

HP series

Load life of 5,000 hours application of ripple current at +105 C.

耐高紋波電流105 C，5,000小時長壽命。



HP

SPECIFICATIONS

Items 項目	Characteristics 特性																																																																																																												
Capacitance Tolerance 靜電容量誤差	± 20% (120Hz, 20 C)																																																																																																												
Operating Temperature Range 適用溫度範圍	-40 ~ +105 C (10~100V), -25 ~ +105 C (160~450V)																																																																																																												
Rated Voltage Range 工作電壓範圍	10 ~ 450V																																																																																																												
Rated Capacitance Range 容量範圍	220 ~ 1,000,000 F																																																																																																												
Leakage Current 洩漏電流	After 5 minutes, application of rated voltage; leakage current is not than $I \leq 3\sqrt{CV}$ (A) or 5mA, whichever is smaller.																																																																																																												
Dissipation Factor 散逸因素 (tan)	Measurement Frequency: 120Hz, Temperature: 20 C																																																																																																												
	tan (Max)		<table border="1"> <thead> <tr> <th rowspan="2">L</th> <th colspan="12">V</th> </tr> <tr> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> <th>160~250</th> <th>250~450</th> </tr> </thead> <tbody> <tr> <td>35</td> <td>100~120</td> <td>0.65</td> <td>0.45</td> <td>0.40</td> <td>0.30</td> <td>0.25</td> <td>0.25</td> <td>0.20</td> <td>0.12</td> <td>0.15</td> <td>0.20</td> </tr> <tr> <td>51</td> <td>100~140</td> <td>0.90</td> <td>0.60</td> <td>0.50</td> <td>0.40</td> <td>0.25</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.15</td> <td>0.20</td> </tr> <tr> <td>64</td> <td>120~190</td> <td>1.20</td> <td>0.80</td> <td>0.70</td> <td>0.50</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> </tr> <tr> <td>76</td> <td>120~190</td> <td>2.00</td> <td>1.20</td> <td>0.90</td> <td>0.70</td> <td>0.55</td> <td>0.50</td> <td>0.35</td> <td>0.30</td> <td>0.20</td> <td>0.20</td> </tr> <tr> <td>90</td> <td>150~190</td> <td>2.40</td> <td>2.00</td> <td>1.50</td> <td>1.00</td> <td>0.75</td> <td>0.60</td> <td>0.40</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> </tr> <tr> <td>100</td> <td>220</td> <td>2.00</td> <td>2.00</td> <td>1.50</td> <td>1.00</td> <td>0.75</td> <td>0.60</td> <td>0.40</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> </tr> </tbody> </table>												L	V												10	16	25	35	50	63	80	100	160~250	250~450	35	100~120	0.65	0.45	0.40	0.30	0.25	0.25	0.20	0.12	0.15	0.20	51	100~140	0.90	0.60	0.50	0.40	0.25	0.25	0.20	0.15	0.15	0.20	64	120~190	1.20	0.80	0.70	0.50	0.35	0.30	0.25	0.20	0.20	0.20	76	120~190	2.00	1.20	0.90	0.70	0.55	0.50	0.35	0.30	0.20	0.20	90	150~190	2.40	2.00	1.50	1.00	0.75	0.60	0.40	0.30	0.25	0.20	100	220	2.00	2.00	1.50	1.00	0.75	0.60	0.40	0.30	0.25	0.20
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Low Temperature Stability 低溫特性	Measurement Frequency: 120Hz.																																																																																																												
Impedance Ratio (Max) 阻抗比率 (最大值)	Rated Voltage (V)	10~100						160~450																																																																																																					
	Z (-25 C) / Z (20 C)	-						8																																																																																																					
	Z (-40 C) / Z (20 C)	12						-																																																																																																					
Load Life 負荷壽命	5,000hours, (10~250V, 2,000hours), with application of working voltage at 105 C																																																																																																												
	Capacitance Change	Within ± 20% of Initial Value																																																																																																											
	tan	300% or less of Initial Specified Value																																																																																																											
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Shelf Life 放置壽命	1,000hours, no voltage applied, at 105 C . After Test: U_R to be applied for 30 minutes, 24 to 48hours before measurement.																																																																																																												
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Standards 參照標準	JIS C 5141 and JIS C 5102																																																																																																												

PERMISSIBLE RIPPLE CURRENT

Temperature Coefficient

TEMP (C)	60	70	85	105
Coefficient	1.80	1.60	1.35	1.00

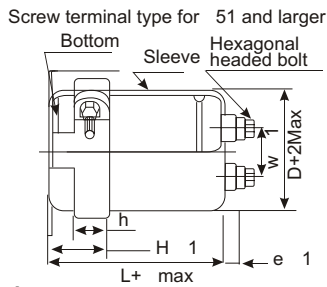
Frequency Coefficient

Working Voltage (V)	Frequency (Hz)				
	60	120	360	1K	≥ 10K
10 ~ 100	0.90	1.00	1.08	1.15	1.15
160 ~ 250	0.88	1.00	1.08	1.15	1.20
250 ~ 450	0.82	1.00	1.20	1.35	1.40

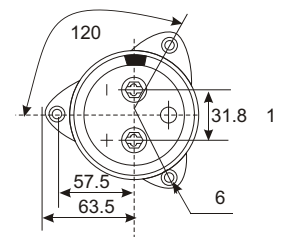
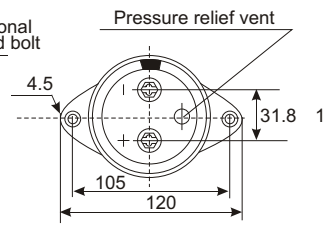
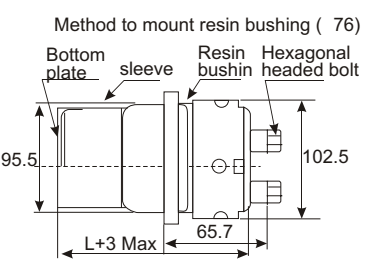
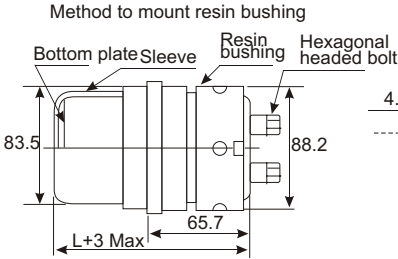
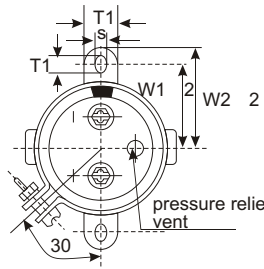
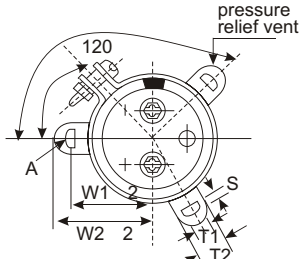
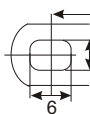
HP series

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DIMENSIONS (mm)



A 3-leg brackets for 90 capacitors have different hole shapes from the ordinary ones as illustrated below.



DIMENSIONS OF TERMINAL PITCH(W) AND LENGTH(L)

mm

D	W	L	a
51	22.0	6	3
64	28.6	6	3
76	31.8	6	3
90	31.8	6	3
100	41.5	10	4

DIMENSIONS OF MOUNTING BRACKET

mm

Cap (F)	Leg shape	3-Legs					2-Legs				
		D	51	64	76	90	100	51	64	76	90
	W1		32.5	38	44.5	50.8	56.3	33.2	40.5	46.5	53
	W2		38.5	43	49.2	57	62	40	46.5	53	59
	T1		7.5	8.0	7.0	7.0	8.0	6.0	6.0	6.0	6.0
	T2		12	14	14	16	16	14	14	14	14
	S		5.0	5.0	5.0	5.0	5.0	4.5	4.5	4.5	4.5
			60	60	60	60	60	30	30	30	30
	H		20	25	30	35	36	25	35	35	35
	h		155	20	24	20	30	15	20	20	20

STANDARD RATINGS

DxL (mm); R.C.: (A rms) at 105 C, 120Hz.

Cap (F)	WV(V)	10		16		25		35	
		Item	D x L	R.C.	D x L	R.C.	D x L	R.C.	D x L
10000								35 x 100	4.3
15000								35 x 100	5.0
22000						35 x 100	4.4	35 x 120	5.2
33000		35 x 80	4.7	35 x 80	4.8	35 x 120	6.0	35 x 100	7.0
47000		35 x 100	6.0	35 x 100	5.0	35 x 100	8.0	35 x 120	8.0
68000		51 x 80	6.5	51 x 80	6.5	35 x 140	10.0	35 x 140	12.0
100000		51 x 100	8.2	51 x 100	7.0	35 x 120	11.0	64 x 140	13.2
150000		51 x 120	10.2	51 x 120	9.4	64 x 140	13.5	76 x 150	15.0
220000		64 x 120	13.0	64 x 120	10.5	76 x 150	16.5	90 x 150	17.1
330000		76 x 120	15.2	76 x 120	14.0	90 x 150	20.2	90 x 190	21.0
470000		90 x 140	16.0	90 x 140	20.2	90 x 190	22.0		
680000		90 x 170	18.0	90 x 170	22.0				
1000000		90 x 180	20.0	90 x 190	23.5				

HP series

STANDARD RATINGS

DxL (mm); R.C.: (A rms) at 105 C, 120Hz.

Cap (F)	WV (V) Item	50		63		80		100	
		D x L	R.C.	D x L	R.C.	D x L	R.C.	D x L	R.C.
2200								35 x 100	2.0
3300								35 x 100	3.0
4700						35 x 100	3.1	35 x 120	3.4
6800						35 x 120	3.4	51 x 100	5.0
10000		35 x 100	4.5	35 x 120	4.5	51 x 100	5.0	51 x 120	6.2
15000		35 x 120	5.2	35 x 100	5.5	51 x 120	6.0	64 x 120	7.4
22000		51 x 100	6.0	51 x 120	6.5	64 x 120	8.0	76 x 120	9.5
33000		51 x 140	7.5	51 x 120	9.0	76 x 120	9.5	76 x 150	12.3
47000		64 x 120	9.5	64 x 140	11.0	76 x 150	13.0	90 x 150	16.5
68000		64 x 140	12.5	76 x 150	13.2	90 x 150	16.5	90 x 190	18.0
100000		76 x 150	16.5	90 x 150	17.3	90 x 190	18.2	100 x 220	20.2
150000		90 x 150	19.5	90 x 190	20.5	100 x 220	21.2		
220000		90 x 190	21.5	100 x 220	23.2				
330000		100 x 220	24.0						

Cap (F)	WV (V) Item	160		200		250	
		D x L	R.C.	D x L	R.C.	D x L	R.C.
680						35 x 100	1.4
1000		35 x 100	1.6	35 x 100	1.7	35 x 120	1.9
1500		35 x 100	2.1	35 x 120	2.3	51 x 100	2.4
2200		35 x 120	2.7	51 x 100	2.9	51 x 120	3.2
3300		51 x 100	3.8	51 x 120	3.9	64 x 120	4.3
4700		51 x 120	4.5	64 x 120	5.1	64 x 140	5.9
6800		64 x 120	6.8	64 x 140	7.0	76 x 150	7.1
10000		64 x 150	7.8	76 x 150	8.2	90 x 150	9.6
15000		76 x 150	9.8	76 x 150	10.4	90 x 190	12.7
22000		76 x 150	12.5	90 x 150	15.1		
33000		90 x 150	13.4				

Cap (F)	WV (V) Item	350		400		450	
		D x L	R.C.	D x L	R.C.	D x L	R.C.
220				35 x 100	1.2	35 x 100	1.4
330		35 x 100	2.0	35 x 100	2.0	35 x 120	2.0
470		35 x 100	2.4	35 x 120	3.0	51 x 100	3.0
680		51 x 100	4.0	51 x 100	4.0	51 x 120	4.0
1000		51 x 100	6.2	51 x 100	6.2	51 x 120	6.5
1500		51 x 120	8.2	51 x 140	9.0	51 x 140	9.0
2200		51 x 140	10.6	64 x 120	11.2	64 x 120	11.4
2700		64 x 120	12.2	64 x 120	13.0	64 x 140 76 x 120	13.4 14.1
3300		64 x 120	14.0	64 x 140	15.0	64 x 170 76 x 150	16.2 17.0
3900		64 x 140	16.4	64 x 170 76 x 120	17.5 18.0	64 x 190	18.0
4700		64 x 170 76 x 150	19.4 19.3	64 x 190 76 x 150	20.3 20.0	76 x 170	21.3
5600		76 x 150	22.0	76 x 170	23.3	76 x 190 90 x 170	26.0 24.0
6800		76 x 170	26.0	76 x 190 90 x 170	27.2 26.5	90 x 190	28.0
8200		76 x 170 90 x 150	30.0 29.0	90 x 190	29.5		
10000		90 x 170	32.0				