■Packing specification

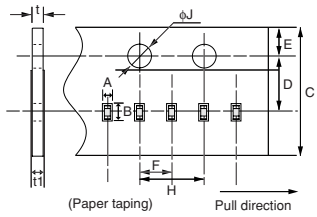
●Carrier tape dimensions (Unit:mm)

MCH03



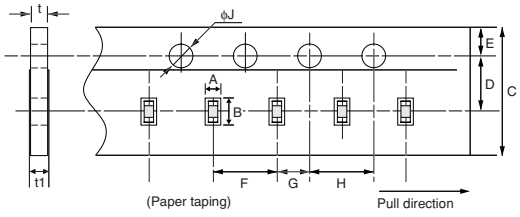
Code	A	B	C	D	E	F	H	J	t	t1
MCH03	0.37 ±0.03	0.67 ±0.03	8.0 ±0.2	3.5 ±0.05	1.75 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	0.42 ±0.02	0.5 MAX

MCH15



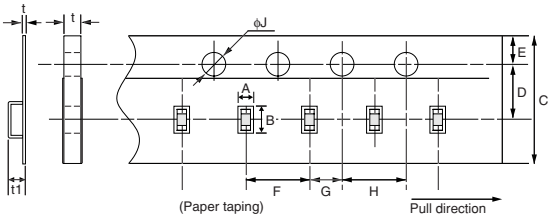
Code	A	B	C	D	E	F	H	J	t	t1
MCH15	0.65 ±0.05	1.15 ±0.05	8.0 ±0.2	3.5 ±0.05	1.75 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	0.7 ±0.05	0.8 MAX

MCH18



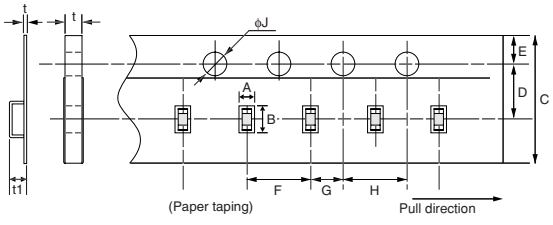
Code	A	B	C	D	E	F	G	H	J	t	t1
MCH18	1.0 ±0.05	1.8 ±0.05	8.0 ±0.3	3.5 ±0.05	1.75 ±0.1	4.0 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	1.05 MAX.	1.2 MAX.

MCH21



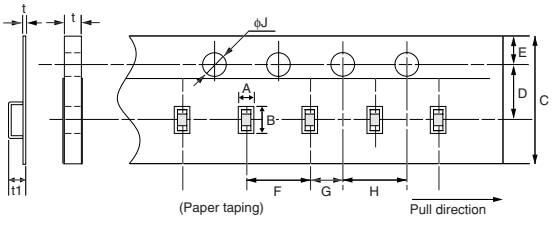
Code	A	B	C	D	E	F	G	H	J	t	t	t1
										Paper	Pulastic	
MCH21	1.5 ±0.2	2.3 ±0.2	8.0 ±0.3	3.5 ±0.05	1.75 ±0.1	4.0 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	1.1 MAX.	0.3 MAX.	2.5 MAX.

MCH31



Code	A	B	C	D	E	F	G	H	J	t	t	t1
										Paper	Pulastic	
MCH31	1.9 ±0.2	3.5 ±0.2	8.0 ±0.3	3.5 ±0.05	1.75 ±0.1	4.0 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	1.1 MAX.	0.3 MAX.	2.5 MAX.

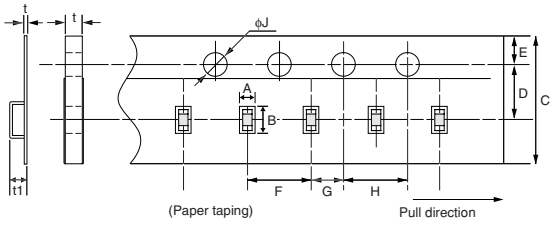
MCH32



Code	A	B	C	D	E	F	G	H	J	t	t1
										Pulastic	
MCH32	2.9	3.6	8.0±0.3 (12.0±0.3)	3.5±0.05 (5.0±0.03)	1.75 ±0.1	4.0 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	0.6 MAX.	2.5MAX. (6.5MAX.)

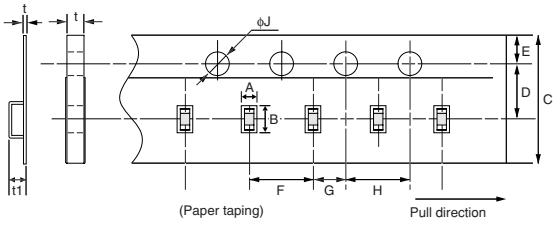
（）内は製品厚みの2.5mmに適用

MCH43



Code	A	B	C	D	E	F	G	H	J	t	t1
										Pulastic	
MCH43	3.6	4.9	12.0 ±0.3	5.5 ±0.05	1.75 ±0.1	8.0 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	0.6 MAX.	6.5 MAX.

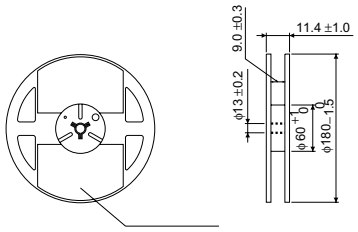
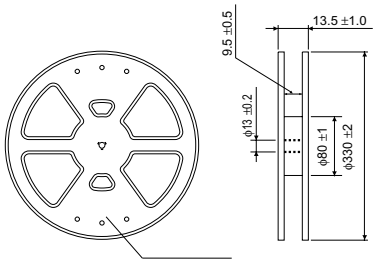
MCH55



Code	A	B	C	D	E	F	G	H	J	t	t1
										Pulastic	
MCH55	5.4	6.1	12.0 ±0.3	5.5 ±0.05	1.75 ±0.1	8.0 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	0.6 MAX.	6.5 MAX.

■Packing specification

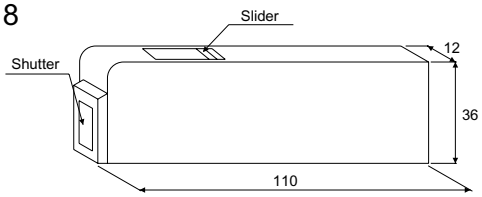
●Reel dimensions (Unit:mm)

ϕ180mm Plastic reel	ϕ330mm Plastic reel
MCH03 MCH15 MCH18 MCH21 MCH31 MCH32 MCH43 MCH55 	MCH15 MCH18 

●Bulk case dimensions (Unit:mm)

EIAJ ET-7201A compliant

MCH15
MCH18



●For fundamental considerations on capacitors, refe to Electric Industries Association of Japan, technical report, "EIAJ RCR-2333,Guideline of notabilia for fixed multilayer ceramic capacitors for use in electronic equipment".

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ROHM CO., LTD.
21, Saiin Mizosaki-cho, Ukyo-ku, Kyoto
615-8585, Japan
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Taiwan / ROHM ELECTRONICS TAIWAN CO., LTD.
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