

# Large Snap-In Electrolytic Capacitors

## HPR Series



### Features:

- Highly reliable capacitors that has characteristics of high temperature 105°C, and can withstand high ripple current
- Suitable for filter of industrial equipment, such as automatic machines, computers and switching power supplies, etc

### Specifications:

No.	Item	Performance																																																				
1	Operating Temperature Range	-40°C to+105°C	-25°C to+105°C																																																			
2	Rated Working Voltage Range	10 - 100V DC	160 - 450V DC																																																			
3	Nominal Capacitance Range	330 - 68,000μF	33 - 2,200μF																																																			
4	Capacitance Tolerance	±20% (at+20°C ,120Hz)																																																				
5	Leakage Current	I=0.02CV or 3,000(μA) max Whichever is greater after 3 minutes. I: Leakage Current (μA) C: Rated Capacitance (μF) V: Working Voltage(V)																																																				
6	Dissipation Factor(tanδ) (120Hz\+20°C)	<table border="1"> <thead> <tr> <th>W.V. μF</th> <th>10-16</th> <th>25-35</th> <th>50-63</th> <th>80-100</th> <th>160-250</th> <th>315-400</th> </tr> </thead> <tbody> <tr> <td>33-470</td> <td></td> <td></td> <td></td> <td></td> <td>0.15</td> <td>0.2</td> </tr> <tr> <td>560-3,300</td> <td>0.25</td> <td>0.2</td> <td>0.2</td> <td>0.2</td> <td>0.15</td> <td>0.2</td> </tr> <tr> <td>4,700-6,800</td> <td>0.35</td> <td>0.3</td> <td>0.3</td> <td>0.25</td> <td></td> <td></td> </tr> <tr> <td>10,000-22,000</td> <td>0.4</td> <td>0.35</td> <td>0.3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>27,000-47,000</td> <td>0.45</td> <td>0.4</td> <td>0.35</td> <td></td> <td></td> <td></td> </tr> <tr> <td>56,000-68,000</td> <td>0.5</td> <td>0.45</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> Less than the value under table				W.V. μF	10-16	25-35	50-63	80-100	160-250	315-400	33-470					0.15	0.2	560-3,300	0.25	0.2	0.2	0.2	0.15	0.2	4,700-6,800	0.35	0.3	0.3	0.25			10,000-22,000	0.4	0.35	0.3				27,000-47,000	0.45	0.4	0.35				56,000-68,000	0.5	0.45				
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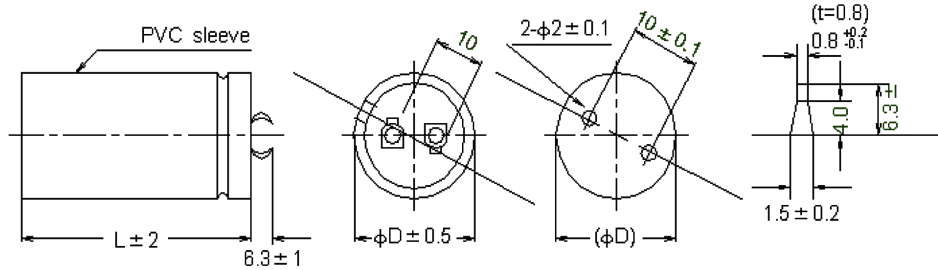
## Specifications:

8	Ripple Current	<p>Refer to standard products table (120Hz,+105°C). Correction factor for frequency.</p> <table border="1" data-bbox="592 573 1099 777"> <thead> <tr> <th>Ambient Temp.</th> <th>Multiplying Factor</th> </tr> </thead> <tbody> <tr> <td>45°C &amp; under</td> <td>2.55</td> </tr> <tr> <td>60°C</td> <td>2.25</td> </tr> <tr> <td>70°C</td> <td>1.8</td> </tr> <tr> <td>105°C</td> <td>1</td> </tr> </tbody> </table> <table border="1" data-bbox="592 797 1342 1070"> <thead> <tr> <th rowspan="2">Frequency</th> <th colspan="4">Multiplying Factor</th> </tr> <tr> <th>10-50V</th> <th>63-100V</th> <th>160-250V</th> <th>315-400V</th> </tr> </thead> <tbody> <tr> <td>60Hz</td> <td>0.9</td> <td>0.85</td> <td>0.8</td> <td>0.9</td> </tr> <tr> <td>120Hz</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>300Hz</td> <td>1.03</td> <td>1.07</td> <td>1.15</td> <td>1.1</td> </tr> <tr> <td>1kHz</td> <td>1.05</td> <td>1.13</td> <td>1.25</td> <td>1.2</td> </tr> <tr> <td>10kHz</td> <td>1.1</td> <td>1.19</td> <td>1.35</td> <td>1.3</td> </tr> </tbody> </table>	Ambient Temp.	Multiplying Factor	45°C & under	2.55	60°C	2.25	70°C	1.8	105°C	1	Frequency	Multiplying Factor				10-50V	63-100V	160-250V	315-400V	60Hz	0.9	0.85	0.8	0.9	120Hz	1	1	1	1	300Hz	1.03	1.07	1.15	1.1	1kHz	1.05	1.13	1.25	1.2	10kHz	1.1	1.19	1.35	1.3
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9	High Temperature Loading	<p>After 2000hrs. application of DC rated working voltage at +105°C, the capacitor shall meet the following limits: Post test requirements at +20°C</p> <table border="1" data-bbox="592 1317 1305 1431"> <tbody> <tr> <td>Leakage current</td> <td>≤ the Initial specified value</td> </tr> <tr> <td>Capacitance change</td> <td>≤±20% of initial measured value</td> </tr> <tr> <td>Dissipation Factor(tanδ)</td> <td>≤200% of initial specified value</td> </tr> </tbody> </table>	Leakage current	≤ the Initial specified value	Capacitance change	≤±20% of initial measured value	Dissipation Factor(tanδ)	≤200% of initial specified value																																						
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10	Shelf Life	<p>After storage for 500hrs. at +105°C with no voltage applied. Post test requirements at +20°C Same limits as high temperature loading.</p>																																												

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## Dimension:



Dimensions : Millimetres

## Case Size Table & Permissible Ripple Current

Case Size : ØDxL(mm)  
Max ripple current : A (rms)

W. V.	Capacitance (µF)	Case Size	R. C.
16 (20)	3,300	22 × 25	0.98
	4,700	22 × 25	1.2
	6,800	22 × 25	1.5
	8,200	22 × 30	2
	10,000	22 × 32	2.33
	12,000	22 × 35	2.8
	15,000	22 × 36	3.1
	18,000	25 × 35	2.7
	22,000	22 × 41	3.3
	27,000	30 × 31	3.2
	33,000	30 × 45	4.1
	39,000	30 × 50	4.6
	47,000	35 × 50	5.3
25 (32)	56,000	35 × 55	5.9
	2,200	22 × 26	0.86
	3,300	22 × 26	1.15
	4,700	22 × 26	1.5
	5,600	22 × 31	1.9
	6,800	22 × 31	2.2
	8,200	22 × 35	2.5
	10,000	25 × 31	2.5
	12,000	25 × 31	3
	15,000	30 × 36	3.7
	18,000	25 × 41	4
	22,000	30 × 45	4.1
27,000	30 × 45	4.3	
33,000	30 × 51	5.1	



# Large Snap-In Electrolytic Capacitors

## HPR Series



W. V.	Capacitance (μF)	Case Size	R. C.
35 (44)	1,500	22 × 26	1.1
	2,200	22 × 26	1.2
	3,300	22 × 26	1.6
	3,900	22 × 31	1.86
	4,700	22 × 32	2
	5,600	22 × 36	2.5
	6,800	25 × 31	2.3
	8,200	22 × 41	2.9
	10,000	25 × 32	3.2
	12,000	25 × 51	3.7
	15,000	30 × 45	4.1
	18,000	30 × 50	4.3
50 (63)	22,000	35 × 46	4.4
	1,000	22 × 26	0.7
	1,500	22 × 26	0.9
	1,800	22 × 26	1.3
	2,200	22 × 26	1.3
	2,700	22 × 31	1.6
	3,300	25 × 30	1.75
	3,900	25 × 32	2.1
	4,700	25 × 32	2.2
	5,600	25 × 35	2.28
	6,800	25 × 41	2.5
8,200	25 × 50	3	
10,000	35 × 42	3.4	
63 (79)	1,000	25 × 25	0.65
	1,200	22 × 26	0.82
	1,500	22 × 31	0.92
	2,200	25 × 26	1.2
	2,700	25 × 26	1.5
	3,300	25 × 26	1.8
	3,900	25 × 41	2.5
	4,700	25 × 41	2.8
	5,600	30 × 41	3.1
	6,800	30 × 41	3.7
	8,200	30 × 51	4.2
	10,000	30 × 51	4.8

# Large Snap-In Electrolytic Capacitors

## HPR Series



W. V.	Capacitance (μF)	Case Size	R. C.
100 (125)	330	22 × 26	0.45
	470	22 × 26	0.66
	560	22 × 26	0.8
	680	22 × 26	0.8
	820	25 × 31	1
	1,000	22 × 32	1.1
	1,200	25 × 36	1.2
	1,500	25 × 41	1.4
	1,800	25 × 41	2
	2,200	25 × 46	2.77
	2,700	35 × 37	3.4
	3,300	35 × 45	3.75
	3,900	35 × 46	4.2
	4,700	35 × 52	4.53
250 (300)	100	22 × 26	0.36
	120	22 × 26	0.37
	150	22 × 26	0.48
	180	25 × 26	0.55
	220	22 × 32	0.67
	270	22 × 32	0.8
	330	22 × 41	0.95
	390	25 × 36	1
	470	25 × 41	1.1
	560	25 × 51	1.4
	680	30 × 45	1.6
	820	35 × 45	1.6
	1,000	35 × 47	1.78
400 (450)	47	25 × 25	0.42
	56	22 × 26	0.57
	68	22 × 25	0.6
	82	22 × 25	0.69
	100	22 × 32	0.68
	120	25 × 30	0.75
	150	25 × 35	0.79
	180	25 × 35	0.93
	220	25 × 41	1
	270	25 × 46	1.1
	330	30 × 41	1.1
	390	35 × 47	1.28
	470	35 × 51	1.34



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### Part Number Table

Description	Part Number
Cap, Alu Elec, 3300µF, 16V, Snap In	MCHPR16V338M22X25
Cap, Alu Elec, 4700µF, 16V, Snap In	MCHPR16V478M22X25
Cap, Alu Elec, 6800µF, 16V, Snap In	MCHPR16V688M22X25
Cap, Alu Elec, 8200µF, 16V, Snap In	MCHPR16V828M22X30
Cap, Alu Elec, 10000µF, 16V, Snap In	MCHPR16V109M22X32
Cap, Alu Elec, 12000µF, 16V, Snap In	MCHPR16V129M22X35
Cap, Alu Elec, 15000µF, 16V, Snap In	MCHPR16V159M22X36
Cap, Alu Elec, 18000µF, 16V, Snap In	MCHPR16V189M25X35
Cap, Alu Elec, 22000µF, 16V, Snap In	MCHPR16V229M22X41
Cap, Alu Elec, 27000µF, 16V, Snap In	MCHPR16V279M30X31
Cap, Alu Elec, 33000µF, 16V, Snap In	MCHPR16V339M30X45
Cap, Alu Elec, 39000µF, 16V, Snap In	MCHPR16V399M30X50
Cap, Alu Elec, 47000µF, 16V, Snap In	MCHPR16V479M35X50
Cap, Alu Elec, 56000µF, 16V, Snap In	MCHPR16V569M35X55
Cap, Alu Elec, 2200µF, 25V, Snap In	MCHPR25V228M22X26
Cap, Alu Elec, 3300µF, 25V, Snap In	MCHPR25V338M22X26
Cap, Alu Elec, 4700µF, 25V, Snap In	MCHPR25V478M22X26
Cap, Alu Elec, 5600µF, 25V, Snap In	MCHPR25V568M22X31
Cap, Alu Elec, 6800µF, 25V, Snap In	MCHPR25V688M22X31
Cap, Alu Elec, 8200µF, 25V, Snap In	MCHPR25V828M22X35
Cap, Alu Elec, 10000µF, 25V, Snap In	MCHPR25V109M25X31
Cap, Alu Elec, 12000µF, 25V, Snap In	MCHPR25V129M25X31
Cap, Alu Elec, 15000µF, 25V, Snap In	MCHPR25V159M30X36
Cap, Alu Elec, 18000µF, 25V, Snap In	MCHPR25V189M25X41
Cap, Alu Elec, 22000µF, 25V, Snap In	MCHPR25V229M30X45
Cap, Alu Elec, 27000µF, 25V, Snap In	MCHPR25V279M30X45
Cap, Alu Elec, 33000µF, 25V, Snap In	MCHPR25V339M30X51
Cap, Alu Elec, 1500µF, 35V, Snap In	MCHPR35V158M22X26
Cap, Alu Elec, 2200µF, 35V, Snap In	MCHPR35V228M22X26
Cap, Alu Elec, 3300µF, 35V, Snap In	MCHPR35V338M22X26
Cap, Alu Elec, 3900µF, 35V, Snap In	MCHPR35V398M22X31
Cap, Alu Elec, 4700µF, 35V, Snap In	MCHPR35V478M22X32
Cap, Alu Elec, 5600µF, 35V, Snap In	MCHPR35V568M22X36
Cap, Alu Elec, 6800µF, 35V, Snap In	MCHPR35V688M25X31
Cap, Alu Elec, 8200µF, 35V, Snap In	MCHPR35V828M22X41
Cap, Alu Elec, 10000µF, 35V, Snap In	MCHPR35V109M25X32

# Large Snap-In Electrolytic Capacitors

## HPR Series



Description	Part Number
Cap, Alu Elec, 12000µF, 35V, Snap In	MCHPR35V129M25X51
Cap, Alu Elec, 15000µF, 35V, Snap In	MCHPR35V159M30X45
Cap, Alu Elec, 18000µF, 35V, Snap In	MCHPR35V189M30X50
Cap, Alu Elec, 22000µF, 35V, Snap In	MCHPR35V229M35X46
Cap, Alu Elec, 1000µF, 50V, Snap In	MCHPR50V108M22X26
Cap, Alu Elec, 1500µF, 50V, Snap In	MCHPR50V158M22X26
Cap, Alu Elec, 1800µF, 50V, Snap In	MCHPR50V188M22X26
Cap, Alu Elec, 2200µF, 50V, Snap In	MCHPR50V228M22X26
Cap, Alu Elec, 2700µF, 50V, Snap In	MCHPR50V278M22X31
Cap, Alu Elec, 3300µF, 50V, Snap In	MCHPR50V338M25X30
Cap, Alu Elec, 3900µF, 50V, Snap In	MCHPR50V398M25X32
Cap, Alu Elec, 4700µF, 50V, Snap In	MCHPR50V478M25X32
Cap, Alu Elec, 5600µF, 50V, Snap In	MCHPR50V568M25X35
Cap, Alu Elec, 6800µF, 50V, Snap In	MCHPR50V688M25X41
Cap, Alu Elec, 8200µF, 50V, Snap In	MCHPR50V828M25X50
Cap, Alu Elec, 10000µF, 50V, Snap In	MCHPR50V109M35X42
Cap, Alu Elec, 1000µF, 63V, Snap In	MCHPR63V108M22X25
Cap, Alu Elec, 1200µF, 63V, Snap In	MCHPR63V128M22X25
Cap, Alu Elec, 1500µF, 63V, Snap In	MCHPR63V158M22X31
Cap, Alu Elec, 2200µF, 63V, Snap In	MCHPR63V228M25X26
Cap, Alu Elec, 2700µF, 63V, Snap In	MCHPR63V278M25X26
Cap, Alu Elec, 3300µF, 63V, Snap In	MCHPR63V338M25X26
Cap, Alu Elec, 3900µF, 63V, Snap In	MCHPR63V398M25X41
Cap, Alu Elec, 4700µF, 63V, Snap In	MCHPR63V478M25X41
Cap, Alu Elec, 5600µF, 63V, Snap In	MCHPR63V568M30X41
Cap, Alu Elec, 6800µF, 63V, Snap In	MCHPR63V688M30X41
Cap, Alu Elec, 8200µF, 63V, Snap In	MCHPR63V828M30X51
Cap, Alu Elec, 10000µF, 63V, Snap In	MCHPR63V109M30X51
Cap, Alu Elec, 330µF, 100V, Snap In	MCHPR100V337M22X26
Cap, Alu Elec, 470µF, 100V, Snap In	MCHPR100V477M22X26
Cap, Alu Elec, 560µF, 100V, Snap In	MCHPR100V567M22X26
Cap, Alu Elec, 680µF, 100V, Snap In	MCHPR100V687M22X26
Cap, Alu Elec, 820µF, 100V, Snap In	MCHPR100V827M25X31
Cap, Alu Elec, 1000µF, 100V, Snap In	MCHPR100V108M22X32
Cap, Alu Elec, 1200µF, 100V, Snap In	MCHPR100V128M25X36
Cap, Alu Elec, 1500µF, 100V, Snap In	MCHPR100V158M25X41

# Large Snap-In Electrolytic Capacitors

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Description	Part Number
Cap, Alu Elec, 1800µF, 100V, Snap In	MCHPR100V188M25X41
Cap, Alu Elec, 2200µF, 100V, Snap In	MCHPR100V228M25X46
Cap, Alu Elec, 2700µF, 100V, Snap In	MCHPR100V278M35X37
Cap, Alu Elec, 3300µF, 100V, Snap In	MCHPR100V338M35X45
Cap, Alu Elec, 3900µF, 100V, Snap In	MCHPR100V398M35X46
Cap, Alu Elec, 4700µF, 100V, Snap In	MCHPR100V478M35X52
Cap, Alu Elec, 100µF, 250V, Snap In	MCHPR250V107M22X25
Cap, Alu Elec, 120µF, 250V, Snap In	MCHPR250V127M22X25
Cap, Alu Elec, 150µF, 250V, Snap In	MCHPR250V157M22X26
Cap, Alu Elec, 180µF, 250V, Snap In	MCHPR250V187M25X26
Cap, Alu Elec, 220µF, 250V, Snap In	MCHPR250V227M22X32
Cap, Alu Elec, 270µF, 250V, Snap In	MCHPR250V277M22X32
Cap, Alu Elec, 330µF, 250V, Snap In	MCHPR250V337M22X41
Cap, Alu Elec, 390µF, 250V, Snap In	MCHPR250V397M25X36
Cap, Alu Elec, 470µF, 250V, Snap In	MCHPR250V477M25X41
Cap, Alu Elec, 560µF, 250V, Snap In	MCHPR250V567M25X51
Cap, Alu Elec, 680µF, 250V, Snap In	MCHPR250V687M30X45
Cap, Alu Elec, 820µF, 250V, Snap In	MCHPR250V827M35X45
Cap, Alu Elec, 1000µF, 250V, Snap In	MCHPR250V108M35X47
Cap, Alu Elec, 47µF, 400V, Snap In	MCHPR400V476M22X25
Cap, Alu Elec, 56µF, 400V, Snap In	MCHPR400V566M22X25
Cap, Alu Elec, 68µF, 400V, Snap In	MCHPR400V686M22X25
Cap, Alu Elec, 82µF, 400V, Snap In	MCHPR400V826M25X25
Cap, Alu Elec, 100µF, 400V, Snap In	MCHPR400V107M22X32
Cap, Alu Elec, 120µF, 400V, Snap In	MCHPR400V127M25X30
Cap, Alu Elec, 150µF, 400V, Snap In	MCHPR400V157M25X35
Cap, Alu Elec, 180µF, 400V, Snap In	MCHPR400V187M25X35
Cap, Alu Elec, 220µF, 400V, Snap In	MCHPR400V227M25X41
Cap, Alu Elec, 270µF, 400V, Snap In	MCHPR400V277M25X46
Cap, Alu Elec, 330µF, 400V, Snap In	MCHPR400V337M30X41
Cap, Alu Elec, 390µF, 400V, Snap In	MCHPR400V397M35X47
Cap, Alu Elec, 470µF, 400V, Snap In	MCHPR400V477M35X51

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