

HP series 105°C 2000hours

- Withstand high temperature for General purposes
- Endurance:105°C 2000 HRS
- ROHS compliant

■SPECIFICATIONS

Item	Performance Characteristics																																	
Operating Temperature Range	-40~105°C (10V~100V) -25~105°C (160V~450V)																																	
Rated Voltage Range	10~450V																																	
Capacitance Range	56~56000uF																																	
Capacitance Tolerance	±20% at 120Hz,20°C																																	
Leakage Current (MAX)	After 5 minutes at 20°C application of rated voltage,current is not more than 0.01CV or 1.5mA whichever is smaller. I=Leakage Current (uA) , C=Nominal Capacitance (uF) , V=Rated Voltage (V)																																	
Dissipation Factor (tan δ)	<table border="1"> <thead> <tr> <th>Rated voltage(V)</th> <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>160~450</th> <th>20°C 120Hz</th> </tr> </thead> <tbody> <tr> <td>Tan δ</td> <td>0.55</td> <td>0.50</td> <td>0.45</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td></td> </tr> </tbody> </table>	Rated voltage(V)	10	16	25	35	50	63	80	100	160~450	20°C 120Hz	Tan δ	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15												
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Tan δ	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15																									
Low Temperature Stability Impedance Ratio	<p>Measurement frequency:120Hz</p> <table border="1"> <thead> <tr> <th>Rated voltage(V)</th> <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>160~400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C) / Z (+20°C)</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>4</td> <td>8</td> </tr> <tr> <td>Z(-40°C) / Z (+20°C)</td> <td>15</td> <td>15</td> <td>10</td> <td>8</td> <td>6</td> <td>6</td> <td>5</td> <td>5</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Rated voltage(V)	10	16	25	35	50	63	80	100	160~400	450	Z(-25°C) / Z (+20°C)	4	4	3	3	2	2	2	2	4	8	Z(-40°C) / Z (+20°C)	15	15	10	8	6	6	5	5	-	-
Rated voltage(V)	10	16	25	35	50	63	80	100	160~400	450																								
Z(-25°C) / Z (+20°C)	4	4	3	3	2	2	2	2	4	8																								
Z(-40°C) / Z (+20°C)	15	15	10	8	6	6	5	5	-	-																								
Load Life	<p>After application of the rated DC voltage with rated ripple current at 105°C 2000hours the capacitors shall meet the requirement bellow</p> <table border="1"> <tbody> <tr> <td>Leakage Current</td> <td>≤The initial specified value</td> </tr> <tr> <td>Capacitance Change</td> <td>±20% of the initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>≤200% of the initial specified value</td> </tr> </tbody> </table>	Leakage Current	≤The initial specified value	Capacitance Change	±20% of the initial value	Dissipation Factor	≤200% of the initial specified value																											
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Shelf Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours at 105°C without voltage applied.</p> <table border="1"> <tbody> <tr> <td>Leakage Current</td> <td>≤200% of the initial specified value</td> </tr> <tr> <td>Capacitance Change</td> <td>±20% of the initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>≤150% of the initial specified value</td> </tr> </tbody> </table>	Leakage Current	≤200% of the initial specified value	Capacitance Change	±20% of the initial value	Dissipation Factor	≤150% of the initial specified value																											
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■MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

Frequency(Hz)	60 (50)	120	1k	10k	≥20k
Cap(uF) ≤100	0.95	1.00	1.10	1.15	1.15
160~250	0.87	1.00	1.11	1.18	1.20
≥350	0.80	1.00	1.14	1.14	1.20

Temperature coefficient

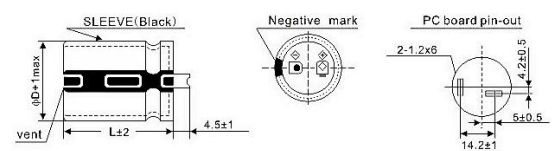
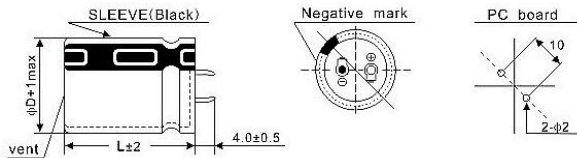
Temperature	40°C	55°C	70°C	85°C	105°C
Coefficient	2.7	2.5	2.1	1.7	1.0

HP series 105°C 2000hours

■DIMENSIONS(mm)

Terminal code:K (Φ22 ~Φ35):Standard

Terminal code:L (Φ35 ~Φ40)



■STANDARD SIZE PERMISSIBLE RIPPLE CURRENT

Size ΦD×L(mm)Ripple Current(mA 105°C,100kHz)r.m.s

W.V	CAP (uF)	SIZE	Ripple current
10	10000	22×25	1.77
		22×30	2.10
	12000	25×25	1.94
		22×35	2.23
	15000	25×30	2.10
		22×40	2.41
	18000	25×30	2.34
		30×25	2.25
		22×45	2.58
	22000	25×35	2.54
		30×30	2.50
		25×45	3.39
	33000	30×35	3.33
		35×30	3.21
30×40		3.70	
39000	35×35	3.68	
	30×45	4.22	
47000	35×40	4.16	
56000	35×45	5.00	
16	6800	22×25	1.60
		22×30	1.99
	10000	25×25	1.99
		22×35	2.28
		25×30	2.30
	12000	30×25	2.38
		22×40	2.64
		25×35	2.68
	15000	30×30	2.56
		22×45	2.98
		22×50	3.20
	18000	25×40	3.04
		30×30	3.00
		35×25	3.10
		25×45	3.40
	22000	30×35	3.39
		35×30	3.26
		25×50	3.81
		30×40	3.83
	27000	35×30	3.74
		35×35	3.93
		30×45	4.30
35×35		4.24	
33000	30×50	4.74	
	35×40	4.72	

W.V	CAP (uF)	SIZE	Ripple current
16	47000	35×45	5.27
	4700	22×25	1.56
		22×30	1.78
	6800	22×35	1.98
		25×25	1.85
		22×35	1.95
	8200	25×30	2.15
		30×25	2.18
		22×40	2.38
	10000	25×35	3.42
		22×45	2.68
		25×40	2.72
		30×30	2.65
		35×25	2.75
12000	25×40	2.65	
	30×30	2.65	
	35×25	2.75	
	25×45	3.18	
	30×35	3.15	
15000	35×30	3.22	
	25×50	3.49	
	35×30	3.49	
	30×40	3.55	
18000	30×45	4.22	
	22000	30×45	4.22
	35×35	3.98	
	27000	35×45	4.68
	33000	35×50	5.35
25	3300	22×25	1.45
		22×30	1.62
	3900	22×30	1.62
		25×25	1.75
	4700	25×25	1.75
		22×35	2.04
	5600	25×30	2.26
		30×25	2.18
		22×40	2.15
	6800	25×35	2.28
		22×40	2.15
		25×35	2.28
	8200	22×50	2.64
		25×40	2.58
		30×30	2.55
		35×25	2.75
	10000	25×45	2.88
		30×35	2.95
		25×50	3.15
		30×40	3.28
		35×30	3.20
	12000	30×45	3.72
35×35		3.65	
30×40		4.20	
15000	35×35	3.65	
	35×40	4.20	
18000	35×40	4.20	
22000	35×50	4.90	

W.V	CAP (uF)	SIZE	Ripple current
50	1800	22×25	1.35
		22×30	1.42
	2200	22×30	1.68
		25×25	1.70
	2700	22×35	1.95
		25×30	1.98
	3300	22×40	2.23
		25×35	2.30
		30×25	2.22
	3900	22×45	2.55
		30×30	2.59
		35×25	2.68
	4700	22×50	2.90
		25×40	2.82
30×35		2.95	
25×50		3.35	
5600	30×40	3.35	
	35×30	3.35	
	30×45	3.68	
6800	35×35	3.65	
	30×45	3.68	
63	1200	22×25	1.24
		22×30	1.48
	1500	22×30	1.48
		25×25	1.50
	1800	22×30	1.60
		25×25	1.50
	2200	22×35	1.72
		25×30	1.74
	2700	22×40	1.95
		25×35	1.98
		30×25	1.90
	3300	22×50	2.35
		30×40	2.75
		35×30	2.70
30×45		3.10	
3900	35×35	3.05	
	30×50	3.55	
	35×40	3.52	
4700	35×45	3.85	
	35×40	3.85	
	35×50	4.20	
	8200	22×25	1.05
80	1000	22×25	1.30
	1200	22×30	1.38
	1500	25×25	1.38
		25×0	1.60
		25×0	1.92

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STANDARD SIZE PERMISSIBLE RIPPLE CURRENT

Size $\Phi D \times L$ (mm)Ripple Current(mA 105°C,100kHz)r.m.s

W.V	CAP (uF)	SIZE	Ripple current
80	1800	22×40	1.82
		30×25	1.80
	2200	22×45	2.05
		25×35	2.01
		30×30	2.08
		35×25	2.15
	2700	35×45	2.42
		30×35	2.43
	3300	25×50	2.75
		30×40	2.78
		35×30	2.70
	3900	30×45	3.15
		35×35	3.08
	4700	30×50	3.55
		35×40	3.50
	5600	35×45	3.88
6800	35×50	4.18	
100	560	22×25	1.05
	680	22×25	1.10
	820	22×30	1.36
		25×25	1.38
	1000	22×35	1.55
		25×30	1.57
	1200	22×40	1.72
		25×35	1.75
		30×25	1.70
	1500	22×45	2.00
		25×40	2.05
		30×30	2.00
		35×25	2.05
	1800	25×45	2.25
		30×35	2.28
	2200	25×50	2.55
		30×40	2.58
		35×30	2.50
	2700	30×45	2.95
		35×35	2.88
	3300	30×50	3.30
		35×40	3.30
	3900	35×45	3.65
	4700	35×50	4.15
160	330	22×25	1.15
	390	22×30	1.45
	470	22×35	1.52
		25×25	1.54
	560	22×40	1.60
		25×30	1.75
	680	22×45	1.68
		25×35	1.80
		30×25	1.82
	820	22×50	1.80
		25×40	1.95
		30×30	1.98
		35×25	1.92
	1000	25×45	2.02
		30×35	2.15
	1200	25×50	2.10
30×40		2.20	

W.V	CAP (uF)	SIZE	Ripple current	
160	1200	35×30	2.38	
	1500	30×45	2.45	
		35×35	2.52	
		35×45	2.95	
	1800	35×50	3.08	
	2200	35×50	3.08	
180	270	22×25	1.05	
	330	22×30	1.28	
	390	25×25	1.35	
	470	22×35	1.48	
		25×30	1.60	
	560	22×40	1.62	
		25×35	1.68	
		30×25	1.67	
	680	22×50	1.75	
		25×40	1.74	
		30×30	1.72	
		35×25	1.94	
		820	25×45	1.76
		30×35	1.86	
	1000	25×50	1.90	
		30×40	2.05	
		35×30	2.15	
		30×45	2.18	
1200	35×35	2.35		
	30×50	2.35		
1500	35×40	2.55		
	35×45	2.65		
1800	35×45	2.65		
220	22×25	1.05		
270	22×30	1.18		
330	22×30	1.28		
	25×25	1.36		
	22×35	1.40		
	22×40	1.48		
	470	25×30	1.45	
		30×25	1.55	
560	22×45	1.56		
	25×35	1.68		
200	22×50	1.65		
	25×40	1.78		
	30×30	1.80		
	35×25	1.95		
	820	25×50	1.85	
	30×35	2.00		
1000	35×30	2.05		
	30×45	2.15		
	35×35	2.20		
	30×50	2.22		
1200	30×50	2.22		
	35×40	2.42		
1500	35×45	2.60		
1800	35×50	2.68		
180	22×25	0.95		
220	22×30	1.08		
	25×25	1.12		
	270	22×35	1.15	
250	22×40	1.18		
	25×30	1.28		
	30×25	1.30		
	390	22×45	1.25	

W.V	CAP (uF)	SIZE	Ripple current
250	390	25×35	1.40
		22×50	1.35
	470	25×40	1.50
		30×30	1.35
		35×25	1.38
	560	25×45	1.58
30×35		1.55	
35×30		1.55	
680	25×50	1.65	
	30×40	1.75	
820	30×45	1.85	
	35×35	1.82	
1000	30×50	1.85	
	35×40	2.02	
1200	35×45	2.08	
350	68	22×25	0.55
	100	22×30	0.69
		25×25	0.70
	120	22×35	0.72
	150	22×40	0.78
		25×30	0.85
30×25		0.82	
180	22×45	0.80	
	25×35	0.88	
	30×30	0.90	
	22×50	0.95	
220	25×40	0.97	
	35×25	0.98	
270	25×50	1.00	
	30×35	1.05	
	35×30	1.00	
330	30×45	1.15	
	35×35	1.15	
390	30×50	1.25	
	35×40	1.25	
470	35×45	1.35	
560	35×50	1.50	
400	68	22×25	0.46
	82	22×30	0.55
		25×25	0.65
	100	25×25	0.62
		22×35	0.65
	120	25×30	0.68
		30×25	0.78
	150	22×40	0.68
		25×35	0.72
	180	22×50	0.78
		25×40	0.82
		30×30	0.82
35×25		0.82	
220	25×45	0.86	
	30×35	0.95	
	25×50	0.95	
270	30×40	0.95	
	35×30	0.90	
330	40×45	1.10	
	35×35	1.15	
390	30×50	1.14	

