

LP5 Large Capacitance Aluminum Electrolytic Capacitors

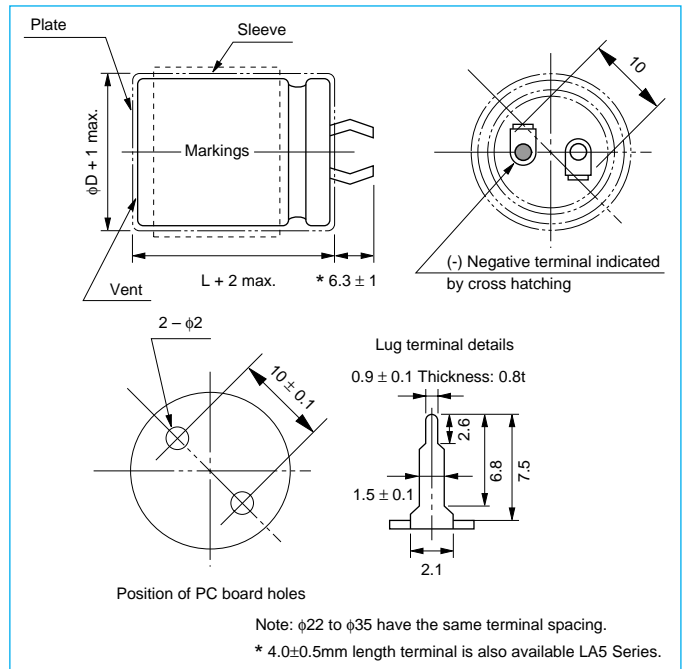
Series LP5 PC Board Plug-in Ultraminiaturized Capacitor

- Case sizes typically one to two sizes smaller than conventional ones.
- Increased in allowable ripple current by 5 to 40%.
- Capacitors with 20mm height are now offered in this series.
- As many as 4 case sizes available for the same rating.

Photo



Outline Drawing



Unit: mm

Specifications

No.	Item	Performance																								
1	Temperature range (°C)	-40 to +85 (450 V is at -25 to +85)																								
2	Leakage current	Less than 0.01 CV (μA) or 1.5 mA whichever is smaller (after five minutes), C: Capacitance (μF), V: Voltage (V)																								
3	Capacitance tolerance (%)	±20 (20°C, 120 Hz)																								
4	Tangent of loss angle (tan δ)	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63 to 100</td> </tr> <tr> <td>tan δ</td> <td>0.80</td> <td>0.60</td> <td>0.50</td> <td>0.40</td> <td>0.30</td> <td>0.20</td> </tr> </table> <table border="1"> <tr> <td rowspan="3">φD</td> <td>Rated voltage (V)</td> <td>160 to 250</td> <td>315 to 450</td> </tr> <tr> <td>22 to 30</td> <td>0.10</td> <td>0.15</td> </tr> <tr> <td>35</td> <td>0.15</td> <td>0.15</td> </tr> </table> <p>(20°C, 120 Hz)</p>	Rated voltage (V)	10	16	25	35	50	63 to 100	tan δ	0.80	0.60	0.50	0.40	0.30	0.20	φD	Rated voltage (V)	160 to 250	315 to 450	22 to 30	0.10	0.15	35	0.15	0.15
Rated voltage (V)	10	16	25	35	50	63 to 100																				
tan δ	0.80	0.60	0.50	0.40	0.30	0.20																				
φD	Rated voltage (V)	160 to 250	315 to 450																							
	22 to 30	0.10	0.15																							
	35	0.15	0.15																							
5	Stability at low temperature	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>10</td> <td>16 to 35</td> <td>50 to 100</td> <td>160 to 200</td> <td>250 to 400</td> <td>450</td> </tr> <tr> <td rowspan="2">Impedance ratio</td> <td>Z-25°C/Z+20°C</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> <td>4</td> <td>4</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>18</td> <td>15</td> <td>10</td> <td>6</td> <td>8</td> <td>—</td> </tr> </table> <p>(120 Hz)</p>	Rated voltage (V)	10	16 to 35	50 to 100	160 to 200	250 to 400	450	Impedance ratio	Z-25°C/Z+20°C	5	4	3	3	4	4	Z-40°C/Z+20°C	18	15	10	6	8	—		
Rated voltage (V)	10	16 to 35	50 to 100	160 to 200	250 to 400	450																				
Impedance ratio	Z-25°C/Z+20°C	5	4	3	3	4	4																			
	Z-40°C/Z+20°C	18	15	10	6	8	—																			
6	Endurance (85°C) (Applied ripple current)	<table border="1"> <tr> <td>Test time</td> <td>2000 hrs</td> </tr> <tr> <td>Leakage current</td> <td>Initial specified value or less</td> </tr> <tr> <td>Change in capacitance</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>tan δ</td> <td>200% or less of initial specified value</td> </tr> </table>	Test time	2000 hrs	Leakage current	Initial specified value or less	Change in capacitance	Within ±20% of initial value	tan δ	200% or less of initial specified value																
Test time	2000 hrs																									
Leakage current	Initial specified value or less																									
Change in capacitance	Within ±20% of initial value																									
tan δ	200% or less of initial specified value																									
7	Max. storage temp. (85°C)	<table border="1"> <tr> <td>Test time</td> <td>1000 hrs</td> </tr> <tr> <td>Leakage current</td> <td>Initial specified value or less</td> </tr> <tr> <td>Change in capacitance</td> <td>Within ±15% of initial value</td> </tr> <tr> <td>tan δ</td> <td>150% or less of initial specified value</td> </tr> </table> <p>Voltage application treatment.</p>	Test time	1000 hrs	Leakage current	Initial specified value or less	Change in capacitance	Within ±15% of initial value	tan δ	150% or less of initial specified value																
Test time	1000 hrs																									
Leakage current	Initial specified value or less																									
Change in capacitance	Within ±15% of initial value																									
tan δ	150% or less of initial specified value																									
8	Applicable Standards	JIS C 5101-1, 5101-4 1998 (IEC 60384-1 1992, 60384-4 1985)																								

LP5 Large Capacitance Aluminum Electrolytic Capacitors

Case size by working voltage & capacitance (in mm)

(mm)

WV(V) Cap.(µF)	10	16	25	35	50	63	80	100
560								22 x 20
680								
820								22 x 25 / 25 x 20
1000							22 x 20	
1200							25 x 20	22 x 30 25 x 25 / 30 x 20
1500						22 x 20	22 x 25	22 x 35 25 x 30 / 35 x 20
1800					22 x 20	25 x 20	22 x 30 25 x 25 / 30 x 20	22 x 40 25 x 35 / 30 x 25
2200						22 x 25	22 x 35 / 25 x 30	22 x 45 / 25 x 40 30 x 30 / 35 x 25
2700				22 x 20	22 x 25 / 25 x 20	22 x 30 25 x 25 / 30 x 20	22 x 40 30 x 25 / 35 x 20	25 x 45 / 30 x 35
3300						22 x 35	22 x 45 / 25 x 35	25 x 50 30 x 40 / 35 x 30
3900			22 x 20	22 x 25 / 25 x 20	22 x 30 25 x 25 / 30 x 20	22 x 40 / 25 x 30 30 x 25 / 35 x 20	22 x 50 / 25 x 40 30 x 30 / 35 x 25	30 x 45 / 35 x 35
4700				22 x 30	22 x 35 25 x 30 / 35 x 20	22 x 45 / 25 x 35	25 x 50 30 x 35 / 35 x 30	30 x 50 / 35 x 40
5600		22 x 20	22 x 25 / 25 x 20	25 x 25 / 30 x 20	22 x 40 25 x 35 / 30 x 25	22 x 50 / 25 x 40 30 x 30 / 35 x 25	30 x 40 / 35 x 35	35 x 45
6800				22 x 35 25 x 30 / 35 x 20	22 x 40 25 x 35 / 30 x 25	22 x 50 / 25 x 40 30 x 30 / 35 x 25	30 x 45 / 35 x 40	
8200	22 x 20	22 x 25 / 25 x 20	22 x 30 25 x 25 / 30 x 20	22 x 40 25 x 35 / 30 x 25	22 x 50 / 25 x 40 30 x 30 / 35 x 25	25 x 45 / 30 x 35	30 x 40 / 35 x 30	35 x 45
10000			22 x 35 25 x 30 / 35 x 20	22 x 40 25 x 35 / 30 x 25	22 x 50 / 25 x 40 30 x 30 / 35 x 25	25 x 50 30 x 40 / 35 x 30	30 x 45 / 35 x 40	35 x 50
12000	22 x 25 / 25 x 20	22 x 30 25 x 25 / 30 x 20	22 x 40 25 x 35 / 30 x 25	22 x 50 / 25 x 40 30 x 30 / 35 x 25	25 x 45 / 30 x 35	30 x 45 / 35 x 35	35 x 45	
15000	22 x 30	22 x 35 25 x 30 / 35 x 20	22 x 40 25 x 35 / 30 x 25	22 x 50 / 25 x 40 30 x 30 / 35 x 25	25 x 50 30 x 40 / 35 x 30	30 x 50 / 35 x 40	35 x 50	
18000	25 x 25 / 30 x 20	22 x 40 25 x 35 / 30 x 25	25 x 45 / 30 x 35	30 x 45 / 35 x 35	30 x 45 / 35 x 35	35 x 45		
22000	22 x 35 25 x 30 / 35 x 20	22 x 50 / 25 x 40 30 x 30 / 35 x 25	25 x 50 30 x 40 / 35 x 30	30 x 50 / 35 x 40				
27000	22 x 45 25 x 35 / 30 x 25	25 x 45 / 30 x 35	30 x 45 / 35 x 35	35 x 50				
33000	22 x 50 / 25 x 40 30 x 30 / 35 x 25	30 x 40 / 35 x 30	30 x 50 / 35 x 40					
39000	25 x 45 / 30 x 35	30 x 45 / 35 x 35	35 x 45					
47000	25 x 50 30 x 40 / 35 x 30	30 x 50 / 35 x 40						
56000	30 x 45 / 35 x 35	35 x 45						
68000	30 x 50 / 35 x 40							
82000	35 x 45							

WV(V) Cap.(µF)	160	180	200	250	315	350	400	450
47								22 x 20
56							22 x 20	25 x 20
68						22 x 20		22 x 25
82							22 x 25 / 25 x 20	22 x 30 25 x 25 / 30 x 20
100					22 x 20	22 x 25 / 25 x 20		22 x 35
120					25 x 20		22 x 30 25 x 25 / 30 x 20	22 x 40 / 25 x 30 30 x 25 / 35 x 20
150				22 x 20	22 x 25	22 x 30 25 x 25 / 30 x 20	22 x 35 25 x 30 / 35 x 20	22 x 45 / 25 x 35
180			22 x 20	25 x 20	22 x 30 25 x 25 / 30 x 20	22 x 35 25 x 30 / 35 x 20	22 x 40 25 x 35 / 30 x 25	22 x 50 / 25 x 40 30 x 30 / 35 x 25
220		22 x 20		22 x 25	22 x 35	22 x 40 25 x 35 / 30 x 25	22 x 45 / 25 x 40 30 x 30 / 35 x 25	25 x 50 30 x 35 / 35 x 30
270	22 x 20		22 x 25 / 25 x 20	22 x 30 25 x 25 / 30 x 20	22 x 40 / 25 x 30 30 x 25 / 35 x 20	22 x 50 / 25 x 40 30 x 30 / 35 x 20	25 x 45 / 30 x 35	30 x 40 / 35 x 35
330		22 x 25 / 25 x 20		22 x 35	22 x 45 / 25 x 35	25 x 45 / 30 x 35	25 x 50 30 x 40 / 35 x 30	30 x 50 / 35 x 40
390	22 x 25 / 25 x 20		22 x 30 25 x 25 / 30 x 20	22 x 40 / 25 x 30 30 x 25 / 35 x 20	25 x 40 30 x 30 / 35 x 25	25 x 50 30 x 40 / 35 x 30	30 x 45 / 35 x 35	35 x 45
470		22 x 30 25 x 25 / 30 x 20	22 x 35	22 x 45 / 25 x 35	25 x 50 30 x 35 / 35 x 30	30 x 45 / 35 x 35	30 x 50 / 35 x 40	35 x 50
560	22 x 30 25 x 25 / 30 x 20	22 x 35 25 x 30 / 35 x 20	22 x 40 / 25 x 30 30 x 25 / 35 x 20	22 x 50 / 25 x 40 30 x 30 / 35 x 25	30 x 40 / 35 x 35	30 x 50 / 35 x 40	35 x 45	
680	22 x 35 25 x 30 / 35 x 20	22 x 40 25 x 35 / 30 x 25	22 x 45 / 25 x 35	25 x 45 30 x 35 / 35 x 30	30 x 45 / 35 x 40	35 x 45	35 x 50	
820	22 x 40 25 x 30 / 35 x 25	22 x 45 / 25 x 40 30 x 30 / 35 x 25	22 x 50 / 25 x 40 30 x 30 / 35 x 25	30 x 40 / 35 x 35	35 x 45			
1000	22 x 50 / 25 x 40 30 x 30 / 35 x 25	25 x 45	25 x 50 30 x 35 / 35 x 30	30 x 45 / 35 x 40	35 x 50			
1200	25 x 45 / 30 x 35	25 x 50 30 x 35 / 35 x 30	30 x 40 / 35 x 35	30 x 50 / 35 x 45				
1500	25 x 50 30 x 40 / 35 x 30	30 x 45 / 35 x 35	30 x 50 / 35 x 40	35 x 50				
1800	30 x 45 / 35 x 35	30 x 50 / 35 x 40	35 x 45					
2200	30 x 50 / 35 x 40	35 x 45	35 x 50					
2700	35 x 50							

Large Capacitance

LP5

LP5 Large Capacitance Aluminum Electrolytic Capacitors

Standard Ratings

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
10 V					
LP5-10V822MS21	8200	22 x 20	0.80	0.162	2.0
LP5-10V123MS22	12000	22 x 25	0.80	0.111	2.5
LP5-10V123MS31	12000	25 x 20	0.80	0.111	2.5
LP5-10V153MS23	15000	22 x 30	0.80	0.088	3.0
LP5-10V183MS32	18000	25 x 25	0.80	0.074	3.2
LP5-10V183MS41	18000	30 x 20	0.80	0.074	3.3
LP5-10V223MS24	22000	22 x 35	0.80	0.060	3.7
LP5-10V223MS33	22000	25 x 30	0.80	0.060	3.7
LP5-10V223MS51	22000	35 x 20	0.80	0.060	3.9
LP5-10V273MS26	27000	22 x 45	0.80	0.049	4.3
LP5-10V273MS34	27000	25 x 35	0.80	0.049	4.2
LP5-10V273MS42	27000	30 x 25	0.80	0.049	4.2
LP5-10V333MS27	33000	22 x 50	0.80	0.040	4.9
LP5-10V333MS35	33000	25 x 40	0.80	0.040	4.8
LP5-10V333MS43	33000	30 x 30	0.80	0.040	4.9
LP5-10V333MS52	33000	35 x 25	0.80	0.040	5.0
LP5-10V393MS36	39000	25 x 45	0.80	0.034	5.4
LP5-10V393MS44	39000	30 x 35	0.80	0.034	5.5
LP5-10V473MS37	47000	25 x 50	0.80	0.028	6.0
LP5-10V473MS45	47000	30 x 40	0.80	0.028	6.1
LP5-10V473MS53	47000	35 x 30	0.80	0.028	6.2
LP5-10V563MS46	56000	30 x 45	0.80	0.024	6.9
LP5-10V563MS54	56000	35 x 35	0.80	0.024	7.0
LP5-10V683MS47	68000	30 x 50	0.80	0.020	7.7
LP5-10V683MS55	68000	35 x 40	0.80	0.020	7.9
LP5-10V823MS56	82000	35 x 45	0.80	0.016	8.9
16V					
LP5-16V562MS21	5600	22 x 20	0.60	0.178	1.9
LP5-16V822MS22	8200	22 x 25	0.60	0.121	2.4
LP5-16V822MS31	8200	25 x 20	0.60	0.121	2.3
LP5-16V123MS23	12000	22 x 30	0.60	0.083	3.0
LP5-16V123MS32	12000	25 x 25	0.60	0.083	2.9
LP5-16V123MS41	12000	30 x 20	0.60	0.083	3.0
LP5-16V153MS24	15000	22 x 35	0.60	0.066	3.4
LP5-16V153MS33	15000	25 x 30	0.60	0.066	3.4
LP5-16V153MS51	15000	35 x 20	0.60	0.066	3.7

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
LP5-16V183MS25	18000	22 x 40	0.60	0.055	3.9
LP5-16V183MS34	18000	25 x 35	0.60	0.055	3.9
LP5-16V183MS42	18000	30 x 25	0.60	0.055	3.9
LP5-16V223MS27	22000	22 x 50	0.60	0.045	4.5
LP5-16V223MS35	22000	25 x 40	0.60	0.045	4.4
LP5-16V223MS43	22000	30 x 30	0.60	0.045	4.4
LP5-16V223MS52	22000	35 x 25	0.60	0.045	4.6
LP5-16V273MS36	27000	25 x 45	0.60	0.037	5.0
LP5-16V273MS44	27000	30 x 35	0.60	0.037	5.1
LP5-16V333MS45	33000	30 x 40	0.60	0.030	5.8
LP5-16V333MS53	33000	35 x 30	0.60	0.030	5.8
LP5-16V393MS46	39000	30 x 45	0.60	0.026	6.4
LP5-16V393MS54	39000	35 x 35	0.60	0.026	6.5
LP5-16V473MS47	47000	30 x 50	0.60	0.021	7.2
LP5-16V473MS55	47000	35 x 40	0.60	0.021	7.4
LP5-16V563MS56	56000	35 x 45	0.60	0.018	8.2
25 V					
LP5-25V392MS21	3900	22 x 20	0.50	0.213	1.8
LP5-25V562MS22	5600	22 x 25	0.50	0.148	2.3
LP5-25V562MS31	5600	25 x 20	0.50	0.148	2.2
LP5-25V822MS23	8200	22 x 30	0.50	0.101	2.8
LP5-25V822MS32	8200	25 x 25	0.50	0.101	2.8
LP5-25V822MS41	8200	30 x 20	0.50	0.101	2.9
LP5-25V103MS24	10000	22 x 35	0.50	0.082	3.2
LP5-25V103MS33	10000	25 x 30	0.50	0.082	3.2
LP5-25V103MS51	10000	35 x 20	0.50	0.082	3.5
LP5-25V123MS25	12000	22 x 40	0.50	0.069	3.7
LP5-25V123MS34	12000	25 x 35	0.50	0.069	3.7
LP5-25V123MS42	12000	30 x 25	0.50	0.069	3.7
LP5-25V153MS27	15000	22 x 50	0.50	0.055	4.3
LP5-25V153MS35	15000	25 x 40	0.50	0.055	4.2
LP5-25V153MS43	15000	30 x 30	0.50	0.055	4.3
LP5-25V153MS52	15000	35 x 25	0.50	0.055	4.4
LP5-25V183MS36	18000	25 x 45	0.50	0.046	4.7
LP5-25V183MS44	18000	30 x 35	0.50	0.046	4.8
LP5-25V223MS37	22000	25 x 50	0.50	0.038	5.4
LP5-25V223MS45	22000	30 x 40	0.50	0.038	5.5

Note: ESR 120 Hz at 20°C
Allowable Ripple Current 120 Hz at 85°C

LP5 Large Capacitance Aluminum Electrolytic Capacitors

Standard Ratings

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
LP5-25V223MS53	22000	35 x 30	0.50	0.038	5.5
LP5-25V273MS46	27000	30 x 45	0.50	0.031	6.2
LP5-25V273MS54	27000	35 x 35	0.50	0.031	6.3
LP5-25V333MS47	33000	30 x 50	0.50	0.025	7.0
LP5-25V333MS55	33000	35 x 40	0.50	0.025	7.2
LP5-25V393MS56	39000	35 x 45	0.50	0.021	8.0
35 V					
LP5-35V272MS21	2700	22 x 20	0.40	0.246	1.6
LP5-35V392MS22	3900	22 x 25	0.40	0.170	2.1
LP5-35V392MS31	3900	25 x 20	0.40	0.170	2.0
LP5-35V472MS23	4700	22 x 30	0.40	0.141	2.4
LP5-35V562MS32	5600	25 x 25	0.40	0.118	2.6
LP5-35V562MS41	5600	30 x 20	0.40	0.118	2.6
LP5-35V682MS24	6800	22 x 35	0.40	0.098	2.9
LP5-35V682MS33	6800	25 x 30	0.40	0.098	2.9
LP5-35V682MS51	6800	35 x 20	0.40	0.098	3.1
LP5-35V822MS25	8200	22 x 40	0.40	0.081	3.3
LP5-35V822MS34	8200	25 x 35	0.40	0.081	3.3
LP5-35V822MS42	8200	30 x 25	0.40	0.081	3.3
LP5-35V103MS27	10000	22 x 50	0.40	0.066	3.9
LP5-35V103MS35	10000	25 x 40	0.40	0.066	3.8
LP5-35V103MS43	10000	30 x 30	0.40	0.066	3.8
LP5-35V103MS52	10000	35 x 25	0.40	0.066	4.0
LP5-35V123MS36	12000	25 x 45	0.40	0.055	4.3
LP5-35V123MS44	12000	30 x 35	0.40	0.055	4.3
LP5-35V153MS37	15000	25 x 50	0.40	0.044	4.9
LP5-35V153MS45	15000	30 x 40	0.40	0.044	5.0
LP5-35V153MS53	15000	35 x 30	0.40	0.044	5.0
LP5-35V183MS46	18000	30 x 45	0.40	0.037	5.6
LP5-35V183MS54	18000	35 x 35	0.40	0.037	5.7
LP5-35V223MS47	22000	30 x 50	0.40	0.030	6.3
LP5-35V223MS55	22000	35 x 40	0.40	0.030	6.4
LP5-35V273MS57	27000	35 x 50	0.40	0.025	7.4
50 V					
LP5-50V182MS21	1800	22 x 20	0.30	0.276	1.6
LP5-50V272MS22	2700	22 x 25	0.30	0.184	2.1
LP5-50V272MS31	2700	25 x 20	0.30	0.184	2.1

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
LP5-50V392MS23	3900	22 x 30	0.30	0.128	2.6
LP5-50V392MS32	3900	25 x 25	0.30	0.128	2.6
LP5-50V392MS41	3900	30 x 20	0.30	0.128	2.7
LP5-50V472MS24	4700	22 x 35	0.30	0.106	3.1
LP5-50V472MS33	4700	25 x 30	0.30	0.106	3.0
LP5-50V472MS51	4700	35 x 20	0.30	0.106	3.2
LP5-50V562MS25	5600	22 x 40	0.30	0.089	3.4
LP5-50V562MS34	5600	25 x 35	0.30	0.089	3.4
LP5-50V562MS42	5600	30 x 25	0.30	0.089	3.4
LP5-50V682MS27	6800	22 x 50	0.30	0.073	3.9
LP5-50V682MS35	6800	25 x 40	0.30	0.073	3.8
LP5-50V682MS43	6800	30 x 30	0.30	0.073	3.9
LP5-50V682MS52	6800	35 x 25	0.30	0.073	4.0
LP5-50V822MS36	8200	25 x 45	0.30	0.061	4.3
LP5-50V822MS44	8200	30 x 35	0.30	0.061	4.4
LP5-50V103MS37	10000	25 x 50	0.30	0.050	4.9
LP5-50V103MS45	10000	30 x 40	0.30	0.050	5.0
LP5-50V103MS53	10000	35 x 30	0.30	0.050	5.0
LP5-50V123MS46	12000	30 x 45	0.30	0.041	5.6
LP5-50V123MS54	12000	35 x 35	0.30	0.041	5.7
LP5-50V153MS47	15000	30 x 50	0.30	0.033	6.4
LP5-50V153MS55	15000	35 x 40	0.30	0.033	6.5
LP5-50V183MS56	18000	35 x 45	0.30	0.028	7.3
63 V					
LP5-63V152MS21	1500	22 x 20	0.20	0.221	1.7
LP5-63V182MS31	1800	25 x 20	0.20	0.184	2.0
LP5-63V222MS22	2200	22 x 25	0.20	0.151	2.2
LP5-63V272MS23	2700	22 x 30	0.20	0.123	2.5
LP5-63V272MS32	2700	25 x 25	0.20	0.123	2.0
LP5-63V272MS41	2700	30 x 20	0.20	0.123	2.6
LP5-63V332MS24	3300	22 x 35	0.20	0.100	2.9
LP5-63V392MS25	3900	22 x 40	0.20	0.085	3.3
LP5-63V392MS33	3900	25 x 30	0.20	0.085	3.2
LP5-63V392MS42	3900	30 x 25	0.20	0.085	3.3
LP5-63V392MS51	3900	35 x 20	0.20	0.085	3.4
LP5-63V472MS26	4700	22 x 45	0.20	0.071	3.7
LP5-63V472MS34	4700	25 x 35	0.20	0.071	3.6

Note: ESR 120 Hz at 20°C
Allowable Ripple Current 120 Hz at 85°C

Large Capacitance LP5

LP5 Large Capacitance Aluminum Electrolytic Capacitors

Standard Ratings

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
LP5-63V562MS27	5600	22 x 50	0.20	0.059	4.1
LP5-63V562MS35	5600	25 x 40	0.20	0.059	4.0
LP5-63V562MS43	5600	30 x 30	0.20	0.059	4.1
LP5-63V562MS52	5600	35 x 25	0.20	0.059	4.2
LP5-63V682MS36	6800	25 x 45	0.20	0.049	4.6
LP5-63V682MS44	6800	30 x 35	0.20	0.049	4.6
LP5-63V682MS53	6800	35 x 30	0.20	0.049	4.8
LP5-63V822MS45	8200	30 x 40	0.20	0.040	5.2
LP5-63V822MS54	8200	35 x 35	0.20	0.040	5.5
LP5-63V103MS46	10000	30 x 45	0.20	0.033	5.9
LP5-63V103MS55	10000	35 x 40	0.20	0.033	6.2
LP5-63V123MS56	12000	35 x 45	0.20	0.028	6.9
LP5-63V153MS57	15000	35 x 50	0.20	0.022	7.9
80 V					
LP5-80V102MS21	1000	22 x 20	0.20	0.332	1.5
LP5-80V122MS31	1200	25 x 20	0.20	0.276	1.7
LP5-80V152MS22	1500	22 x 25	0.20	0.221	1.9
LP5-80V182MS23	1800	22 x 30	0.20	0.184	2.2
LP5-80V182MS32	1800	25 x 25	0.20	0.184	2.2
LP5-80V182MS41	1800	30 x 20	0.20	0.184	2.2
LP5-80V222MS24	2200	22 x 35	0.20	0.151	2.5
LP5-80V222MS33	2200	25 x 30	0.20	0.151	2.5
LP5-80V272MS25	2700	22 x 40	0.20	0.123	2.8
LP5-80V272MS42	2700	30 x 25	0.20	0.123	2.9
LP5-80V272MS51	2700	35 x 20	0.20	0.123	3.0
LP5-80V332MS26	3300	22 x 45	0.20	0.100	3.2
LP5-80V332MS34	3300	25 x 35	0.20	0.100	3.1
LP5-80V392MS27	3900	22 x 50	0.20	0.085	3.6
LP5-80V392MS35	3900	25 x 40	0.20	0.085	3.5
LP5-80V392MS43	3900	30 x 30	0.20	0.085	3.6
LP5-80V392MS52	3900	35 x 25	0.20	0.085	3.7
LP5-80V472MS37	4700	25 x 50	0.20	0.071	4.0
LP5-80V472MS44	4700	30 x 35	0.20	0.071	4.0
LP5-80V472MS53	4700	35 x 30	0.20	0.071	4.2
LP5-80V562MS45	5600	30 x 40	0.20	0.059	4.5
LP5-80V562MS54	5600	35 x 35	0.20	0.059	4.7
LP5-80V682MS46	6800	30 x 45	0.20	0.049	5.1

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
LP5-80V682MS55	6800	35 x 40	0.20	0.049	5.3
LP5-80V822MS56	8200	35 x 45	0.20	0.040	6.0
LP5-80V103MS57	10000	35 x 50	0.20	0.033	6.8
100 V					
LP5-100V561MS21	560	22 x 20	0.20	0.592	1.3
LP5-100V821MS22	820	22 x 25	0.20	0.404	1.7
LP5-100V821MS31	820	25 x 20	0.20	0.404	1.7
LP5-100V122MS23	1200	22 x 30	0.20	0.276	2.1
LP5-100V122MS32	1200	25 x 25	0.20	0.276	2.1
LP5-100V122MS41	1200	30 x 20	0.20	0.276	2.2
LP5-100V152MS24	1500	22 x 35	0.20	0.221	2.5
LP5-100V152MS33	1500	25 x 30	0.20	0.221	2.5
LP5-100V152MS51	1500	35 x 20	0.20	0.221	2.7
LP5-100V182MS25	1800	22 x 40	0.20	0.184	2.8
LP5-100V182MS34	1800	25 x 35	0.20	0.184	2.8
LP5-100V182MS42	1800	30 x 25	0.20	0.184	2.8
LP5-100V222MS26	2200	22 x 45	0.20	0.151	3.2
LP5-100V222MS35	2200	25 x 40	0.20	0.151	3.2
LP5-100V222MS43	2200	30 x 30	0.20	0.151	3.2
LP5-100V222MS52	2200	35 x 25	0.20	0.151	3.4
LP5-100V272MS36	2700	25 x 45	0.20	0.123	3.6
LP5-100V272MS44	2700	30 x 35	0.20	0.123	3.7
LP5-100V332MS37	3300	25 x 50	0.20	0.100	4.1
LP5-100V332MS45	3300	30 x 40	0.20	0.100	4.2
LP5-100V332MS53	3300	35 x 30	0.20	0.100	4.3
LP5-100V392MS46	3900	30 x 45	0.20	0.085	4.7
LP5-100V392MS54	3900	35 x 35	0.20	0.085	4.8
LP5-100V472MS47	4700	30 x 50	0.20	0.071	5.2
LP5-100V472MS55	4700	35 x 40	0.20	0.071	5.4
LP5-100V562MS56	5600	35 x 45	0.20	0.059	6.0
160 V					
LP5-160V271MS21	270	22 x 20	0.10	0.614	1.2
LP5-160V391MS22	390	22 x 25	0.10	0.425	1.5
LP5-160V391MS31	390	25 x 20	0.10	0.425	1.5
LP5-160V561MS23	560	22 x 30	0.10	0.296	1.9
LP5-160V561MS32	560	25 x 25	0.10	0.296	1.9
LP5-160V561MS41	560	30 x 20	0.10	0.296	2.0

Note: ESR 120 Hz at 20°C
Allowable Ripple Current 120 Hz at 85°C

LP5 Large Capacitance Aluminum Electrolytic Capacitors

Standard Ratings

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
LP5-160V681MS24	680	22 x 35	0.10	0.244	2.2
LP5-160V681MS33	680	25 x 30	0.10	0.244	2.2
LP5-160V681MS51	680	35 x 20	0.15	0.366	2.3
LP5-160V821MS25	820	22 x 40	0.10	0.202	2.5
LP5-160V821MS34	820	25 x 35	0.10	0.202	2.5
LP5-160V821MS42	820	30 x 25	0.10	0.202	2.5
LP5-160V102MS27	1000	22 x 50	0.10	0.166	2.9
LP5-160V102MS35	1000	25 x 40	0.10	0.166	2.8
LP5-160V102MS43	1000	30 x 30	0.10	0.166	2.9
LP5-160V102MS52	1000	35 x 25	0.15	0.249	2.9
LP5-160V122MS36	1200	25 x 45	0.10	0.138	3.2
LP5-160V122MS44	1200	30 x 35	0.10	0.138	3.3
LP5-160V152MS37	1500	25 x 50	0.10	0.111	3.6
LP5-160V152MS45	1500	30 x 40	0.10	0.111	3.7
LP5-160V152MS53	1500	35 x 30	0.15	0.166	3.6
LP5-160V182MS46	1800	30 x 45	0.10	0.092	4.2
LP5-160V182MS54	1800	35 x 35	0.15	0.138	4.1
LP5-160V222MS47	2200	30 x 50	0.10	0.075	4.7
LP5-160V222MS55	2200	35 x 40	0.15	0.113	4.7
LP5-160V272MS57	2700	35 x 50	0.15	0.092	5.4
180 V					
LP5-180V221MS21	220	22 x 20	0.10	0.754	1.1
LP5-180V331MS22	330	22 x 25	0.10	0.503	1.4
LP5-180V331MS31	330	25 x 20	0.10	0.503	1.4
LP5-180V471MS23	470	22 x 30	0.10	0.353	1.8
LP5-180V471MS32	470	25 x 25	0.10	0.353	1.8
LP5-180V471MS41	470	30 x 20	0.10	0.353	1.8
LP5-180V561MS24	560	22 x 35	0.10	0.296	2.0
LP5-180V561MS33	560	25 x 30	0.10	0.296	2.0
LP5-180V561MS51	560	35 x 20	0.15	0.444	2.1
LP5-180V681MS25	680	22 x 40	0.10	0.244	2.3
LP5-180V681MS34	680	25 x 35	0.10	0.244	2.3
LP5-180V681MS42	680	30 x 25	0.10	0.244	2.3
LP5-180V821MS26	820	22 x 45	0.10	0.202	2.6
LP5-180V821MS35	820	25 x 40	0.10	0.202	2.6
LP5-180V821MS43	820	30 x 30	0.10	0.202	2.7
LP5-180V821MS52	820	35 x 25	0.15	0.303	2.7
LP5-180V102MS37	1000	25 x 50	0.10	0.166	3.0
LP5-180V102MS44	1000	30 x 35	0.10	0.166	3.0
LP5-180V102MS53	1000	35 x 30	0.15	0.249	3.0
LP5-180V122MS45	1200	30 x 40	0.10	0.138	3.4
LP5-180V122MS54	1200	35 x 35	0.15	0.207	3.4
LP5-180V152MS47	1500	30 x 50	0.10	0.111	4.0
LP5-180V152MS55	1500	35 x 40	0.15	0.166	3.9
LP5-180V182MS56	1800	35 x 45	0.15	0.138	4.4
LP5-180V222MS57	2200	35 x 50	0.15	0.113	5.0

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
LP5-180V102MS36	1000	25 x 45	0.10	0.166	2.9
LP5-180V122MS37	1200	25 x 50	0.10	0.138	3.3
LP5-180V122MS44	1200	30 x 35	0.10	0.138	3.3
LP5-180V122MS53	1200	35 x 30	0.15	0.207	3.3
LP5-180V152MS46	1500	30 x 45	0.10	0.111	3.9
LP5-180V152MS54	1500	35 x 35	0.15	0.166	3.8
LP5-180V182MS47	1800	30 x 50	0.10	0.092	4.3
LP5-180V182MS55	1800	35 x 40	0.15	0.138	4.3
LP5-180V222MS56	2200	35 x 45	0.15	0.113	4.8
200 V					
LP5-200V181MS21	180	22 x 20	0.10	0.922	1.0
LP5-200V271MS22	270	22 x 25	0.10	0.614	1.3
LP5-200V271MS31	270	25 x 20	0.10	0.614	1.3
LP5-200V391MS23	390	22 x 30	0.10	0.425	1.6
LP5-200V391MS32	390	25 x 25	0.10	0.425	1.6
LP5-200V391MS41	390	30 x 20	0.10	0.425	1.7
LP5-200V471MS24	470	22 x 35	0.10	0.353	1.9
LP5-200V561MS25	560	22 x 40	0.10	0.296	2.1
LP5-200V561MS33	560	25 x 30	0.10	0.296	2.0
LP5-200V561MS42	560	30 x 25	0.10	0.296	2.1
LP5-200V561MS51	560	35 x 20	0.15	0.444	2.1
LP5-200V681MS26	680	22 x 45	0.10	0.244	2.4
LP5-200V681MS34	680	25 x 35	0.10	0.244	2.3
LP5-200V821MS27	820	22 x 50	0.10	0.202	2.6
LP5-200V821MS35	820	25 x 40	0.10	0.202	2.6
LP5-200V821MS43	820	30 x 30	0.10	0.202	2.7
LP5-200V821MS52	820	35 x 25	0.15	0.303	2.7
LP5-200V102MS37	1000	25 x 50	0.10	0.166	3.0
LP5-200V102MS44	1000	30 x 35	0.10	0.166	3.0
LP5-200V102MS53	1000	35 x 30	0.15	0.249	3.0
LP5-200V122MS45	1200	30 x 40	0.10	0.138	3.4
LP5-200V122MS54	1200	35 x 35	0.15	0.207	3.4
LP5-200V152MS47	1500	30 x 50	0.10	0.111	4.0
LP5-200V152MS55	1500	35 x 40	0.15	0.166	3.9
LP5-200V182MS56	1800	35 x 45	0.15	0.138	4.4
LP5-200V222MS57	2200	35 x 50	0.15	0.113	5.0

Note: ESR 120 Hz at 20°C
Allowable Ripple Current 120 Hz at 85°C

LP5 Large Capacitance Aluminum Electrolytic Capacitors

Standard Ratings

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
250 V					
LP5-250V151MS21	150	22 x 20	0.10	1.106	0.94
LP5-250V181MS31	180	25 x 20	0.10	0.922	1.1
LP5-250V221MS22	220	22 x 25	0.10	0.754	1.2
LP5-250V271MS23	270	22 x 30	0.10	0.614	1.4
LP5-250V271MS32	270	25 x 25	0.10	0.614	1.4
LP5-250V271MS41	270	30 x 20	0.10	0.614	1.4
LP5-250V331MS24	330	22 x 35	0.10	0.503	1.6
LP5-250V391MS25	390	22 x 40	0.10	0.425	1.8
LP5-250V391MS33	390	25 x 30	0.10	0.425	1.7
LP5-250V391MS42	390	30 x 25	0.10	0.425	1.8
LP5-250V391MS51	390	35 x 20	0.15	0.638	1.8
LP5-250V471MS26	470	22 x 45	0.10	0.353	2.0
LP5-250V471MS34	470	25 x 35	0.10	0.353	2.0
LP5-250V561MS27	560	22 x 50	0.10	0.296	2.2
LP5-250V561MS35	560	25 x 40	0.10	0.296	2.2
LP5-250V561MS43	560	30 x 30	0.10	0.296	2.3
LP5-250V561MS52	560	35 x 25	0.15	0.444	2.3
LP5-250V681MS36	680	25 x 45	0.10	0.244	2.5
LP5-250V681MS44	680	30 x 35	0.10	0.244	2.6
LP5-250V681MS53	680	35 x 30	0.15	0.366	2.6
LP5-250V821MS45	820	30 x 40	0.10	0.202	2.9
LP5-250V821MS54	820	35 x 35	0.15	0.303	2.9
LP5-250V102MS46	1000	30 x 45	0.10	0.166	3.3
LP5-250V102MS55	1000	35 x 40	0.15	0.249	3.3
LP5-250V122MS47	1200	30 x 50	0.10	0.138	3.7
LP5-250V122MS56	1200	35 x 45	0.15	0.207	3.7
LP5-250V152MS57	1500	35 x 50	0.15	0.166	4.2
315 V					
LP5-315V101MS21	100	22 x 20	0.15	2.488	0.78
LP5-315V121MS31	120	25 x 20	0.15	2.073	0.88
LP5-315V151MS22	150	22 x 25	0.15	1.659	1.0
LP5-315V181MS23	180	22 x 30	0.15	1.382	1.1
LP5-315V181MS32	180	25 x 25	0.15	1.382	1.1
LP5-315V181MS41	180	30 x 20	0.15	1.382	1.2
LP5-315V221MS24	220	22 x 35	0.15	1.131	1.3
LP5-315V271MS25	270	22 x 40	0.15	0.922	1.5

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
LP5-315V271MS33	270	25 x 30	0.15	0.922	1.4
LP5-315V271MS42	270	30 x 25	0.15	0.922	1.5
LP5-315V271MS51	270	35 x 20	0.15	0.922	1.5
LP5-315V331MS26	330	22 x 45	0.15	0.754	1.7
LP5-315V331MS34	330	25 x 35	0.15	0.754	1.7
LP5-315V391MS35	390	25 x 40	0.15	0.638	1.8
LP5-315V391MS43	390	30 x 30	0.15	0.638	1.9
LP5-315V391MS52	390	35 x 25	0.15	0.638	1.9
LP5-315V471MS37	470	25 x 50	0.15	0.529	2.1
LP5-315V471MS44	470	30 x 35	0.15	0.529	2.1
LP5-315V471MS53	470	35 x 30	0.15	0.529	2.2
LP5-315V561MS45	560	30 x 40	0.15	0.444	2.4
LP5-315V561MS54	560	35 x 35	0.15	0.444	2.5
LP5-315V681MS46	680	30 x 45	0.15	0.366	2.7
LP5-315V681MS55	680	35 x 40	0.15	0.366	2.8
LP5-315V821MS56	820	35 x 45	0.15	0.303	3.1
LP5-315V102MS57	1000	35 x 50	0.15	0.249	3.5
350 V					
LP5-350V680MS21	68	22 x 20	0.15	3.659	0.61
LP5-350V101MS22	100	22 x 25	0.15	2.488	0.78
LP5-350V101MS31	100	25 x 20	0.15	2.488	0.77
LP5-350V151MS23	150	22 x 30	0.15	1.659	1.0
LP5-350V151MS32	150	25 x 25	0.15	1.659	0.99
LP5-350V151MS41	150	30 x 20	0.15	1.659	1.0
LP5-350V181MS24	180	22 x 35	0.15	1.382	1.1
LP5-350V181MS33	180	25 x 30	0.15	1.382	1.1
LP5-350V181MS51	180	35 x 20	0.15	1.382	1.2
LP5-350V221MS25	220	22 x 40	0.15	1.131	1.3
LP5-350V221MS34	220	25 x 35	0.15	1.131	1.3
LP5-350V221MS42	220	30 x 25	0.15	1.131	1.3
LP5-350V271MS27	270	22 x 50	0.15	0.922	1.5
LP5-350V271MS35	270	25 x 40	0.15	0.922	1.5
LP5-350V271MS43	270	30 x 30	0.15	0.922	1.5
LP5-350V271MS52	270	35 x 25	0.15	0.922	1.6
LP5-350V331MS36	330	25 x 45	0.15	0.754	1.7
LP5-350V331MS44	330	30 x 35	0.15	0.754	1.7
LP5-350V391MS37	390	25 x 50	0.15	0.638	1.9

Note: ESR 120 Hz at 20°C
Allowable Ripple Current 120 Hz at 85°C

LP5 Large Capacitance Aluminum Electrolytic Capacitors

Standard Ratings

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
LP5-350V391MS45	390	30 x 40	0.15	0.638	1.9
LP5-350V391MS53	390	35 x 30	0.15	0.638	1.9
LP5-350V471MS46	470	30 x 45	0.15	0.529	2.1
LP5-350V471MS54	470	35 x 35	0.15	0.529	2.2
LP5-350V561MS47	560	30 x 50	0.15	0.444	2.4
LP5-350V561MS55	560	35 x 40	0.15	0.444	2.5
LP5-350V681MS56	680	35 x 45	0.15	0.366	2.8
400 V					
LP5-400V560MS21	56	22 x 20	0.15	4.443	0.54
LP5-400V820MS22	82	22 x 25	0.15	3.034	0.69
LP5-400V820MS31	82	25 x 20	0.15	3.034	0.69
LP5-400V121MS23	120	22 x 30	0.15	2.073	0.86
LP5-400V121MS32	120	25 x 25	0.15	2.073	0.87
LP5-400V121MS41	120	30 x 20	0.15	2.073	0.93
LP5-400V151MS24	150	22 x 35	0.15	1.659	1.0
LP5-400V151MS33	150	25 x 30	0.15	1.659	1.0
LP5-400V151MS51	150	35 x 20	0.15	1.659	1.2
LP5-400V181MS25	180	22 x 40	0.15	1.382	1.1
LP5-400V181MS34	180	25 x 35	0.15	1.382	1.1
LP5-400V181MS42	180	30 x 25	0.15	1.382	1.2
LP5-400V221MS26	220	22 x 45	0.15	1.131	1.3
LP5-400V221MS35	220	25 x 40	0.15	1.131	1.3
LP5-400V221MS43	220	30 x 30	0.15	1.131	1.4
LP5-400V221MS52	220	35 x 25	0.15	1.131	1.5
LP5-400V271MS36	270	25 x 45	0.15	0.922	1.5
LP5-400V271MS44	270	30 x 35	0.15	0.922	1.6
LP5-400V331MS37	330	25 x 50	0.15	0.754	1.7
LP5-400V331MS45	330	30 x 40	0.15	0.754	1.8
LP5-400V331MS53	330	35 x 30	0.15	0.754	1.8
LP5-400V391MS46	390	30 x 45	0.15	0.638	2.0
LP5-400V391MS54	390	35 x 35	0.15	0.638	2.1

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φx L) (mm)	tan δ	ESR (Ω)	Ripple Current (Arms)
LP5-400V471MS47	470	30 x 50	0.15	0.529	2.2
LP5-400V471MS55	470	35 x 40	0.15	0.529	2.3
LP5-400V561MS56	560	35 x 45	0.15	0.444	2.6
LP5-400V681MS57	680	35 x 50	0.15	0.366	2.9
450 V					
LP5-450V470MS21	47	22 x 20	0.15	5.294	0.49
LP5-450V560MS31	56	25 x 20	0.15	4.443	0.57
LP5-450V680MS22	68	22 x 25	0.15	3.659	0.62
LP5-450V820MS23	82	22 x 30	0.15	3.034	0.71
LP5-450V820MS32	82	25 x 25	0.15	3.034	0.72
LP5-450V820MS41	82	30 x 20	0.15	3.034	0.77
LP5-450V101MS24	100	22 x 35	0.15	2.488	0.82
LP5-450V121MS25	120	22 x 40	0.15	2.073	0.92
LP5-450V121MS33	120	25 x 30	0.15	2.073	0.91
LP5-450V121MS42	120	30 x 25	0.15	2.073	0.97
LP5-450V121MS51	120	35 x 20	0.15	2.073	1.0
LP5-450V151MS26	150	22 x 45	0.15	1.659	1.1
LP5-450V151MS34	150	25 x 35	0.15	1.659	1.0
LP5-450V181MS27	180	22 x 50	0.15	1.382	1.2
LP5-450V181MS35	180	25 x 40	0.15	1.382	1.2
LP5-450V181MS43	180	30 x 30	0.15	1.382	1.2
LP5-450V181MS52	180	35 x 25	0.15	1.382	1.3
LP5-450V221MS37	220	25 x 50	0.15	1.131	1.4
LP5-450V221MS44	220	30 x 35	0.15	1.131	1.4
LP5-450V221MS53	220	35 x 30	0.15	1.131	1.5
LP5-450V271MS45	270	30 x 40	0.15	0.922	1.6
LP5-450V271MS54	270	35 x 35	0.15	0.922	1.7
LP5-450V331MS47	330	30 x 50	0.15	0.754	1.8
LP5-450V331MS55	330	35 x 40	0.15	0.754	1.9
LP5-450V391MS56	390	35 x 45	0.15	0.638	2.2
LP5-450V471MS57	470	35 x 50	0.15	0.529	2.4

Note: ESR 120 Hz at 20°C
Allowable Ripple Current 120 Hz at 85°C

Coefficients of Frequency for Ripple Current

Rated Voltage (V) \ Frequency (Hz)	50	120	1 k	10 k	20 k
100 or less	0.95	1	1.10	1.15	1.15
160 to 250	0.87	1	1.11	1.18	1.20
315 or more	0.80	1	1.14	1.19	1.20

Coefficients of Temperature for Ripple Current

Rated Voltage (V) \ Temperature (°C)	+40 or less	+55	+70	+85
100 or less	2.1	1.8	1.5	1
160 or more	1.7	1.5	1.3	1