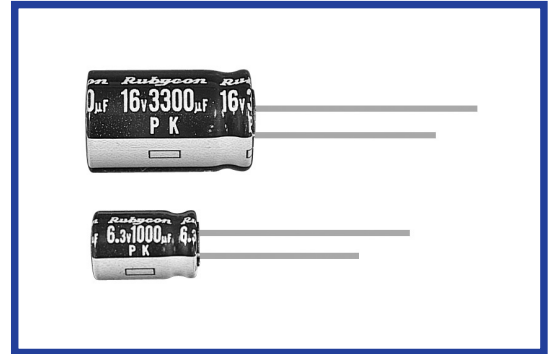


PK SERIES

85°C Standard

◆FEATURES

- Load life : 85°C 2000 hours.
- RoHS compliance.



◆SPECIFICATIONS

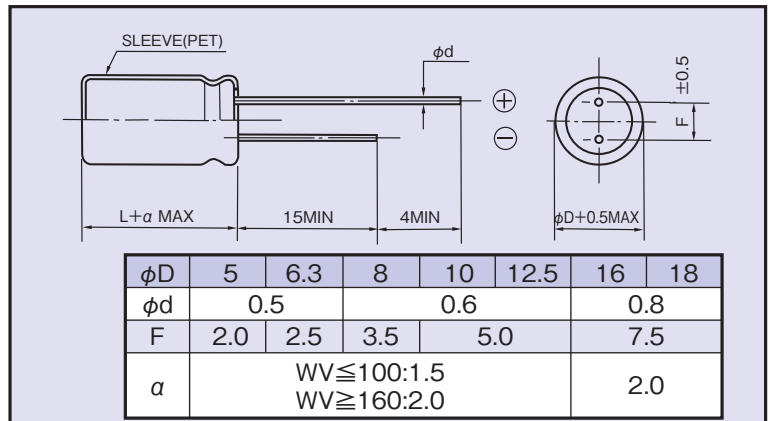
Items	Characteristics																																																	
Category Temperature Range	-40~+85°C	-25~+85°C																																																
Rated Voltage Range	6.3~400Vdc	450Vdc																																																
Capacitance Tolerance	±20%(20°C, 120Hz)																																																	
Leakage Current(MAX)	6.3~100Vdc	160~450Vdc																																																
	I=0.01CV or 3µA whichever is greater. (After 2 minutes application of rated voltage)	CV≤1000	CV>1000																																															
		I=0.1CV+40µA (1minute) I=0.03CV+15µA (5minutes)	I=0.04CV+100µA (1minute) I=0.02CV+25µA (5minutes)																																															
	I=Leakage Current(µA)	C=Capacitance(µF) V=Rated Voltage(Vdc)																																																
(tanδ) Dissipation Factor(MAX)	<table border="1"> <thead> <tr> <th>Rated Voltage (Vdc)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> <th>(20°C, 120Hz)</th> </tr> </thead> <tbody> <tr> <td>tanδ</td> <td>0.28</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> <td></td> </tr> </tbody> </table> <p>When capacitance is over 1000µF, tanδ shall be added 0.02 to the listed value with increase of every 1000µF.</p>		Rated Voltage (Vdc)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	(20°C, 120Hz)	tanδ	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.10	0.20	0.20	0.20	0.25	0.25	0.25																	
Rated Voltage (Vdc)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	(20°C, 120Hz)																																			
tanδ	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.10	0.20	0.20	0.20	0.25	0.25	0.25																																				
Endurance	After applying rated voltage with rated ripple current for 2000 hours at 85°C, the capacitors shall meet the following requirements.																																																	
	Capacitance Change	Within ±25% of the initial value.																																																
	Dissipation Factor	Not more than 200% of the specified value.																																																
Low Temperature Stability Impedance Ratio(MAX)	<table border="1"> <thead> <tr> <th>Rated Voltage (Vdc)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> <th>(120Hz)</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> <td>3</td> <td>4</td> <td>5</td> <td>5</td> <td>7</td> <td></td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>12</td> <td>10</td> <td>8</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>4</td> <td>4</td> <td>8</td> <td>8</td> <td>10</td> <td>-</td> <td></td> </tr> </tbody> </table>		Rated Voltage (Vdc)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	(120Hz)	Z(-25°C)/Z(20°C)	5	4	3	2	2	2	2	2	3	3	4	5	5	7		Z(-40°C)/Z(20°C)	12	10	8	5	4	3	3	3	4	4	8	8	10	-	
	Rated Voltage (Vdc)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	(120Hz)																																		
	Z(-25°C)/Z(20°C)	5	4	3	2	2	2	2	2	3	3	4	5	5	7																																			
Z(-40°C)/Z(20°C)	12	10	8	5	4	3	3	3	4	4	8	8	10	-																																				

◆MULTIPLIER FOR RIPPLE CURRENT

Frequency (Hz)	60(50)	120	500	1k	10k≤	
Coefficient	0.47~1µF	0.50	1.00	1.20	1.30	1.50
	2.2~4.7µF	0.65	1.00	1.20	1.30	1.50
	10~47µF	0.80	1.00	1.20	1.30	1.50
	100~1000µF	0.80	1.00	1.10	1.15	1.20
	2200~33000µF	0.80	1.00	1.05	1.10	1.15

◆DIMENSIONS

(mm)



◆OPTION

	Code
PET Sleeve	EFC

◆PART NUMBER

□□□ PK □□□□□ M □□□ □□ D×L
 Rated Voltage Series Capacitance Capacitance Tolerance Option Lead Forming Case Size

◆CHIP TYPE PART NUMBER

□□□		□□□□		□□□□□		□	□□□	D×L		
Rated Voltage		Series		Capacitance		Capacitance Tolerance	Option ※1	Case Size		
↑		↑		↑		↑	↑	↑		
Rated Voltage(Vdc)	Code	Cap.(μF)	Code	Tolerance	Code					
6.3	6.3	4.7	4R7	±20%	M	4×6.1				
10	10	220	220				8×10.5			
25	25	3300	3300				16×21.5			
100	100									
Please indicate the above information, when ordering.										
Example										
35		TZV		330		M		10×10.5		

※1 Option : Standard item is blank.

◆LEAD WIRE TYPE PART NUMBER

□□□		□□□□		□□□□□		□	□□□	□□	D×L
Rated Voltage		Series		Capacitance		Capacitance Tolerance	Option ※2	Lead Forming ※3	Case Size
↑		↑		↑		↑	↑	↑	↑
Rated Voltage(Vdc)	Code	Cap.(μF)	Code	Tolerance	Code	Option	Lead Forming	Case Size	
6.3	6.3	0.1	OR1	±20%	M	EFC etc	TA, KC, CA etc	5×11	
10	10	0.47	OR47				10×12.5		
25	25	1	1				12.5×40		
100	100	10	10						
		1000	1000						
Please indicate the above information, when ordering.									
Example									
*Long lead type		50	PX	2R2	M	EFC		5×11	
*Taping type		35	ZLJ	220	M		TA	8×16	

※2 Option : Please confirm each series page.

※3 Lead Forming : Please refer to TAPING SPECIFICATIONS and LEAD CUTTING FORMING SPECIFICATIONS.

PACKAGING SPECIFICATION
◆ LEAD WIRE TYPE

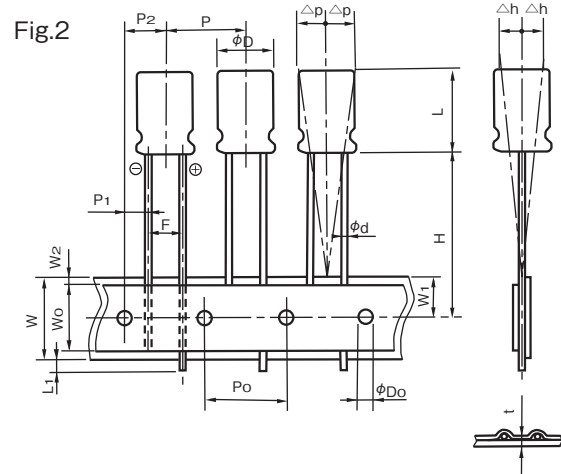
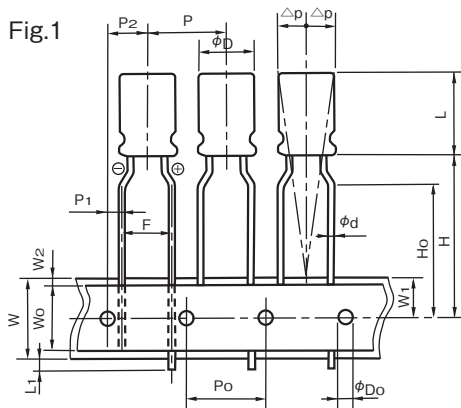
Q'ty (pcs)

SIZE (mm)	LONG LEAD		LEAD FORMING		TAPING	
	BULK PACKAGE	ALIGNED PACKAGE	BULK PACKAGE	ALIGNED PACKAGE		
φ4	4×5	5,000	—	5,000	—	2,000
	4×7	5,000	—	5,000	—	2,000
φ5	5×5	5,000	—	5,000	—	2,000
	5×7	5,000	—	5,000	—	2,000
	5×11	3,000	—	5,000	—	2,000
φ6.3	6.3×5	3,000	—	5,000	—	2,000
	6.3×7	3,000	—	5,000	—	2,000
	6.3×9	2,000	—	3,000	—	2,000
	6.3×11	2,000	—	3,000	—	2,000
	6.3×14	2,000	—	3,000	—	2,000
	6.3×25	1,000	—	1,000	—	—
	6.3×30	1,000	—	1,000	—	—
	6.3×40	1,000	—	1,000	—	—
φ8	8×5	3,000	—	5,000	—	1,000
	8×7	3,000	—	5,000	—	1,000
	8×7.5	2,000	—	2,000	—	1,000
	8×9	2,000	—	2,000	—	1,000
	8×10.8	2,000	—	2,000	—	1,000
	8×11.5	2,000	—	2,000	—	1,000
	8×16	1,000	—	1,000	—	1,000
	8×20	1,000	—	1,000	—	1,000
	8×23	1,000	—	1,000	—	1,000
	8×25	—	500	—	500	—
	8×30	—	500	—	500	—
	8×35	—	500	—	500	—
	8×40	—	500	—	500	—
	8×45	—	500	—	500	—
	8×50	—	500	—	500	—
	8×55	—	500	—	500	—
8×60	—	500	—	500	—	
φ10	10×9	1,000	—	1,000	—	500
	10×10	1,000	—	1,000	—	500
	10×12.5	1,000	—	1,000	—	500
	10×16	1,000	—	1,000	—	500
	10×20	1,000	—	1,000	—	500
	10×23	1,000	—	1,000	—	500
	10×25	1,000	500	1,000	500	500
	10×28	1,000	500	1,000	500	500
	10×30	—	500	—	500	—
	10×35	—	500	—	500	—
	10×40	—	500	—	500	—
	10×45	—	500	—	500	—
	10×50	—	500	—	500	—
	10×55	—	500	—	500	—
10×60	—	500	—	500	—	

SIZE (mm)	LONG LEAD		LEAD FORMING		TAPING	
	BULK PACKAGE	ALIGNED PACKAGE	BULK PACKAGE	ALIGNED PACKAGE		
φ12.5	12.5×16	1,000	—	1,000	500	500
	12.5×20	1,000	500	1,000	500	500
	12.5×25	1,000	500	1,000	500	500
	12.5×30	600	500	600	500	500
	12.5×35	600	500	600	500	500
	12.5×40	600	500	600	500	500
	12.5×45	—	500	—	500	—
	12.5×50	—	500	—	500	—
	12.5×55	—	500	—	500	—
	12.5×60	—	500	—	500	—
φ14.5	14.5×20	—	500	—	500	—
	14.5×25	—	500	—	500	—
	14.5×30	—	500	—	500	—
	14.5×31.5	—	500	—	500	—
	14.5×35	—	500	—	500	—
	14.5×40	—	500	—	500	—
	14.5×45	—	500	—	500	—
φ16	16×16	600	—	600	400	250
	16×20	600	200	600	400	250
	16×25	600	200	600	400	250
	16×30	—	200	—	200	250
	16×31.5	—	200	—	200	250
	16×35	—	200	—	200	250
	16×35.5	—	200	—	200	250
	16×40	—	200	—	200	250
	16×45	—	200	—	200	—
	16×50	—	200	—	200	—
φ18	18×16	500	—	—	200	250
	18×20	500	200	—	200	250
	18×25	500	200	—	200	250
	18×30	—	200	—	200	250
	18×31.5	—	200	—	200	250
	18×35	—	200	—	200	250
	18×35.5	—	200	—	200	250
	18×40	—	200	—	200	250
18×45	—	200	—	200	—	
18×50	—	200	—	200	—	

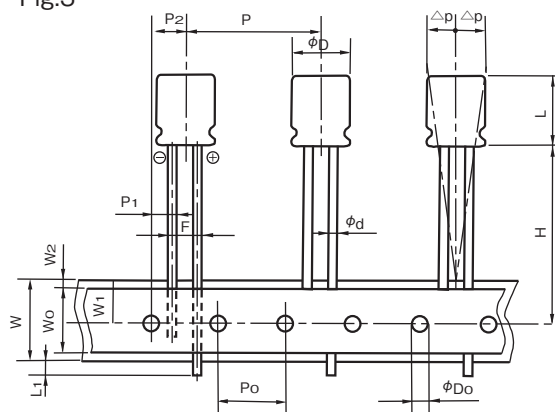
•There are some differences between actual package quantity and above list.

•For the sizes stated both bulk and aligned package, aligned package is standard for exporting carton.

◆ TAPING SPECIFICATIONS
◆ DIMENSIONS

◆ 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	Δh	1.0		1.0				MAX
Off alignment of body top	Δp	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)

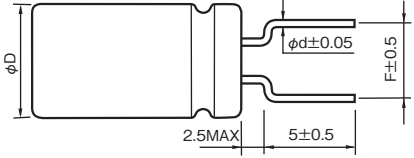
Items	Code	9mm or more Height						※ Tolerance		
		φ5, φ6.3	φ8	φ10	φ12.5	φ16	φ18			
Taping code		T1	TA	TA	T7	T8	G4	GC		
Applicable Fig. No.		Fig.2	Fig.1	Fig.1	Fig.2	Fig.2	Fig.2	Fig.3		
Dia. of lead	φd	0.5		0.6		0.8		±0.05		
Height of body	L	13.0		22.0		30.0		42.0		MAX
Distance from center to center of 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		

※For the case that tolerance is specified individually, the value shall have the priority.

◆ LEAD CUTTING FORMING SPECIFICATIONS

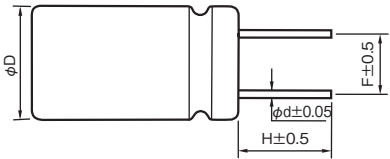
Rubycon provides lead-formed and lead-cut products to facilitate mounting on printed circuit boards, as well as products with leads specially processed (kink formed) for self supporting insertions to printed circuit boards.

•Lead forming
($\phi 5 \sim \phi 8$)
Lead forming code : FA



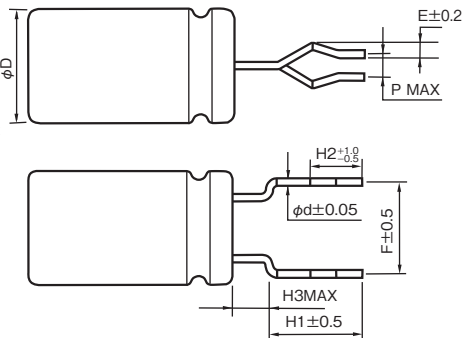
(mm)			
ϕD	5	6.3	8
ϕd	0.5		0.6
F	5.0		

•Lead cutting
($\phi 5 \sim \phi 18$)
Lead cutting code : CA
CC
CE



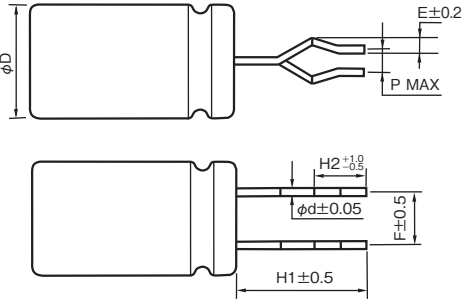
(mm)									
ϕD	5	6.3	8	10	12.5	14.5	16	18	
H	5.0 (CA)								
	4.0 (CC)								
	3.5 (CE)								
ϕd	0.5		0.6		0.8				
F	2.0	2.5	3.5	5.0	7.5				

•Kinked lead forming
($\phi 5 \sim \phi 8$)
Kinked lead forming code : KC

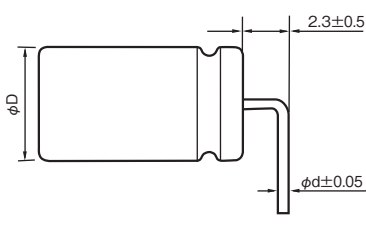


(mm)								
ϕD	5	6.3	8	10	12.5	14.5	16	18
H1	4.5							
H2	2.8							
H3	2.5		—					
F	5.0				7.5			
P	1.0							
E	1.2			1.3				
ϕd	0.5		0.6		0.8			

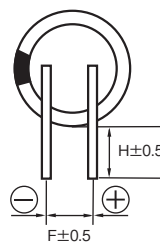
•Kinked lead cutting
($\phi 10 \sim \phi 18$)
Kinked lead cutting code : KC



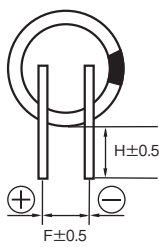
•Low profile with horizontal mounting ($\phi 10 \sim \phi 18$)



Type A



Type B



(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

HandsOn Technology

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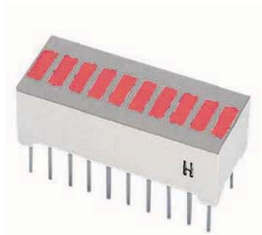
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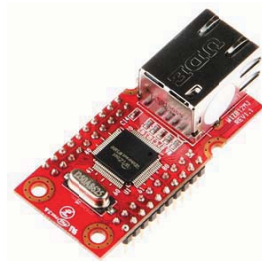
Welcome to Handsontec Store



LCD+Keyboard Shield



10-Segments LED Bar Display



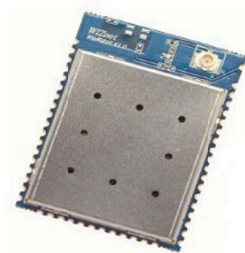
Ethernet Module



Arduino Uno



MicroSD Breakout Board



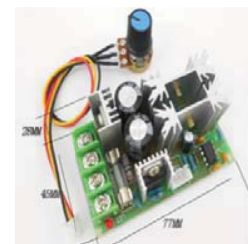
WiFi Module



20x4 LCD Display Module



Stepper Motor Driver



PWM Motor Speed Controller



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