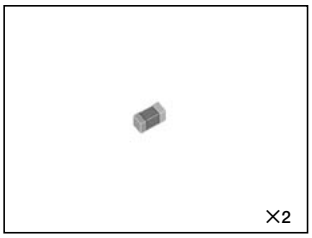
1608(0603)Size chip capacitors : MCH18

- Miniture, light weight
- 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

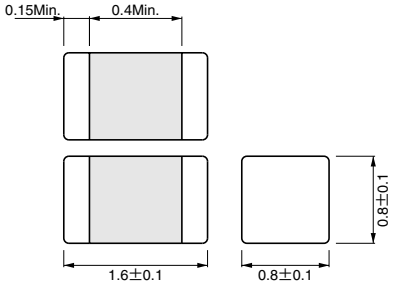
MCH18	Temperature	A,AN(CG)(C0G)(CH) Characteristic	Packing style code
	Rated voltage(V)	50V	
	Product thickness(mm)	0.8± 0.1	
	Capacitance(pF)	0.5～820、1,000	
Capacitance tolerance		〈11pF 以上〉: J(± 5%), 〈0.5 ～ 5pF〉: C(± 0.25pF), 〈5.1 ～ 10pF〉: D(± 0.5pF)	K, L, C
Nominal capacitance series		E24	

●Range of high dielectric constant capacitors

MCH18	Temperature	CN(R)(B)(X7R) Characteristic		CN(X5R) Characteristic	Packing style code
	Rated voltage(V)	50V	25V	10V	
	Product thickness(mm)	0.8± 0.1			
	Capacitance(pF)	220～22,000	33,000～100,000	150,000～1,000,000	
Capacitance tolerance		K(±10%)			K, L, C
Nominal capacitance series		E6			

MCH18	Temperature	FN(F)(Y5V) Characteristic				Packing style code
	Rated voltage(V)	50V	25V	16V	10V	
	Product thickness(mm)	0.8± 0.1				
	Capacitance(pF)	1,000～100,000	100,000	220,000	470,000～1,000,000	
Capacitance tolerance		Z(+80%,−20%)				K, L, C
Nominal capacitance series		E3				

■External dimensions (Unit : mm)



Code	Prduct thickness	Packing specification	Reel	Basic ordering unit(pcs.)
K	0.8mm	Paper tape(width 8mm, pitch 4mm)	φ 180mm(7in.)	4,000
L	0.8mm	Paper tape(width 8mm, pitch 4mm)	φ 330mm(13in.)	16,000
C	0.8mm	Bulk case	—	15,000

Reel(φ 180, φ 330mm):compatible with EIAJ ET-7200A
Bulk case:compatible with EIAJ ET-7201A

■Production designation

Part No. / Packing Style

M	C	H	1	8	2	F	N	1	0	3	Z	K

Rated voltage

Code	Voltage
4	10V
3	16V
2	25V
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	C	±0.25pF(0.5～5pF)
	CH	−55～+125	0±60ppm／℃		D	±0.5pF(5.1～10pF)
CN	R	−55～+125	±15%		J	±5%(11pF or more)
	B	−25～+ 85	±10%		K	±10%
	(X5R)	(−55～+ 85)	(±15%)		Z	+80%, −20%
	(X7R)	(−55～+125)	(±15%)			
FN	F	−25～+ 85	+30%, −80%			
	(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.
0.5	C(±0.25pF)	0.8±0.1	MCH185A(AN)0R5C*
0.75			MCH185A(AN)R75C*
1.0			MCH185A(AN)010C*
1.1			MCH185A(AN)1R1C*
1.2			MCH185A(AN)1R2C*
1.3			MCH185A(AN)1R3C*
1.5			MCH185A(AN)1R5C*
1.6			MCH185A(AN)1R6C*
1.8			MCH185A(AN)1R8C*
2.0			MCH185A(AN)020C*
2.2			MCH185A(AN)2R2C*
2.4			MCH185A(AN)2R4C*
2.7			MCH185A(AN)2R7C*
3.0			MCH185A(AN)030C*
3.3			MCH185A(AN)3R3C*
3.6			MCH185A(AN)3R6C*
3.9			MCH185A(AN)3R9C*
4.0			MCH185A(AN)040C*
4.3			MCH185A(AN)4R3C*
4.7			MCH185A(AN)4R7C*
5.0			MCH185A(AN)050C*
5.1	D(±0.5pF)		MCH185A(AN)5R1D*
5.6			MCH185A(AN)5R6D*
6			MCH185A(AN)060D*
6.2			MCH185A(AN)6R2D*
6.8			MCH185A(AN)6R8D*
7			MCH185A(AN)070D*
7.5			MCH185A(AN)7R5D*
8			MCH185A(AN)080D*
8.2			MCH185A(AN)8R2D*
9			MCH185A(AN)090D*
9.1			MCH185A(AN)9R1D*
10			MCH185A(AN)100D*
11	J(±5%)		MCH185A(AN)110J*
12			MCH185A(AN)120J*
13			MCH185A(AN)130J*
15			MCH185A(AN)150J*
16			MCH185A(AN)160J*
18			MCH185A(AN)180J*
20			MCH185A(AN)200J*

Capacitance(pF)	Temperature		A・AN(CG)(COG)(CH)Characteristic
	Rated voltage(V)		50V
	Tolerance	Product thickness(mm)	Product No.
22	J(±5%)	0.8±0.1	MCH185A(AN)220J*
24			MCH185A(AN)240J*
27			MCH185A(AN)270J*
30			MCH185A(AN)300J*
33			MCH185A(AN)330J*
36			MCH185A(AN)360J*
39			MCH185A(AN)390J*
43			MCH185A(AN)430J*
47			MCH185A(AN)470J*
51			MCH185A(AN)510J*
56			MCH185A(AN)560J*
62			MCH185A(AN)620J*
68			MCH185A(AN)680J*
75			MCH185A(AN)750J*
82			MCH185A(AN)820J*
91			MCH185A(AN)910J*
100			MCH185A(AN)101J*
110			MCH185A(AN)111J*
120			MCH185A(AN)121J*
130			MCH185A(AN)131J*
150			MCH185A(AN)151J*
160			MCH185A(AN)161J*
180			MCH185A(AN)181J*
200			MCH185A(AN)201J*
220			MCH185A(AN)221J*
240			MCH185A(AN)241J*
270			MCH185A(AN)271J*
300			MCH185A(AN)301J*
330			MCH185A(AN)331J*
360			MCH185A(AN)361J*
390			MCH185A(AN)391J*
430			MCH185A(AN)431J*
470			MCH185A(AN)471J*
510			MCH185A(AN)511J*
560			MCH185A(AN)561J*
620			MCH185A(AN)621J*
680			MCH185A(AN)681J*
750			MCH185A(AN)751J*
820			MCH185A(AN)821J*
1,000			MCH185A(AN)102J*

*: Packaging Code

●High dielectric constant capacitors

Capacitance(pF)	Temperature		CN(R)(B)(X7R)Characteristic		CN(X5R)Characteristic
	Rated voltage(V)		50V	25V	10V
	Tolerance	Product thickness(mm)	Product No.	Product No.	Product No.
220	K(±10%)	0.8±0.1	MCH185CN221K*		
330			MCH185CN331K*		
470			MCH185CN471K*		
680			MCH185CN681K*		
1,000			MCH185CN102K*		
1,500			MCH185CN152K*		
2,200			MCH185CN222K*		
3,300			MCH185CN332K*		
4,700			MCH185CN472K*		
6,800			MCH185CN682K*		
10,000			MCH185CN103K*		
15,000			MCH185CN153K*		
22,000			MCH185CN223K*		
33,000				MCH182CN333K*	
47,000				MCH182CN473K*	
68,000				MCH182CN683K*	
100,000				MCH182CN104K*	
150,000					MCH184CN154K*
220,000					MCH184CN224K*
330,000					MCH184CN334K*
470,000					MCH184CN474K*
680,000					MCH184CN684K*
1,000,000					MCH184CN105K*

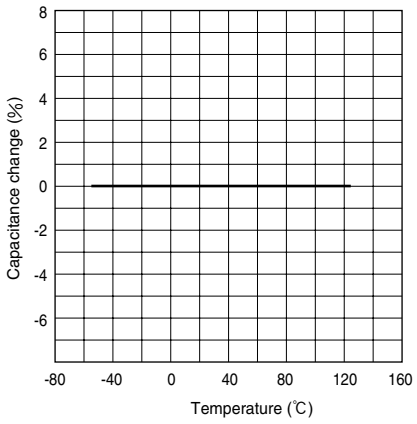
*: Packaging Code

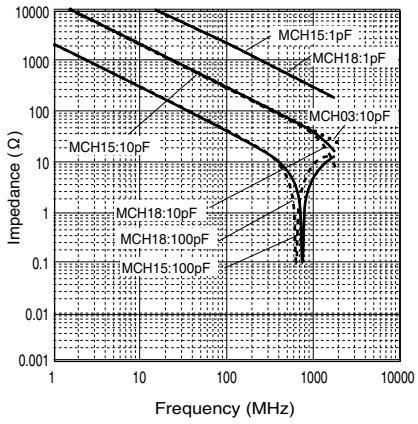
Capacitance(pF)	Temperature		FN(F)(Y5V)Characteristic			
	Rated voltage(V)		50V	25V	16V	10V
	Tolerance	Product thickness(mm)	Product No.	Product No.	Product No.	Product No.
1,000	Z(+80%,−20%)	0.8±0.1	MCH185FN102Z*			
2,200			MCH185FN222Z*			
4,700			MCH185FN472Z*			
10,000			MCH185FN103Z*			
22,000			MCH185FN223Z*			
47,000			MCH185FN473Z*			
100,000			MCH185FN104Z*	MCH182FN104Z*		
220,000					MCH183FN224Z*	
470,000						MCH184FN474Z*
1,000,000						MCH184FN105Z*

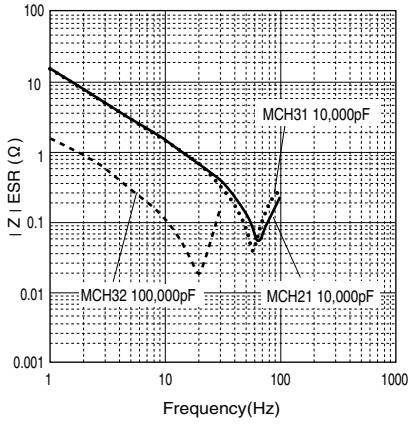
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■Characteristics

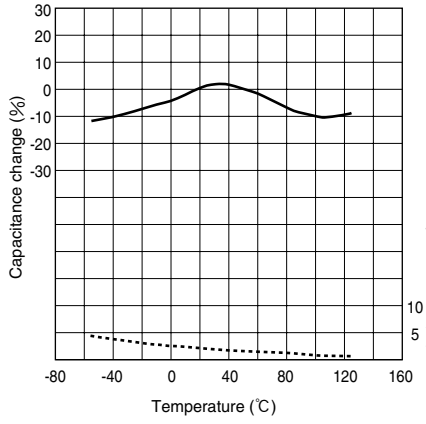
●A(CG)(C0G)(CH)Characteristics

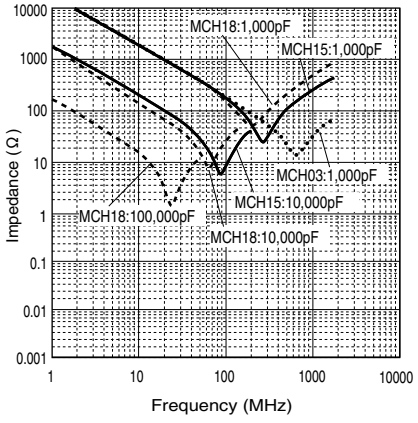


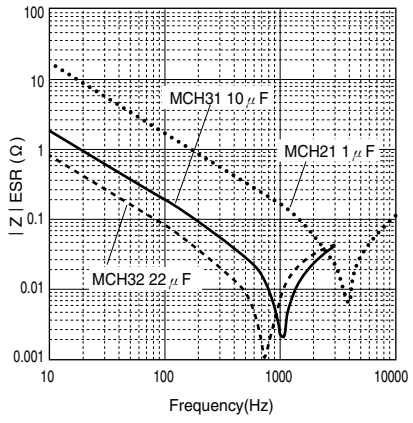




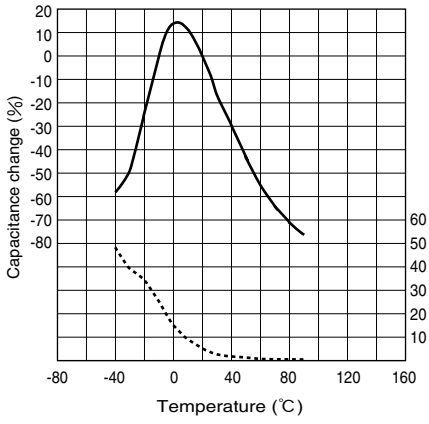
●CN(R)(B)(X5R)(X7R)Characteristics

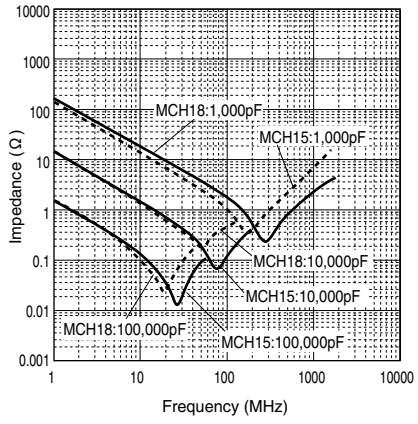


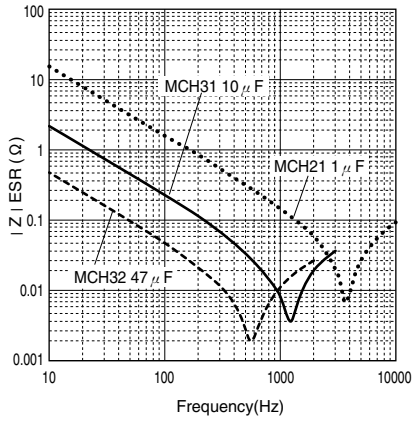




● FN(F)(Y5V)Characteristics



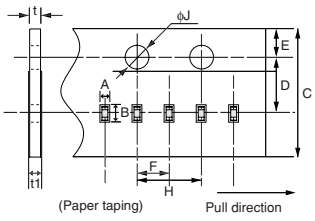




■Packing specification

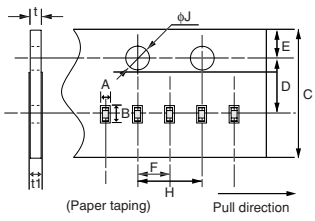
●Carrier tape dimensions (Unit:mm)

MCH03



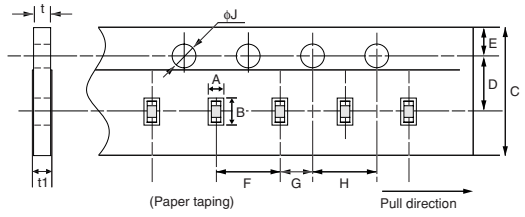
Code	A	B	C	D	E	F	H	J	t	t1
MCH03	0.37 ±0.03	0.67 ±0.03	8.0 ±0.2	3.5 ±0.05	1.75 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	0.42 ±0.02	0.5 MAX

MCH15



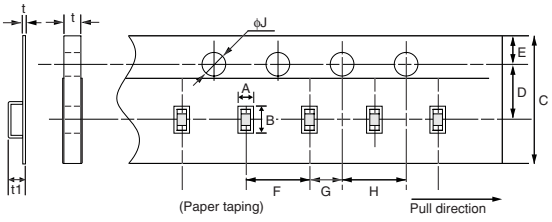
Code	A	B	C	D	E	F	H	J	t	t1
MCH15	0.65 ±0.05	1.15 ±0.05	8.0 ±0.2	3.5 ±0.05	1.75 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	0.7 ±0.05	0.8 MAX

MCH18



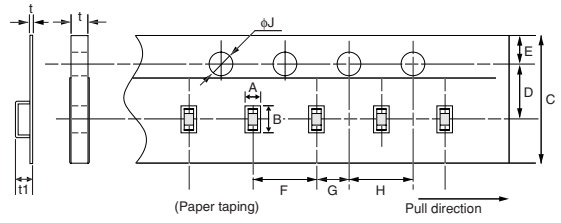
Code	A	B	C	D	E	F	G	H	J	t	t1
MCH18	1.0 ±0.05	1.8 ±0.05	8.0 ±0.3	3.5 ±0.05	1.75 ±0.1	4.0 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	1.05 MAX.	1.2 MAX.

MCH21



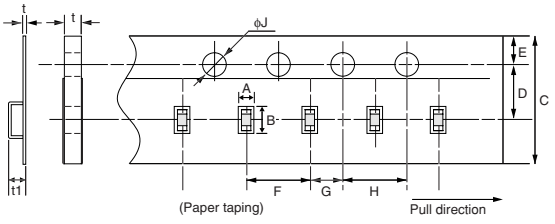
Code	A	B	C	D	E	F	G	H	J	t	t	t1
										Paper	Pulastic	
MCH21	1.5 ±0.2	2.3 ±0.2	8.0 ±0.3	3.5 ±0.05	1.75 ±0.1	4.0 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	1.1 MAX.	0.3 MAX.	2.5 MAX.

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.

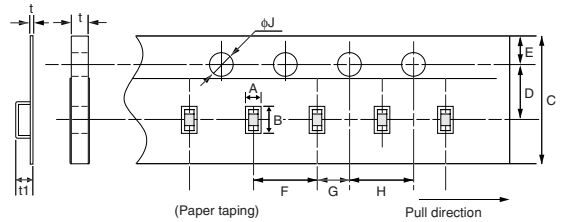
MCH32



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.)

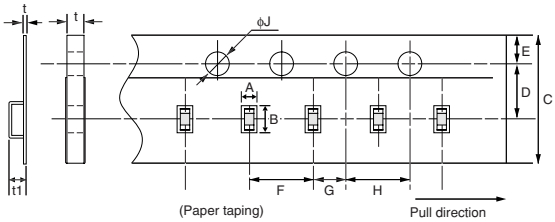
（）内は製品厚みの2.5mmに適用

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

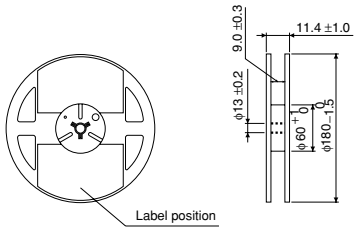


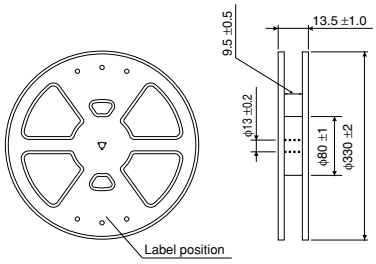
Code	A	B	C	D	E	F	G	H	J	t	t1
										Pulastic	
MCH55	5.4	6.1	12.0 ±0.3	5.5 ±0.05	1.75 ±0.1	8.0 ±0.1	2.0 ±0.05	4.0 ±0.1	ϕ1.5 +0.1 0	0.6 MAX.	6.5 MAX.

■Packing specification

●Reel dimensions (Unit:mm)

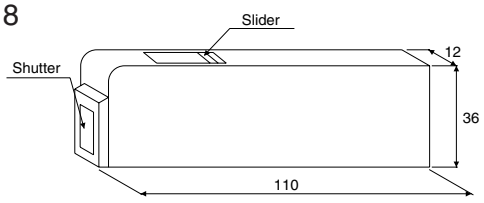
ϕ180mm Plastic reel	ϕ330mm Plastic reel
MCH03 MCH15 MCH18 MCH21 MCH31 MCH32 MCH43 MCH55	MCH15 MCH18





●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".

●The contents described herein are correct as of Sep, 2003.

●ROHM assumes no responsibility for the use of any circuits described herein, conveys no license under any patent or other right, and makes no representations that the circuits are free from patent infringement. Specifications subject to change without notice for the purpose of improvement.

The products listed in this catalog are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).
Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

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