MXC SERIES

105℃ Standard, Snap-in Terminal Type



◆FEATURES

- Load Life : 105℃ 3000 hours.
- RoHS compliance.

◆SPECIFICATIONS

Items	Characteristics	
Category Temperature Range	−40～+105℃	−25～+105℃
Rated Voltage Range	10～100V.DC	160～450V.DC
Capacitance Tolerance	±20%(20℃,120Hz)	
Leakage Current(MAX)	$I=3\sqrt{CV}$ (After 5 minutes application of rated voltage) I=(μA) Leakage Current C=(μF) Rated Capacitance V=(V) Rated Voltage	
(tanδ) Dissipation Factor(MAX)	(20℃,120Hz)	
Endurance	After applying rated voltage with rated ripple current for 3000 hours at 105℃, the capacitors shall meet the following requirements.	
Low Temperature Stability Impedance Ration(MAX)	(120Hz)	

Rated Voltage	10	16	25	35	50	63	80	100	160～400	420～450
tanδ	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.20

Capacitance Change	Within ±20% of the initial value.
Dissipation Factor	Not more than 200% of the specified value.
Leakage Current	Not more than the specified value.

Rated Voltage	10～100	160～250	315～450
Z(−25℃)/Z(20℃)	3	3	8
Z(−40℃)/Z(20℃)	12	−	−

◆MULTIPLIER FOR RIPPLE CURRENT

Frequency Coefficient

(Hz) Frequency		60(50)	120	500	1k	10k≦
Coefficient	10～100WV	0.90	1.00	1.05	1.10	1.15
	160～250WV	0.80	1.00	1.20	1.30	1.50
	315～450WV	0.80	1.00	1.20	1.25	1.40

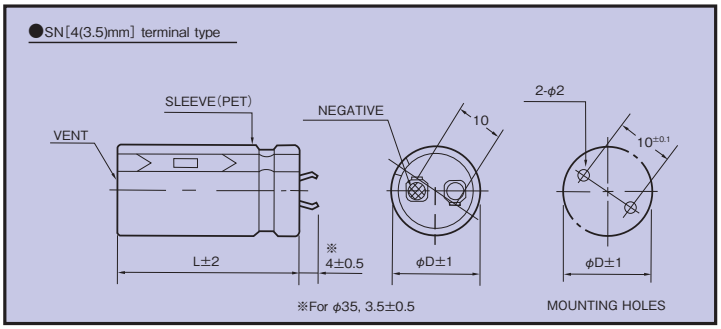
◆PART NUMBER

□□□	MXC	□□□□□	M	□□□	SN	D×L
Rated Voltage	Series	Rated Capacitance	Capacitance Tolerance	Option	Terminal Code	Case Size

◆OPTION

	Code
PET Sleeve without plate	EFC

◆DIMENSIONS (mm)



◆STANDARD SIZE

WV / Cap (μF) / φD	10								16							
	φ20		φ22		φ25		φ30		φ35		φ20		φ22		φ25		φ30		φ35	
6800	20×25	1.31									20×25	1.80								
8200	20×30	1.59									20×30	2.08	22×25	2.08						
10000	20×30	1.88	22×25	1.77							20×35	2.15	22×30	2.15						
12000	20×35	2.18	22×30	2.10	25×25	1.94					20×40	2.31	22×30	2.31	25×25	2.31				
15000	20×40	2.27	22×35	2.23	25×30	2.10							22×35	2.68	25×30	2.68				
18000			22×40	2.41	25×30	2.34	30×25	2.25					22×40	3.20	25×30	3.20	30×25	3.20		
22000			22×45	2.58	25×35	2.54	30×30	2.50					22×45	3.36	25×35	3.36	30×30	3.36		
27000			22×50	3.17	25×40	3.07	30×30	2.95					22×50	3.85	25×40	3.85	30×30	3.85		
33000					25×45	3.39	30×35	3.33	35×30	3.21					25×45	4.30	30×35	4.30	35×30	4.30
39000							30×40	3.70	35×35	3.68					25×50	4.81	30×40	4.81	35×35	4.81
47000							30×45	4.22	35×40	4.16							30×45	5.53	35×40	5.53
56000									35×45	5.00							30×50	6.00	35×45	6.00
68000																			35×50	6.40

WV / Cap (μF) / φD	25								35							
	φ20		φ22		φ25		φ30		φ35		φ20		φ22		φ25		φ30		φ35	
2700											20×25	1.29								
3300											20×30	1.57								
3900											20×30	1.78	22×25	1.78						
4700	20×25	1.65									20×35	2.02	22×30	2.02						
5600	20×30	1.85	22×25	1.85							20×40	2.13	22×35	2.13	25×25	2.13				
6800	20×35	2.11	22×30	2.11									22×40	2.41	25×30	2.41				
8200	20×40	2.34	22×30	2.34	25×25	2.34							22×45	2.85	25×35	2.85	30×25	2.85		
10000			22×35	2.65	25×30	2.65							22×50	3.05	25×40	3.05	30×30	3.05		
12000			22×40	2.81	25×30	2.81	30×25	2.81							25×45	3.37	30×35	3.37	35×30	3.37
15000			22×45	3.13	25×35	3.13	30×30	3.13							25×50	3.72	30×40	3.72	35×35	3.72
18000					25×40	3.56	30×30	3.56									30×45	4.37	35×35	4.37
22000					25×50	4.04	30×35	4.04	35×30	4.04							30×50	4.92	35×40	4.92
27000							30×40	4.74	35×35	4.74									35×50	5.30
33000							30×50	5.50	35×40	5.50										
39000									35×45	5.80										
47000									35×50	6.30										

WV / Cap (μF) / φD	50								63							
	φ20		φ22		φ25		φ30		φ35		φ20		φ22		φ25		φ30		φ35	
1200											20×25	1.20								
1500											20×30	1.47	22×25	1.47						
1800	20×25	1.39									20×35	1.58	22×30	1.58						
2200	20×30	1.60	22×25	1.60							20×40	1.82	22×35	1.82	25×25	1.82				
2700	20×35	1.73	22×30	1.73	25×25	1.73							22×35	2.11	25×30	2.11				
3300	20×40	1.97	22×35	1.97	25×30	1.97							22×45	2.33	25×35	2.33	30×25	2.33		
3900			22×40	2.22	25×30	2.22							22×50	2.55	25×40	2.55	30×30	2.55		
4700			22×45	2.43	25×35	2.43	30×25	2.43							25×45	2.97	30×35	2.97		
5600			22×50	2.75	25×40	2.75	30×30	2.75							25×50	3.22	30×35	3.22	35×30	3.22
6800					25×45	3.30	30×35	3.30									30×40	3.65	35×35	3.65
8200					25×50	3.60	30×40	3.60	35×30	3.60							30×50	4.04	35×40	4.04
10000							30×45	4.05	35×35	4.05									35×45	4.48
12000							30×50	4.56	35×40	4.56									35×50	4.75
15000									35×50	4.77										

WV / Cap (μF) / φD	80								100							
	φ20		φ22		φ25		φ30		φ35		φ20		φ22		φ25		φ30		φ35	
560											20×25	0.95								
680											20×30	1.15	22×25	1.15						
820	20×25	1.04									20×35	1.32	22×30	1.32						
1000	20×30	1.24	22×25	1.24							20×35	1.47	22×30	1.47	25×25	1.47				
1200	20×35	1.44	22×30	1.44							20×40	1.69	22×35	1.69	25×30	1.69				
1500	20×35	1.59	22×30	1.59	25×25	1.59							22×40	1.98	25×35	1.98	30×25	1.98		
1800	20×40	1.79	22×35	1.79	25×30	1.79							22×45	2.23	25×35	2.23	30×30	2.23		
2200			22×40	2.03	25×30	2.03	30×25	2.03							25×45	2.55	30×35	2.55	35×30	2.55
2700			22×45	2.39	25×35	2.39	30×30	2.39							25×50	2.89	30×40	2.89	35×30	2.89
3300					25×40	2.64	30×35	2.64									30×45	3.30	35×35	3.30
3900					25×50	2.97	30×35	2.97	35×30	2.97							30×50	3.67	35×40	3.67
4700							30×40	3.38	35×35	3.38									35×45	3.80
5600							30×45	3.80	35×40	3.80									35×50	4.05
6800									35×45	4.10										
8200									35×50	4.30										

Ripple Current (A r.m.s./120Hz, 105℃)

ケースサイズ Case Size φD×L(mm)

◆STANDARD SIZE

WV / Cap (μF) / φD	160										180									
	φ20		φ22		φ25		φ30		φ35		φ20		φ22		φ25		φ30		φ35	
270	20×25	1.10									20×25	0.93								
330	20×30	1.20	22×25	1.21							20×30	1.20	22×25	1.20						
390	20×30	1.24	22×25	1.30							20×35	1.30	22×30	1.35						
470	20×35	1.42	22×30	1.41							20×40	1.40	22×35	1.42	25×25	1.38				
560	20×40	1.57	22×35	1.54	25×25	1.51					20×45	1.55	22×40	1.60	25×30	1.55				
680	20×45	1.70	22×40	1.74	25×30	1.74	30×25	1.74					22×45	1.78	25×35	1.78	30×25	1.55		
820			22×45	2.00	25×35	2.00	30×30	2.00					22×50	2.00	25×40	2.00	30×30	2.00	35×25	2.00
1000			22×50	2.25	25×40	2.25	30×30	2.25	35×25	2.25					25×45	2.25	30×35	2.25	35×30	2.26
1200					25×45	2.49	30×35	2.49	35×30	2.45					25×50	2.54	30×40	2.52	35×30	2.60
1500							30×40	2.84	35×30	2.68							30×45	2.90	35×35	2.95
1800							30×45	3.32	35×35	3.00							30×50	3.00	35×40	3.30
2200									35×45	3.50									35×50	3.65
2700									35×50	4.00										

WV / Cap (μF) / φD	200										220									
	φ20		φ22		φ25		φ30		φ35		φ20		φ22		φ25		φ30		φ35	
180											20×25	0.86								
220	20×25	1.00									20×30	1.04	22×25	0.99						
270	20×30	1.10	22×25	1.10							20×30	1.08	22×25	1.04						
330	20×30	1.15	22×30	1.25							20×35	1.30	22×30	1.32	25×25	1.26				
390	20×35	1.25	22×30	1.31	25×25	1.31					20×40	1.45	22×35	1.42	25×30	1.45				
470	20×40	1.42	22×35	1.45	25×30	1.45					20×45	1.63	22×40	1.67	25×30	1.54	30×25	1.48		
560			22×40	1.60	25×30	1.60	30×25	1.60					22×45	1.77	25×35	1.66	30×30	1.65		
680			22×45	1.75	25×35	1.78	30×30	1.78							25×40	1.87	30×30	1.82	35×25	1.78
820			22×50	1.95	25×40	1.95	30×30	2.00							25×45	2.04	30×35	2.00	35×30	1.93
1000					25×45	2.10	30×35	2.30	35×30	2.30							30×40	2.48	35×35	2.33
1200							30×40	2.64	35×35	2.65							30×45	2.88	35×40	2.65
1500							30×50	3.08	35×40	3.08									35×45	2.96
1800									35×45	3.48									35×50	3.39
2200									35×50	3.55										

WV / Cap (μF) / φD	250										315									
	φ20		φ22		φ25		φ30		φ35		φ20		φ22		φ25		φ30		φ35	
82											20×25	0.64								
100											20×30	0.69	22×25	0.62						
120											20×30	0.75	22×25	0.75	25×25	0.76				
150											20×35	0.82	22×30	0.82	25×25	0.82				
180											20×40	0.90	22×35	0.92	25×25	0.90				
220	20×30	1.00	22×25	1.00							20×50	1.00	22×40	1.04	25×30	1.04	30×25	1.04		
270	20×35	1.10	22×30	1.15									22×45	1.16	25×35	1.15	30×25	1.15	35×25	1.15
330	20×40	1.20	22×35	1.28									22×50	1.22	25×40	1.23	30×30	1.33	35×25	1.32
390	20×45	1.35	22×40	1.49	25×30	1.35	30×25	1.49							25×45	1.40	30×35	1.47	35×30	1.47
470			22×45	1.60	25×35	1.57	30×30	1.65									30×40	1.70	35×30	1.70
560			22×50	1.72	25×40	1.80	30×30	1.80									30×45	2.05	35×35	1.90
680					25×45	1.85	30×35	2.00	35×30	2.00							30×50	2.14	35×40	2.17
820					25×50	2.10	30×40	2.18	35×35	2.30									35×45	2.20
1000							30×45	2.40	35×35	2.35										
1200									35×40	2.50										
1500									35×50	3.00										

WV / Cap (μF) / φD	350										385									
	φ20		φ22		φ25		φ30		φ35		φ20		φ22		φ25		φ30		φ35	
56											20×25	0.42								
68	20×25	0.47									20×30	0.47	22×25	0.49						
82	20×30	0.55									20×30	0.52	22×25	0.55						
100	20×30	0.60	22×25	0.69							20×35	0.60	22×30	0.66	25×25	0.66				
120	20×35	0.70	22×30	0.75	25×25	0.75					20×40	0.68	22×35	0.71	25×25	0.71				
150	20×40	0.78	22×35	0.82	25×30	0.83							22×40	0.83	25×30	0.83	30×25	0.77		
180	20×45	0.88	22×40	0.92	25×30	0.92	30×25	0.92					22×45	0.92	25×35	0.92	30×30	0.89		
220			22×45	1.05	25×35	1.05	30×30	1.02					22×50	1.03	25×40	1.03	30×30	1.01	35×25	1.03
270			22×50	1.18	25×40	1.18	30×30	1.18	35×25	1.20					25×45	1.14	30×35	1.15	35×30	1.13
330					25×45	1.30	30×35	1.35	35×30	1.22							30×40	1.32	35×30	1.35
390					25×50	1.45	30×40	1.52	35×35	1.48							30×45	1.46	35×35	1.50
470							30×45	1.65	35×35	1.70							30×50	1.72	35×40	1.79
560							30×50	1.85	35×40	1.90									35×45	1.99
680									35×45	2.00										

Ripple Current (A r.m.s./120Hz, 105℃)

Case Size φD×L(mm)

◆STANDARD SIZE

WV / Cap (μF) / φD	400										420									
	φ20		φ22		φ25		φ30		φ35		φ20		φ22		φ25		φ30		φ35	
56	20×25	0.51									20×25	0.44								
68	20×30	0.56	22×25	0.52							20×30	0.49	22×25	0.51						
82	20×30	0.64	22×25	0.64							20×35	0.54	22×30	0.65	25×25	0.65				
100	20×35	0.70	22×30	0.70	25×25	0.70					20×35	0.61	22×30	0.68	25×25	0.67				
120	20×40	0.75	22×35	0.75	25×25	0.75					20×40	0.70	22×35	0.73	25×30	0.76	30×25	0.81		
150	20×45	0.83	22×40	0.88	25×30	0.88	30×25	0.82			20×45	0.78	22×40	0.86	25×35	0.87	30×25	0.84		
180			22×45	0.98	25×35	0.98	30×30	0.95					22×45	0.96	25×35	0.95	30×30	0.97	35×25	0.91
220			22×50	1.10	25×40	1.10	30×30	1.10	35×25	1.10					25×40	1.08	30×35	1.14	35×30	1.07
270					25×45	1.21	30×35	1.22	35×30	1.22					25×50	1.38	30×35	1.20	35×35	1.29
330							30×40	1.44	35×30	1.44							30×40	1.37	35×35	1.44
390							30×45	1.55	35×35	1.60							30×45	1.50	35×40	1.63
470									35×40	1.90									35×45	1.88
560									35×45	2.12										

WV / Cap (μF) / φD	450									
	φ20		φ22		φ25		φ30		φ35	
47	20×25	0.39								
56	20×30	0.51	22×25	0.44						
68	20×35	0.56	22×30	0.53						
82	20×35	0.64	22×30	0.64	25×25	0.64				
100	20×45	0.69	22×35	0.69	25×30	0.69	30×25	0.69		
120	20×50	0.75	22×40	0.75	25×30	0.75	30×25	0.80		
150			22×45	0.88	25×35	0.88	30×30	0.88	35×25	0.75
180					25×40	0.95	30×30	1.00	35×30	0.86
220					25×45	1.10	30×35	1.12	35×30	1.05
270							30×40	1.28	35×35	1.27
330							30×50	1.45	35×40	1.45
390									35×40	1.65
470									35×50	1.85

Ripple Current (A r.m.s./120Hz, 105℃)

Case Size φD×L(mm)

◆TAPING SPECIFICATIONS

◆DIMENSIONS

Fig.1

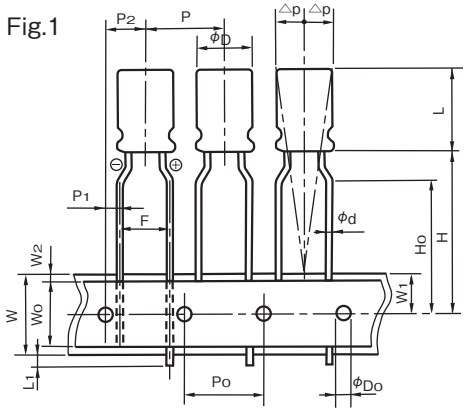
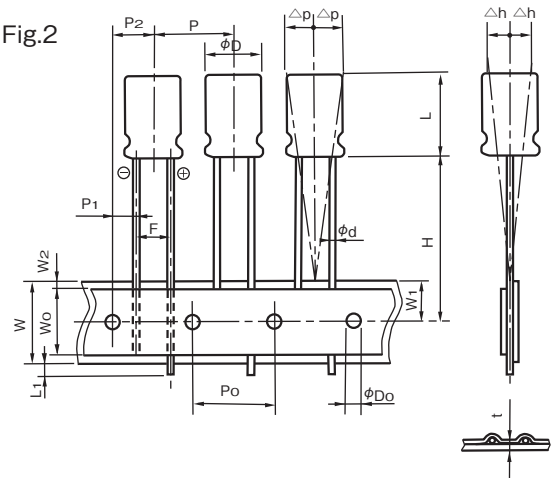


Fig.2

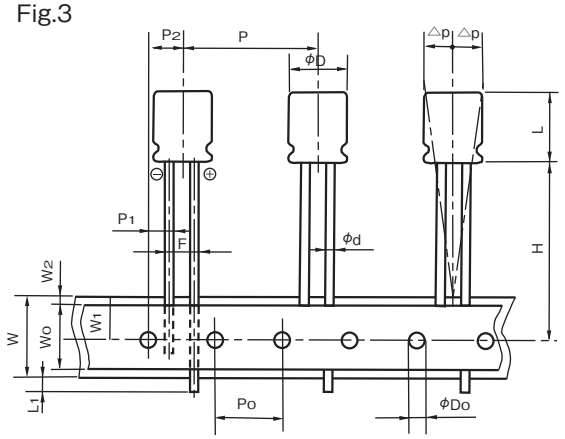


◆SPECIFICATION TABLE

(mm)

Items	Code	5mm Height		7mm or 7.5mm Height				Tolerance
		φ4～φ8		φ4～φ6.3	φ4～φ6.3	φ8		
Taping code		T5	TZ	T5	TZ	TA	T7	
Applicable Fig. No.		Fig.2	Fig.1	Fig.2	Fig.1	Fig.1	Fig.2	
Dia. of lead	φd	0.45		0.45				±0.05
Height of body	L	6.5		8.5				MAX
Distance from center to center of next body	P	12.7		12.7				±1.0
Distance from center to center of next driving hole	P_0	12.7		12.7				±0.2
Distance between center of driving hole and lead	P_1	5.1	3.85	5.1	3.85		4.6	±0.5
Distance between center of driving hole and body	P_2	6.35		6.35				±1.0
Pitch of lead	F	2.5	5.0	2.5	5.0		3.5	$^{+0.8}_{-0.2}$
Width of mounting tape	W	18.0		18.0				±0.3
Width of adhesive tape	W_0	5.0		5.0				MIN
Distance between center of driving hole and mounting tape edge	W_1	9.0		9.0				±0.5
Max. allowable distance between mounting and adhesive tape edges	W_2	1.5		1.5				MAX
Distance between center of driving hole and bottom of body	H	17.5		17.5		20.0		±0.75
Distance between center of driving hole and clinch part of lead	H_0	—	16.0	—	16.0		—	±0.5
End of lead	L_1	0.5		0.5				MAX
Dia. of driving hole	φD_0	4.0		4.0				±0.2
Off alignment of body top	△h	1.0		1.0				MAX
Off alignment of body top	△p	1.0		1.0				MAX
Sum of thickness for mounting and adhesive tape without lead dia	t	0.6		0.6				±0.3
Quantity (pcs)		2000 (φ8:1000)						

Fig.3



◆SPECIFICATION TABLE

(mm)

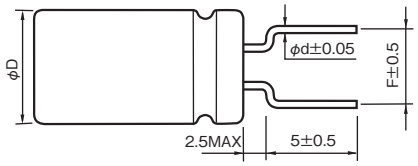
Items	Code	9mm or more Height								Tolerance
		φ5, φ6.3		φ8		φ10	φ12.5	φ16	φ18	
Taping code		T1	TA	TA	T7	T8	G4	GC		
Applicable Fig. No.		Fig.2	Fig.1	Fig.1	Fig.2	Fig.2	Fig.2	Fig.3		
Dia. of lead	φd	0.5		0.6				0.8		±0.05
Height of body	L	13.0		22.0		30.0	42.0			MAX
Distance from center to center of next body	P	12.7					15.0	30.0		±1.0
Distance from center to center of next driving hole	P_0	12.7					15.0	15.0±0.3		±0.2
Distance between center of driving hole and lead	P_1	5.1	3.85		4.6	3.85	5.0	3.75		±0.5
Distance between center of driving hole and body	P_2	6.35					7.5			±1.0
Pitch of lead	F	2.5	5.0		3.5	5.0±0.8		7.5±0.8		$^{+0.8}_{-0.2}$
Width of mounting tape	W	18.0								±0.3
Width of adhesive tape	W_0	5.0								MIN
Distance between center of driving hole and mounting tape edge	W_1	9.0								±0.5
Max. allowable distance between mounting and adhesive tape edges	W_2	1.5								MAX
Distance between center of driving hole and bottom of body	H	18.5		20.0		$18.5^{+0.75}_{-0.5}$				±0.75
Distance between center of driving hole and clinch part of lead	H_0	—	16.0		—	—				±0.5
End of lead	L_1	0.5								MAX
Dia. of driving hole	φD_0	4.0								±0.2
Off alignment of body top	△h	1.0								MAX
Off alignment of body top	△p	1.0								MAX
Sum of thickness for mounting and adhesive tape without lead dia	t	0.6								±0.3
Quantity (pcs)		2000		1000		500		250		

◆LEAD CUTTING FORMING SPECIFICATIONS

Rubycon provides lead-formed and lead-cut products to facilitate mounting on printed circuit boards, as well as products with leads specially processed (kink formed) for self supporting insertions to printed circuit boards.

·Lead forming

(φ5～φ8)
Lead forming code : FA

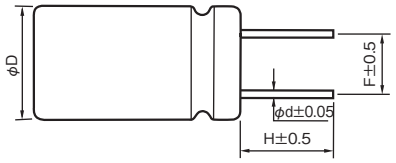


(mm)

φD	5	6.3	8
φd	0.5		0.6
F	5.0		

·Lead cutting

(φ5～φ18)
Lead cutting code : CA
CC
CE

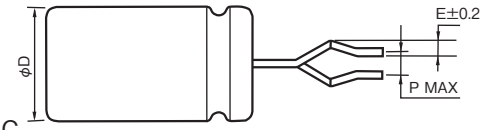


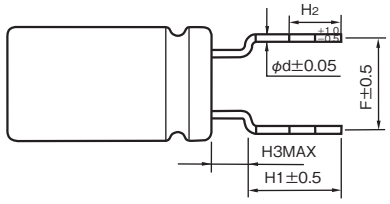
(mm)

φD	5	6.3	8	10	12.5	14.5	16	18
H	5.0 ····· (CA) 4.0 ····· (CC) 3.5 ····· (CE)							
φd	0.5		0.6			0.8		
F	2.0	2.5	3.5	5.0		7.5		

·Kinked lead forming

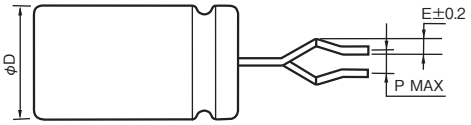
(φ5～φ8)
Kinked lead forming code : KC

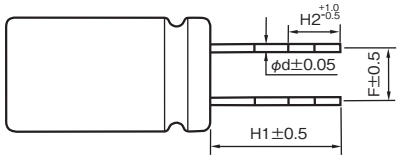




·Kinked lead cutting

(φ10～φ18)
Kinked lead cutting code : KC

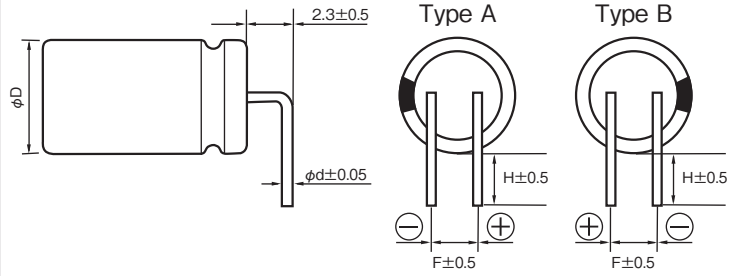




(mm)

φD	5	6.3	8	10	12.5	14.5	16	18
H1	4.5							
H2	2.8							
H3	2.5			——				
F	5.0					7.5		
P	1.0							
E	1.2			1.3				
φd	0.5		0.6			0.8		

·(φ10～φ18)／Low profile with horizontal mounting



(mm)

φD	10, 12.5				14.5, 16, 18			
Code	RI	RK	RX	SG	RI	RK	RX	SG
φd	0.6				0.8			
F	5.0				7.5			
H	4.0		3.5		4.0		3.5	
Type	A	B	A	B	A	B	A	B