Ether

ALUMINUM ELECTROLYTIC CAPACITOR

Series	Terminal Type	Features	Capacitance Range(μF)	Voltage Range (V)	Load Life
RXX	Radial	5mm High General	0.1—220	6.3---50	85℃ 1000hs
RXS	Radial	7mm High General	0.1---220	6.3---50	85℃ 1000hs
RGS	Radial	Standard Size General	0.1---15000	6.3---450	85℃ 2000hs
RMS	Radial	Miniature Size General	10---22000	6.3---450	85℃ 2000hs
RGT	Radial	High Temperature	0.1---15000	6.3---450	105℃ 2000hs
RMT	Radial	Miniature Size High Temperature	10---22000	6.3---450	105℃ 2000hs
RLT	Radial	Long Life	2.2---470	160---450	105℃ 5000hs
RFT	Radial	Low ESR & Impedance	0.47---22000	6.3---100	105℃ 3000hs
RGU	Radial	125℃	2.2---100	10---400	125℃ 1000hs
RGW	Radial	Excellent Stability	1.0---470	10---100	105℃ 1000hs
RBS	Radial	For Speaker Networks	0.47---68	25---100	85℃ 2000hs
RNS	Radial	For Speaker Networks	0.47---15	25---100	85℃ 2000hs
ABS	Axial	For Speaker Networks	0.47---100	50---100	85℃ 1000hs
ANS	Axial	For Speaker Networks	1.0---100	50---100	85℃ 1000hs
RPH	Radial	For Photo Flash	22---370	330	55℃ 5000time
SGS	Snap-in	Standard Size General	56---56000	16---450	85℃ 2000hs
SGT	Snap-in	High Temperature	56---56000	10---450	105℃ 2000hs
CGS	Screw	High Ripple Current Excellent Stability	220---470000	25---450	85℃ 2000hs

ALUMINUM ELECTROLYTIC CAPACITORS

RXX SERIES

***Excellent spacing factor with 5mm height**
***Anti-solvent**
***Available in taping configuration for automatic mounting**

SPECIFICATIONS

Item	Performance Characteristics							
Operating Temp Range	-40 to +85℃							
Capacitance Tolerance	±20% (120Hz/+20℃)							
Rated Working Voltage Range	4 to 50V_{DC}							
Capacitance Range	0.1 to 220μF							
DC Leakage Current	After 2 minutes application of rated working voltage at +20℃							
	I=0.01CV or 3μA whichever is greater							
Dissipation Factor (120Hz/+20℃)	Rated voltage	4	6.3	10	16	25	35	50
	Tan δ (Max)	0.35	0.24	0.20	0.16	0.14	0.12	0.10

Stability at Low Temperature	Voltage(V)	6.3	10 to 16	25 to 100	160 to 250	350 to450
	$Z_{-25℃}/Z_{+20℃}$				4	7
	$Z_{-40℃}/Z_{+20℃}$	7	5	4		

Load Life (1000hrs, 85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 1000hrs,reversing polarity at each 250hrs, at 85℃.	
	Capacitance change	≤±20% of the initial measured value.
	tan δ	≤200% of the initial specified value .
	DC leakage current	≤The initial specified value.
Shelf Life (500hrs 85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 500hrs without voltage applied.	
	Capacitance change	≤±20% of the initial measured value.
	tan δ	≤200% of the initial specified value .
	DC leakage current	≤200% of the initial specified value.
Applicable Standard	IEC384—1/4	

ALUMINUM ELECTROLYTIC CAPACITORS

RXX SERIES

Case Size/Ripple Current (mA) (120Hz/+85℃)

ΦDxL (mm)

	4		6.3		10		16		25		35		50	
0.1													4x5	1.3
0.22													4x5	2.9
0.33													4x5	3.5
0.47													4x5	5.0
1													4x5	6.2
2.2											4x5	10	4x5	14
3.3									4x5	10	4x5	14	4x5	17
4.7							4x5	10	4x5	17	4x5	18	5x5	22
10			4x5	15	4x5	17	4x5	23	5x5	27	5x5	29	6.3x5	35
22	4x5	23	4x5	28	5x5	32	5x5	38	5x5	44	6.3x5	47		
33	4x5	28	5x5	38	5x5	38	6.3x5	50	6.3x5	54				
47	4x5	38	5x5	45	6.3x5	50	6.3x5	60	6.3x5	70				
100	5x5	60	6.3x5	70	6.3x5	78	6.3x5	85						
220	6.3x5	90	6.3x5	95										

ALUMINUM ELECTROLYTIC CAPACITORS

RXS SERIES

***Excellent spacing factor with 7mm height**
***Anti-solvent**
***Available in taping configuration for automatic mounting**

SPECIFICATIONS

Item	Performance Characteristics							
Operating Temp Range	-40 to +85℃							
Capacitance Tolerance	±20% (120Hz/+20℃)							
Rated Working Voltage Range	4 to 50V_{DC}							
Capacitance Range	0.1 to 470μF							
DC Leakage Current	After 2 minutes application of rated working voltage at +20℃							
	I=0.01CV or 3μA (whichever is greater)							
Dissipation Factor (120Hz/+20℃)	Rated voltage	4	6.3	10	16	25	35	50
	Tan δ (Max)	30	24	0.20	0.16	0.14	0.12	0.10
Stability at Low Temperature	Voltage (V)	4 to 6.3		10 to 16		25 to 50		
	$Z_{-40℃}/Z_{+20℃}$	7		5		4		
Load Life (1000hrs, 85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 1000hrs 85℃.							
	Capacitance change	≤±20% of the initial measured value.						
	tan δ	≤200% of the initial specified value .						
	DC leakage current	≤The initial specified value.						
Shelf Life (500hrs 85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 500hrs without voltage applied.							
	Capacitance change	≤±20% of the initial measured value.						
	tan δ	≤200% of the initial specified value .						
	DC leakage current	≤200% of the initial specified value.						
Applicable Standard	IEC384—1/4							

ALUMINUM ELECTROLYTIC CAPACITORS

RXS SERIES

Case Size/Ripple Current (mA) (120Hz/+85℃)

ΦDxL (mm)

WV(V)	4		6.3		10		16		25		35		50	
	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~
0.1													4x7	2.3
0.22													4x7	3.5
0.33													4x7	4.3
0.47													4x7	5.1
1													4x7	11
2.2											4x7	9	4x7	16
3.3									4x7	9	4x7	12	4x7	19
4.7							4x7	12	4x7	24	4x7	25	4x7	26
10					4x7	28	4x7	29	4x7	32	5x7	34	5x7	42
22			4x7	34	4x7	38	4x7	41	5x7	47	6.3x7	60	6.3x7	64
33	4x7	33	4x7	42	4x7	48	5x7	62	6.3x7	65	6.3x7	68	8x7	75
47	4x7	39	4x7	50	5x7	64	5x7	71	6.3x7	74	8x7	95	8x7	105
100	5x7	65	5x7	87	6.3x7	92	6.3x7	114	8x7	110	8x7	115		
220	6.3x7	110	6.3x7	120	8x7	165	8x7	140						
330	8x7	165	8x7	170										
470	8x7	190												

ALUMINUM ELECTROLYTIC CAPACITORS

RGS SERIES

*** 85℃ 2000 hours assured**
***Standard series for general purpose**

SPECIFICATIONS

Item	Performance Characteristics										
Operating Temp Range	-40 to +85℃							-25 to +85℃			
Capacitance Tolerance	±20% (120Hz/+20℃)										
Rated Working Voltage Range	6.3 to 100 V_{DC}							160 to 450 V_{DC}			
Capacitance Range	0.1 to 22000 μF							0.1 to 470 μF			
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃										
	I=0.01CV or 3 μA (whichever is greater)							I=0.03CV+10 μA			
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.										
Dissipation Factor (120Hz/+20℃)	WV (V)	6.3	10	16	25	35	50	63	100	160 ~ 250	350 ~ 450
	tan δ (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.20
Stability at Low Temperature	Voltage(V)			6.3		10 to 16		25 to 100		160 to 250	350 to450
	$Z_{-25℃}/Z_{+20℃}$									4	7
	$Z_{-40℃}/Z_{+20℃}$			7		5		4			
Load Life (2000hrs, 85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 2000hrs at 85℃.										
	Capacitance change	≤±20% of the initial measured value.									
	tan δ	≤200% of the initial specified value .									
	DC leakage current	≤The initial specified value.									
Shelf Life (1000hrs, 85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1000hrs without voltage applied at 85℃.										
	Capacitance change	≤±20% of the initial measured value.									
	tan δ	≤200% of the initial specified value .									
	DC leakage current	≤200% of the initial specified value.									
Applicable Standard	IEC384—1/4										

ALUMINUM ELECTROLYTIC CAPACITORS

RGS SERIES

Case Size/Ripple Current (mA) (120Hz/+85℃)

ΦDxL (mm)

	6.3		10		16		25		35		50		63		100	
0.1											5x11	1.3	5x11	1.3	5x11	2.4
0.22											5x11	2.5	5x11	2.5	5x11	5.6
0.33											5x11	4.7	5x11	4.7	5x11	8.7
0.47											5x11	8	5x11	8	5x11	12
1											5x11	13	5x11	15	5x11	22
2.2											5x11	29	5x11	32	5x11	33
3.3									5x11	17	5x11	35	5x11	40	5x11	40
4.7							5x11	20	5x11	25	5x11	42	5x11	45	5x11	46
10					5x11	28	5x11	30	5x11	42	5x11	65	5x11	70	6.3x11	80
22			5x11	37	5x11	41	5x11	54	5x11	76	5x11	98	6.3x11	118	8x12	132
33	5x11	55	5x11	66	5x11	71	5x11	84	5x11	102	6.3x11	128	6.3x11	140	10x12	196
47	5x11	70	5x11	84	5x11	111	5x11	119	6.3x11	140	6.3x11	154	8x12	190	10x16	255
100	5x11	130	5x11	146	6.3x11	195	6.3x11	190	8x12	240	8x12	255	10x12	320	12.5x20	50
220	6.3x11	230	6.3x11	250	8x12	300	8x12	320	10x12	420	10x16	490	10x20	560	16x25	810
330	6.3x11	280	8x12	350	8x12	370	10x12	460	10x16	570	10x20	650	12.5x20	750	16x25	910
470	8x12	390	8x12	410	10x12	520	10x16	620	10x20	730	12.5x20	880	12.5x25	960	16x30	1220
1000	10x12	660	10x16	790	10x20	910	12.5x20	1020	12.5x25	1350	16x25	1730	16x30	1770	18x40	1890
2200	12.5x20	1170	12.5x20	1250	12.5x25	1470	16x25	1610	16x30	1890	18x35	2120	18x40	2320		
3300	12.5x20	1320	12.5x25	1570	16x25	1810	16x30	2050	18x35	2360	22x35	2610				
4700	16x20	1880	16x25	1990	16x30	2350	18x35	2480	18x40	2770						
6800	16x25	2170	16x30	2340	18x35	2680	18x40	2720								
10000	16x30	2540	18x35	2680	18x40	2920										
15000	18x35	2800	18x40	2910												
22000	22x35	3670														

	160		200		250		315		350		400		450	
0.47	6.3x11	10	6.3x11	12	6.3x11	14								
1	6.3x11	15	6.3x11	18	6.3x11	20	6.3x11	25	8x12	28	8x12	30	10x12	30
2.2	6.3x11	26	6.3x11	25	8x12	27	8x12	30	10x12	35	10x12	40	10x16	38
3.3	8x12	35	8x12	40	10x12	45	10x12	50	10x16	55	10x16	60	10x20	60
4.7	8x12	40	10x12	50	10x12	55	10x12	60	10x16	70	10x20	75	12.5x20	70
10	10x16	80	10x16	80	10x20	90	10x20	105	12.5x20	110	12.5x20	110	12.5x25	100
22	10x20	130	10x20	130	12.5x25	140	12.5x25	150	12.5x25	160	16x25	160	16x30	150
33	12.5x20	180	12.5x25	200	12.5x25	220	16x25	240	16x25	250	16x30	240	18x35	220
47	12.5x25	230	12.5x25	250	16x25	285	16x25	300	16x30	320	16x35	300	18x40	280
100	16x25	400	16x30	420	18x35	450	18x35	460	18x40	510	22X35	480	22X40	480
220	18x35	730	18x40	750	18x40	790	22X40	810						
330	22x35	1000	22x40	1200	22X40	1300								
470	22X40	1200												

Frequency Corrections factor for Ripple Current

Cap.(uF)\Freq(Hz)	50\60	100\120	1K	≥10K
0.1 to 10	0.65	1.0	1.45	1.65
22 to 100	0.75	1.0	1.38	1.45
220 to 1000	0.80	1.0	1.25	1.35
1500 to 22000	0.80	1.0	1.17	1.25

Temperature Multiplying Factor For Ripple Current

Temp.(℃)	+45	+65	+85
Factor	1.90	1.35	1.00

ALUMINUM ELECTROLYTIC CAPACITORS

RMS SERIES

∗85℃ 2000 hours assured
***Miniature size for general purpose**

SPECIFICATIONS

Item	Performance Characteristics										
Operating Temp Range	-40 to +85℃							-25 to +85℃			
Capacitance Tolerance	±20% (120Hz/+20℃)										
Rated Working Voltage Range	6.3 to 100 V_{DC}							160 to 450 V_{DC}			
Capacitance Range	10 to 22000 μF							1 to 330 μF			
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃										
	I=0.01CV or 3μA (whichever is greater)							I=0.03CV+10μA			
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.										
Dissipation Factor (120Hz/+20℃)	WV (V)	6.3	10	16	25	35	50	63	100	160 ~ 250	350 ~ 450
	tan δ (max)	0.28	0.24	0.20	0.16	0.14	0.12	0.09	0.08	0.20	0.24
Stability at Low Temperature	Voltage (V)			6.3		10 to 16		25 to 100		160to200	250to450
	$Z_{-25℃}/Z_{+20℃}$									4	7
	$Z_{-40℃}/Z_{+20℃}$			7		5		4			
Load Life (2000hrs, 85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 2000hrs at 85℃.										
	Capacitance change					≤±20% of the initial measured value.					
	tan δ					≤200% of the initial specified value .					
	DC leakage current					≤The initial specified value.					
Shelf Life (1000hrs, 85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1000hrs without voltage applied at 85℃.										
	Capacitance change					≤±20% of the initial measured value.					
	tan δ					≤200% of the initial specified value .					
	DC leakage current					≤200% of the initial specified value					
Applicable Standard	IEC384—1/4										

ALUMINUM ELECTROLYTIC CAPACITORS

Ether

RMS SERIES

Case Size/Ripple Current (A) (120Hz/+85℃)

DxL (mm)

WV(V)	6.3		10		16		25		35		50		63		100	
	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~
10													5x11	65	6.3x11	75
22													5x11	100	8x12	130
33											5x11	125	6.3x11	140	8x12	180
47							5x11	115	5x11	130	6.3x11	155	6.3x11	170	10x12	230
100					5x11	160	6.3x11	190	6.3x11	210	8x12	260	10x12	300	10x20	370
220	5x11	200	5x11	240	6.3x11	260	8x12	330	8x12	385	10X12	430	10x16	490	12.5x25	620
330	6.3x11	270	6.3x11	290	8x12	370	8x12	440	10x12	490	10x16	585	10x20	710	12.5x25	760
470	6.3x11	320	6.3x11	350	8x12	440	10x12	545	10x16	645	10x20	755	12.5x20	900	16x25	1000
1000	8x12	540	10x12	650	10x16	785	10X20	955	12.5x20	1145	12.5x25	1340	16x25	1300	18x40	1380
2200	10x20	1000	10x20	1070	12.5x20	1295	12.5x25	1540	16x25	1785	16x35	2075	18x40	2260	22X40	2440
3300	10x20	1185	12.5x20	1420	12.5x25	1655	16x25	1975	16x35	2275	18x35	2500	22X40	2730		
4700	12.5x20	1545	12.5x25	1780	16x25	2090	16x30	2420	18x35	2700	22x40	2920				
6800	12.5x25	1915	16x25	2220	16x30	2520	18x35	2880								
10000	16x25	2330	16x35	2670	18x35	2920	22X40	3110								
15000	16x35	2845	18x35	3080	18x40	3100										
22000	18x40	3320	22x40	3450												

WV(V)	160		200		250		350		400		450	
	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~
1									8x12	33	8x12	25
2.2					6.3x11	32	8x12	41	8x12	45	10x12	32
3.3	6.3x11	40	6.3x11	40	8x12	46	8x16	49	10x12	54	10x16	44
4.7	6.3x11	48	8x12	55	8x12	55	10x16	65	10x16	71	10x20	56
10	8x12	94	10x12	94	10x16	105	10x20	115	10x20	115	12.5x20	91
22	10x16	170	10x20	170	10x20	170	12.5x25	185	12.5x25	205	16x25	165
33	10x20	205	10x20	205	12.5x20	230	16x25	275	16x25	275	16x30	215
47	12.5x20	270	12.5x20	270	12.5x25	295	16x35	325	16x30	350	16x35	265
100	16x25	430	16x25	475	16x25	515						
220	16x30	760	18x35	810	18x30	825						
330	18x35	995										

Frequency Corrections factor for Ripple Current

Cap.(uF)\Freq(Hz)	50\60	100\120	1K	≥10K
0.1 to 10	0.65	1.0	1.45	1.65
22 to 100	0.75	1.0	1.38	1.45
220 to 1000	0.80	1.0	1.25	1.35
1500 to 10000	0.80	1.0	1.17	1.25

Temperature Multiplying Factor For Ripple Current

Temp.(℃)	+45	+65	+85
Factor	1.90	1.35	1.00

ALUMINUM ELECTROLYTIC CAPACITORS

RGT SERIES

*** 105℃ 2000 hours assured**
***Standard series for general purpose**

SPECIFICATIONS

Item	Performance Characteristics										
Operating Temp Range	-40 to +105℃						-25 to +105℃				
Capacitance Tolerance	±20% (120Hz/+20℃)										
Rated Working Voltage Range	6.3 to 100 V_{DC}						160 to 450 V_{DC}				
Capacitance Range	0.1 to 22000 μF						0.47 to 470 μF				
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃										
	I=0.01CV or 3 μA (whichever is greater)						I=0.03CV+10 μA				
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.										
Dissipation Factor (120Hz/+20℃)	WV (V)	6.3	10	16	25	35	50	63	100	160 ~ 250	350 ~ 450
	tan δ (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.20
Stability at Low Temperature	Voltage (V)			6.3		10 to 16		25 to 100		160 to 250	350 to450
	$Z_{-25℃}/Z_{+20℃}$									4	7
	$Z_{-40℃}/Z_{+20℃}$			7		5		4			
Load Life (2000hrs, +105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 2000hrs at 105℃.										
	Capacitance change	≤±20% of the initial measured value.									
	tan δ	≤200% of the initial specified value .									
	DC leakage current	≤The initial specified value.									
Shelf Life (1000hrs, +105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1000hrs without voltage applied at 105℃.										
	Capacitance change	≤±20% of the initial measured value.									
	tan δ	≤200% of the initial specified value .									
	DC leakage current	≤200% of the initial specified value .									
Applicable Standard	IEC384—1/4										

ALUMINUM ELECTROLYTIC CAPACITORS

RGT SERIES

Case Size/Ripple Current (mA) (120Hz/+105℃) ΦDxL (mm)

WV(V)	6.3		10		16		25		35		50		63		100	
	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~
0.1											5x11	1.3	5x11	1.3	5x11	2.4
0.22											5x11	2.5	5x11	2.5	5x11	5.6
0.33											5x11	4.7	5x11	4.7	5x1	8.7
0.47											5x11	8	5x11	8	5x11	12
1											5x11	13	5x11	15	5x11	22
2.2											5x11	29	5x11	32	5x11	33
3.3									5x11	17	5x11	35	5x11	40	5x11	40
4.7							5x11	20	5x11	25	5x11	42	5x11	45	5x11	46
10					5x11	28	5x11	30	5x11	42	5x11	65	5x11	70	6.3x11	80
22			5x11	37	5x11	41	5x11	54	5x11	76	5x11	98	6.3x11	118	8x12	132
33	5x11	55	5x11	66	5x11	71	5x11	84	5x11	102	6.3x11	128	6.3x11	140	10x12	196
47	5x11	70	5x11	84	5x11	111	5x11	119	6.3x11	140	6.3x11	154	8x12	190	10x16	255
100	5x11	130	5x11	146	6.3x11	195	6.3x11	190	8x12	240	8x12	255	10x12	320	12.5x20	450
220	6.3x11	230	6.3x11	250	8x12	300	8x12	320	10x12	420	10x16	490	10x20	540	16x25	810
330	6.3x11	280	8x12	350	8x12	370	10x12	460	10x16	570	10x20	650	12.5x20	750	16x25	910
470	8x12	390	8x12	410	10x12	520	10x16	620	10x20	730	12.5x20	880	16x25	960	16x30	1220
1000	10x12	660	10x16	790	10x20	910	12.5x20	1020	12.5x25	1350	16x35	1730	16x35	1770	18x40	1890
2200	12.5x20	1170	12.5x20	1250	12.5x25	1470	16x25	1610	16x30	1690	18x35	2120	22x35	2320		
3300	12.5x20	1320	12.5x25	1570	16x25	1810	16x30	2050	18x35	2360	22x35	2610				
4700	16x25	1880	16x25	1990	16x30	2350	18x35	2480	18x40	2770						
6800	16x25	2170	16x30	2340	18x35	2680	18x40	2720								
10000	16x30	2540	18x35	2680	18x40	2920										
15000	18x35	2890	18x40	2910												
22000	22x35	2670														

WV(V)	160		200		250		315		350		400		450	
	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~
0.47	6.3x11	10	6.3x11		6.3x11	14								
1	6.3x11	15	6.3x11	18	6.3x11	20	6.3x11	25	8x12	28	8x12	30	10x12	30
2.2	6.3x11	26	6.3x11	25	8x12	27	8x12	30	10x12	35	10x12	40	10x16	38
3.3	8x12	35	8x12	40	10x12	45	10x12	50	10x16	55	10x16	60	10x20	60
4.7	8x12	40	10x12	50	10x12	55	10x12	60	10x16	70	10x20	75	12.5x20	70
10	10x12	80	10x16	80	10x20	90	10x20	105	12.5x20	110	12.5x20	110	12.5x25	100
22	10x20	130	10x20	130	12.5x25	140	12.5x25	150	12.5x25	160	16x25	160	16x30	150
33	12.5x20	180	12.5x25	200	12.5x25	220	16x25	240	16x25	250	16x30	240	18x35	220
47	12.5x25	230	12.5x25	250	16x25	285	16x25	300	16x30	320	16x35	300	18x40	280
100	16x25	400	16x30	420	18x35	450	18x35	460	18x40	510	22X35	480	22X40	480
220	18x35	730	18x40	750	18x40	790	22X40	810						
330	18x40	1000	22x40	1200	22X40	1300								
470	22X40	1200												

Frequency Corrections factor for Ripple Current

Cap.(uF)\Freq(Hz)	50.60	100.120	1K	≥10K
0.1 to 10	0.65	1.0	1.45	1.65
22 to 100	0.75	1.0	1.38	1.45
220 to 1000	0.80	1.0	1.25	1.35
2200 to 22000	0.80	1.0	1.17	1.25

Temperature Multiplying Factor For Ripple Current

Temp.(℃)	+65	+85	+105
Factor	1.90	1.35	1.00

ALUMINUM ELECTROLYTIC CAPACITORS

RMT SERIES

∗105℃ 2000 hours assured
***Miniature size for general purpose**

SPECIFICATIONS

Item	Performance Characteristics										
Operating Temp Range	-40 to +105℃									-25 to +105℃	
Capacitance Tolerance	±20% (120Hz/+20℃)										
Rated Working Voltage Range	6.3 to 100 V_{DC}									160 to 450 V_{DC}	
Capacitance Range	10 to 22000 μF									1 to 330 μF	
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃										
	I=0.01CV or 3 μA (whichever is greater)									I=0.03CV+10 μA	
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.										
Dissipation Factor (120Hz/+20℃)	WV (V)	6.3	10	16	25	35	50	63	100	160 ~ 250	350 ~ 450
	Tan δ (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.20
Stability at Low Temperature	Voltage (V)		6.3			10 to 16			25 to 100	160 to 250	350 to450
	$Z_{-25℃}/Z_{+20℃}$									4	7
	$Z_{-40℃}/Z_{+20℃}$		7			5			4		
Load Life (2000hrs, +105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 2000hrs at 105℃.										
	Capacitance change	≤±20% of the initial measured value.									
	tan δ	≤200% of the initial specified value .									
	DC leakage current	≤The initial specified value.									
Shelf Life (1000hrs, +105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1000hrs without voltage applied at 105℃.										
	Capacitance change	≤±20% of the initial measured value.									
	tan δ	≤200% of the initial specified value .									
	DC leakage current	≤200% of the initial specified value .									
Applicable Standard	IEC384—1/4										

ALUMINUM ELECTROLYTIC CAPACITORS

Ether

RMT SERIES

Case Size/Ripple Current (mA) (120Hz/+105℃)

ΦDxL (mm)

WV(V	6.3		10		16		25		35		50		63		100	
	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~
10													5x11	65	6.3x11	75
22													5x11	100	8x12	130
33											5x11	125	6.3x11	140	8x12	180
47							5x11	115	5x11	130	6.3x11	155	6.3x11	170	10x12	230
100					5x11	160	6.3x11	190	6.3x11	210	8x12	260	10x12	300	10x20	370
220	5x11	200	5x11	240	6.3x11	260	8x12	330	8x12	385	10X12	430	10x16	490	12.5x25	620
330	6.3x11	270	6.3x11	290	8x12	370	8x12	440	10x12	490	10x16	585	10x20	710	12.5x25	760
470	6.3x11	320	6.3x11	350	8x12	440	10x12	545	10x20	645	10x20	755	12.5x20	900	16x25	1000
1000	8x12	540	10x12	650	10x16	785	10X20	955	12.5x20	1145	12.5x25	1340	16x25	1300	18x40	1380
2200	10x20	1000	10x20	1070	12.5x20	1295	12.5x25	1540	16x25	1785	16x35	2075	18x40	2260	22X40	2440
3300	10x20	1185	12.5x20	1420	12.5x25	1655	16x25	1975	16x35	2275	18x35	2500	22X40	2730		
4700	12.5x20	1545	12.5x25	1780	16x25	2090	16x30	2420	18x35	2700	22x40	2920				
6800	12.5x25	1915	16x25	2220	16x30	2520	18x35	2880								
10000	16x25	2330	16x35	2670	18x35	2920	22X40	3110								
15000	16x35	2845	18x35	3080	18x40	3100										
22000	18x40	3320	22x40	3450												

WV(V)	160		200		250		350		400		450	
	case	I~	case	I~	case	I~	case	I~	case	I~	case	I~
1									8x12	33	8x12	25
2.2					6.3x11	32	8x12	41	8x12	45	10x12	32
3.3	6.3x11	40	6.3x11	40	8x12	46	10x12	49	10x12	54	10x16	44
4.7	6.3x11	48	8x12	55	8x12	55	10x16	65	10x16	71	10x20	56
10	8x12	94	10x12	94	10x16	105	10x20	115	10x20	115	12.5x20	91
22	10x16	170	10x20	170	10x20	170	12.5x25	185	12.5x25	205	16x25	165
33	10x20	205	10x20	205	12.5x20	230	16x25	275	16x25	275	16x30	215
47	12.5x20	270	12.5x20	270	12.5x25	295	16x35	325	16x30	350	16x35	265
100	16x25	430	16x25	475	16x25	515						
220	16x30	760	18x35	810	18x30	825						
330	18x35	995										

Frequency Corrections factor for Ripple Current

Cap.(uF)\Freq(Hz)	50\60	100\120	1K	≥10K
1 to 10	0.65	1.0	1.45	1.65
22 to 100	0.75	1.0	1.38	1.45
220 to 1000	0.80	1.0	1.25	1.35
1500 to 22000	0.80	1.0	1.17	1.25

Temperature for Ripple Current

Temp.(℃)	+65	+85	+105
Factor	1.90	1.35	1.00

ALUMINUM ELECTROLYTIC CAPACITORS

RLT SERIES

***Excellent Stability**
***High ripple current**
***Long life**

SPECIFICATIONS

Item	Performance Characteristics				
Operating Temp Range	-25 to +105℃				
Capacitance Tolerance	±20% (120Hz/+20℃)				
Rated Working Voltage Range	160 to 450V_{DC}				
Capacitance Range	2.2 to 470μF				
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃				
	I=0.03CV+10μA				
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.				
Dissipation Factor (120Hz/+20℃)	Voltage(V)	160	250	400	450
	tan δ (Max.)	0.15	0.15	0.2	0.2
Stability at Low Temperature	Voltage(V)	160	250	400	450
	$Z_{-25℃}/Z_{+20℃}$	4	4	5	6
Load Life (5000hrs, +105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 5000hrs,at 105℃.				
	Capacitance change	≤±20% of the initial measured value.			
	tan δ	≤200% of the initial specified value .			
	DC leakage current	≤The initial specified value.			
Shelf Life (1000hrs 105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1000hrs without voltage applied at 105℃.				
	Capacitance change	≤±30% of the initial measured value.			
	Tan δ	≤200% of the initial specified value .			
	DC leakage current	≤300% of the initial specified value.			
Other	IEC384—1/4				

ALUMINUM ELECTROLYTIC CAPACITORS

RLT SERIES

Case Size/Ripple Current (mA) (120Hz/+105℃)

ΦDxL (mm)

	160		250		400		450	
	Case	L~	Case	L~	Case	L~	Case	L~
2.2							10x16	110
3.3					10x20	195	10x20	135
4.7			10x16	165	10x25	220	12.5x20	190
10	10x16	250	10x20	230	10x25	360	12.5x25	250
22	10x20	350	12.5x25	360	16x25	570	16x30	480
33	12.5x20	440	12.5x25	380	16x30	700	16x35	650
47	12.5x25	600	16x25	570	18x30	860	18x35	720
68	16x25	710	16x30	690	18x35	890	18x35	760
82	16x25	820	16x35	810	18x35	920	18x40	810
100	16x25	910	18x35	935	18x40	1010	22x40	880
120	16x30	1030	18x35	935	22x40	1090		
150	16x35	1140	18x35	935				
180	16x35	1220	18x40	1000				
220	18x35	1370	18x40	1000				
270	18x35	1410	18x40	1000				
330	18x40	1520	22x40	1220				
390	18x40	1580	22x40	1230				
470	22x40	1690						

Frequency Corrections factor for Ripple Current

Cap.(uF)\Freq(Hz)	50.60	100.120	1K	≥10K	≥100K
0.47 to 10	0.15	0.25	0.61	0.88	1.00
22 to 470	0.25	0.35	0.66	0.89	1.00

Temperature Multiplying Factor For Ripple Current

Temp.(℃)	+45	+65	+85	+105
Factor	2.7	1.90	1.40	1.00

ALUMINUM ELECTROLYTIC CAPACITORS

RFT SERIES

***Low ESR, low impedance capacitor**
***Wide temperature range-55 to 105℃**
***For switching power supple**

SPECIFICATIONS

Item	Performance Characteristics									
Operating Temp Range	-55 to +105℃									
Capacitance Tolerance	±20% (120Hz/+20℃)									
Rated Working Voltage Range	6.3 to 100V_{DC}									
Capacitance Range	0.47 to 22000μF									
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃									
	I=0.01CV or 3μA									
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.									
Dissipation Factor (120Hz/+20℃)	Voltage (V)	6.3	10	16	25	35	50	63	80	100
	tan δ (Max.)	0.16	0.14	0.12	0.10	0.09	0.08	0.08	0.08	0.07
Stability at Low Temperature	Voltage (V)	6.3 to 10		16 to 35		50 to 100				
	$Z_{-55℃}/Z_{+20℃}$	4		3		2				
Load Life (3000hrs, +105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 3000hrs,at 105℃.									
	Capacitance change	≤±20% of the initial measured value.								
	tan δ	≤200% of the initial specified value .								
	DC leakage current	≤The initial specified value.								
Shelf Life (1000hrs 105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1000hrs without voltage applied at 105℃.									
	Capacitance change	≤±20% of the initial measured value.								
	Tan δ	≤200% of the initial specified value .								
	DC leakage current	≤200% of the initial specified value.								
Other	IEC384—1/4									

ALUMINUM ELECTROLYTIC CAPACITORS

RFT SERIES

Case Size/Equivalent Series Resistance(100kHz/20℃)/Ripple Current (mA) (120Hz/+105℃)

ΦDxL (mm)

WV(V)	6.3			10			16			25		
	size	ESR(Ω)	I~	size	ESR(Ω)	I~	size	ESR(Ω)	I~	size	ESR(Ω)	I~
4.7										5x11	5.00	24
10							5x11	2.80	35	5x11	2.80	39
22	5x11	2.40	34	5x11	2.40	45	5x11	2.40	55	5x11	2.40	60
33	5x11	2.30	50	5x11	2.30	60	5x11	2.30	70	5x11	2.20	75
47	5x11	2.10	65	5x11	2.10	75	5x11	1.80	85	5x11	1.60	90
100	5x11	1.90	100	5x11	1.80	110	6.3x11	0.80	135	6.3x11	0.62	145
220	6.3x11	0.67	165	6.3x11	0.58	180	8x12	0.36	235	8x12	0.35	250
330	6.3x11	0.48	200	8x12	0.36	255	8x12	0.32	285	8x16	0.22	355
470	8x12	0.31	280	8x12	0.26	305	8X16	0.20	395	10X16	0.16	470
1000	8x12	0.22	470	10x16	0.14	570	10X20	0.12	700	10X25	0.10	855
2200	10x25	0.096	930	10x25	0.090	1010	12.5x25	0.067	1150	16x25	0.053	1230
3300	12.5x20	0.090	1100	12.5x25	0.074	1220	16x25	0.052	1350	16X30	0.045	1450
4700	12.5x25	0.061	1320	16x25	0.054	1410	16x30	0.045	1560	18x35	0.040	1660
6800	16x25	0.056	1490	16x30	0.046	1610	18x35	0.040	1750	22X40	0.030	2070
10000	16x30	0.051	1830	18x35	0.038	1980	18x40	0.035	2170			
15000	18x35	0.039	2280	18x40	0.033	2470						
22000	22x40	0.030	2860									

WV(V)	35			50			63			100		
	size	ESR(Ω)	I~	size	ESR(Ω)	I~	size	ESR(Ω)	I~	size	ESR(Ω)	I~
0.47				5x11	47.00	7				5x11	43.00	10
1				5x11	22.00	12				5x11	20.00	15
2.2				5x11	10.00	18				5x11	9.80	22
3.3				5x11	6.70	25				5x11	6.60	29
4.7	5x11	5.00	27	5x11	4.70	30	5x11	4.70	34	5x11	4.60	37
10	5x11	2.80	44	5x11	2.20	50	5x11	2.10	55	6.3x11	1.80	65
22	5x11	2.30	65	5x11	1.90	75	6.3x11	0.98	90	8x12	0.68	115
33	5x11	1.90	85	6.3x11	0.84	105	6.3x11	0.71	110	8x16	0.46	160
47	6.3x11	1.00	115	6.3x11	0.80	125	8x12	0.65	155	10X16	0.37	210
100	8x12	0.50	190	8x12	0.45	210	8X16	0.31	260	10X25	0.18	385
220	8x16	0.24	325	10x16	0.21	400	10X20	0.20	465	16x25	0.10	590
330	10x16	0.20	440	10x20	0.19	535	10x25	0.12	650	16X30	0.090	720
470	10x20	0.12	580	10x25	0.10	730	12.5x25	0.081	800	16X30	0.076	875
1000	12.5x25	0.067	995	16x25	0.053	1110	16x30	0.049	1200	18x40	0.047	1320
2200	16x30	0.044	1450	18x35	0.037	1530	18x40	0.032	1840			
3300	18x35	0.038	1660	22x40	0.028	1950						
4700	18x40	0.033	2030									

Frequency Corrections factor for Ripple Current

Cap.(uF)\Freq(Hz)	50.60	100.120	1K	≥10K
≤47	0.75	1.0	1.57	2.00
100 to 470	0.80	1.0	1.34	1.5
1000 TO 22000	0.85	1.0	1.13	1.15

ALUMINUM ELECTROLYTIC CAPACITORS

RGU SERIES

***High operation temperature up to 125℃**
***1000 hrs life guaranteed**

SPECIFICATIONS

Item	Performance Characteristics									
Operating Temp Range	-40 to +125℃									
Capacitance Tolerance	±20% (120Hz/+20℃)									
Rated Working Voltage Range	10 to 400 V_{DC}									
Capacitance Range	2.2 to 100 μF									
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃									
	I=0.01CV or 3 μA (whichever is greater)									
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.									
Dissipation Factor (120Hz/+20℃)	WV (V)	10	16	25	35	50	63	100	160 ~ 250	350 ~ 400
	tan δ (max)	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.20
Stability at Low Temperature	Voltage(V)				10 to 16		25 to 100		160 to 250	350 to450
	$Z_{-40℃}/Z_{+20℃}$				7		5		7	9
Load Life (1000hrs, +125℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 1000hrs at 125℃.									
	Capacitance change	≤±20% of the initial measured value.								
	tan δ	≤200% of the initial specified value .								
	DC leakage current	≤The initial specified value.								
Shelf Life (500hrs, +125℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 500hrs without voltage applied at 125℃.									
	Capacitance change	≤±20% of the initial measured value.								
	Tan δ	≤200% of the initial specified value .								
	DC leakage current	≤200% of the initial specified value.								
Applicable Standard	IEC384—1/4									

ALUMINUM ELECTROLYTIC CAPACITORS

RGU SERIES

Case Size/Ripple Current (mA) (120Hz/+125℃)

ΦDxL (mm)

	10		16		25		35		50		63	
	Case	I~	Case	I~	Case	I~	Case	I~	Case	I~	Case	I~
0.47									8x12	12		
1									8x12	18		
2.2									8x12	26		
3.3									8x12	30		
4.7									8x12	38		
10									8x12	48	8x12	55
22							8x12	80	10x12	88	10x12	88
33					8x12	100	10x12	110	10x16	120	10x16	130
47			8x12	110	10x12	130	10x16	160	10x16	160	10x20	170
100	10x12	145	10x16	205	10x16	250	10x16	260	12.5x20	280	12.5x20	290
220	10x16	330	10x20	400	12.5x20	470	12.5x20	540	16x25	590		
330	10x16	410	12.5x20	525	12.5x25	630	16x25	720				
470	10x20	525	12.5x25	720	16x25	810	16x35	900				
1000	16x20	960										

	100		160		200		250		350		400	
	Case	I~	Case	I~	Case	I~	Case	I~	Case	I~	Case	I~
0.47	8x12	12										
1	8x12	18	8x12	45	8x12	45	8x12	60	10x16	70	10x16	70
2.2	8x12	26	8x12	70	10x12	70	10x12	85	10x20	90	10x20	100
3.3	8x12	30	10x12	110	10x16	110	10x16	120	12.5x20	150	12.5x20	195
4.7	10x12	38	10x16	140	10x20	140	10x20	165	12.5x25	190	12.5x25	220
10	10x16	58	10x20	250	12.5x25	250	12.5x25	230	16x25	320	16x25	360
22	10x20	90	12.5x25	350	16x25	350	16x25	360	16x30	540	16x30	570
33	12.5x20	140	16x25	440	16x25	440	16x25	420	16x35	660	16x35	700
47	12.5x25	190	16x25	600	16x30	600	16x30	570	18x35	850	18x35	860
100	16x25	320	16x35	910	18x35	1160	18x35	930				

ALUMINUM ELECTROLYTIC CAPACITORS

RGW SERIES

***Excellent Stability**
***Low leakage Current**
***Low Dissipation Factor**

SPECIFICATIONS

Item	Performance Characteristics					
Operating Temp Range	-40 to +105℃					
Capacitance Tolerance	±5% ,±10% (120Hz/+20℃)					
Rated Working Voltage Range	10 to $100V_{DC}$					
Capacitance Range	1.0 to 470μF					
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃					
	I=0.001CV+1μA					
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.					
Dissipation Factor (120Hz/+20℃)	Voltage (V)	10	16	25	50	100
	tan δ (max)	0.12	0.10	0.08	0.06	0.05
Stability at Low Temperature	Voltage (V)	10	16	25	50	100
	$Z_{-40℃}/Z_{+20℃}$.	4	3	2	2	2
Load Life (1000hrs, +105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 1000hrs at 105℃.					
	Capacitance change	≤±20% of the initial measured value.				
	tan δ	≤200% of the initial specified value .				
	DC leakage current	≤The initial specified value.				
Shelf Life (500hrs, +105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 500hrs without voltage applied at 105℃.					
	Capacitance change	≤±20% of the initial measured value.				
	tan δ	≤200% of the initial specified value .				
	DC leakage current	≤200% of the initial specified value.				
Applicable Standard	IEC384—1/4					

ALUMINUM ELECTROLYTIC CAPACITORS

RGW SERIES

Case size

ΦDxL (mm)

	10	16	25	50	63	100
1.0				6.3×11	6.3×11	6.3×11
2.2				6.3×11	6.3×11	8×12
3.3			6.3×11	6.3×11	8×12	10×12
4.7			6.3×11	8×12	10×12	10×16
10		6.3×11	8×12	10×12	10×16	10×20
22	6.3×11	8×12	10×12	10×16	10×20	12×20
33	8×12	10×12	10×16	10×20	12×20	12×25
47	8×12	10×12	10×20	12×20	12×25	16×25
100	10×16	10×20	12×20	12×25	16×30	16×35
220	10×20	12×25	16×25	16×30	18×35	
330	12×20	16×25	16×25	18×35		
470	12×25	16×25	16×30			

ALUMINUM ELECTROLYTIC CAPACITORS

RBS/RNS SERIES

***For Hi-Fi audio equipment, speaker networks**
***Excellent frequency characteristic and small deviation**
***Bi-polarized**

SPECIFICATIONS

Item	Performance Characteristics			
Operating Temp Range	-40 to +85℃			
Capacitance Tolerance	±5% ,±10% (120Hz/+20℃)			
Rated Working Voltage Range	50 to 100V_{DC}			
Capacitance Range	0.47 to 68μF			
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃			
	I=0.03CV+3μA			
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.			
Dissipation Factor (120Hz/+20℃)	Series		RBS	RNS
	Measurement Frequency	1KHz	0.08	0.05
		5KHz	0.15	0.05
Load Life (1000hrs, +85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 1000hrs,reversing polarity at each 250hrs,at 85℃.			
	Capacitance change	≤±20% of the initial measured value.		
	tan δ	≤200% of the initial specified value .		
	DC leakage current	≤The initial specified value.		
Shelf Life (500hrs 85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 500hrs without voltage applied.			
	Capacitance change	≤±20% of the initial measured value.		
	tan δ	≤200% of the initial specified value.		
	DC leakage current	≤200% of the initial specified value.		
Applicable Standard	IEC384—1/4			

ALUMINUM ELECTROLYTIC CAPACITORS

RBS/RNS SERIES

Case size/Ripple current(A)(120Hz/+85℃) ΦDxL (mm)

Cap. (μF)	RBS		RNS	
	Case	Ripple	Case	Ripple
0.47	6.3×11	50	10×16	90
1.0	8×12	70	10×20	140
1.5	8×12	85	12.5×20	190
2.2	10×12	120	12.5×25	230
3.3	10×16	150	16×25	330
4.7	10×20	190	16×30	400
6.8	12.5×20	250	16×35	520
10	12.5×20	300	18×40	670
15	12.5×25	370	22×40	850
22	16×25	580		
33	16×30	710		
47	18×35	1020		
68	22×40	1300		

ALUMINUM ELECTROLYTIC CAPACITORS

ABS/ANS SERIES

***Axial Type**
***For Hi-Fi audio equipment, speaker networks**
***Excellent frequency characteristic and small deviation**
***Bi-polarized**

SPECIFICATIONS

Item	Performance Characteristics			
Operating Temp Range	-40 to +85℃			
Capacitance Tolerance	±5% ,±10% (120Hz/+20℃)			
Rated Working Voltage Range	50 to 100V_{DC}			
Capacitance Range	0.47 to 68 μF			
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃			
	I=0.03CV+3μA			
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.			
Dissipation Factor (120Hz/+20℃)	Series		ABS	ANS
	Measurement Frequency	1KHz	0.08	0.05
		5KHz	0.15	0.05
Load Life (1000hrs, +85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 1000hrs,reversing polarity at each 250hrs,at 85℃.			
	Capacitance change	≤±20% of the initial measured value.		
	tan δ	≤200% of the initial specified value .		
	DC leakage current	≤The initial specified value.		
Shelf Life (500hrs 85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 500hrs without voltage applied.			
	Capacitance change	≤±20% of the initial measured value.		
	tan δ	≤200% of the initial specified value .		
	DC leakage current	≤200% of the initial specified value.		
Applicable Standard	IEC384—1/4			

ALUMINUM ELECTROLYTIC CAPACITORS

ABS/ANS SERIES

Case size/Ripple current (mA)(120Hz/+85℃) ΦDxL (mm)

Cap. (μF)	ABS				ANS			
	50WV		100WV		50WV		100WV	
	Case	Ripple	Case	Ripple	Case	Ripple	Case	Ripple
0.47	8×17	60	10×19	65				
1.0	8×17	90	10×19	100	12×26	170	12×26	180
1.5	8×17	110	10×19	125	12×26	200	12×26	210
2.2	8×17	135	10×19	140	12×26	250	12×26	260
3.3	8×17	180	10×19	195	12×26	320	12×26	340
4.7	10×19	210	10×19	230	12×31	400	12×31	410
6.8	10×19	260	12×26	290	12×31	510	12×31	530
10	12×26	320	12×26	350	16×34	610	16×34	620
15	12×26	390	12×26	420	16×34	660	16×34	680
22	12×26	590	12×31	630	16×42	720	16×42	750
33	12×31	730	12×31	770	16×42	780	16×42	810
47	12×31	960	12×31	1010	18×42	850	18×42	880
68	16×34	1270	16×34	1320	22×45	930	22×45	950
100	16×34	1460	16×42	1500	22×45	1020	22×45	1060

ALUMINUM ELECTROLYTIC CAPACITORS

Ether

RPH SERIES

***For photo flash of camera use**

***Small size, low dissipation factor, high stability**

SPECIFICATIONS

Item	Performance Characteristics	
Operating Temp Range	-20 to +55℃	
Capacitance Tolerance	-10 to +20% (120Hz/+20℃)	
Rated Working Voltage Range	$330V_{DC}$	
Surge voltage	$350V_{DC}$	
Capacitance Range	20 to 370 μF	
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃	
	I=1C(μA)	
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.	
Dissipation Factor (120Hz/+20℃)	tan δ (max)	0.06
Load Life	Charge and discharge at rated voltage at 5 ~ 35℃ in every 30 seconds for 5000 times via xe flash tube with discharge of 0.7 ~ 1 Ω.	
	Capacitance change	≤±10% of the initial measured value.
	tan δ	≤150% of the initial specified value .
	DC leakage current	≤The initial specified value.
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 500hrs without voltage applied at 55℃.	
	Capacitance change	≤±10% of the initial measured value.
	tan δ	≤150% of the initial specified value .
	DC leakage current	≤150% of the initial specified value.
Applicable Standard	IEC384—1/4	

ALUMINUM ELECTROLYTIC CAPACITORS

RPH SERIES

Case size

ϕ DxL (mm)

Cap.(uF)\ΦD	10	12	14.5	16	17	18	20
20	10x12						
40	10x25	12x20					
60	10x32	12x25					
80		12x30	14.5x25				
100		12x35	14.5x30				
120			14.5x32	16x28			
140			14.5x38	16x30			
160			14.5x38	16x32	17x30	18x28	
180				16x36	17x32	18x30	
200				16x40	17x36	18x34	20x30
240					17x43	18x40	20x34
370						18x46	20x42

ALUMINUM ELECTROLYTIC CAPACITORS

Ether

SGS SERIES

∗85℃ 2000 hours assured
***Snap-in terminal**
***Non solvent-proof type**

SPECIFICATIONS

Item	Performance Characteristics									
Operating Temp Range	-40 to +85℃						-25 to +85℃			
Capacitance Tolerance	±20% (120Hz/+20℃)									
Rated Working Voltage Range	16 to 100 V_{DC}						160 to 450 V_{DC}			
Capacitance Range	820 to 47000 μF						56 to 2700 μF			
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃									
	I=0.01CV μA									
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.									
Dissipation Factor (120Hz/+20℃)	WV (V)	6.3	10	16	25	35	50	63~100	160 ~ 250	350 ~ 450
	Tan δ (max)	0.60	0.50	0.40	0.30	0.25	0.20	0.15	0.10	0.15

Stability at Low Temperature	Voltage (V)	16	25	35	50,63	80,100	160~400	450
	$Z_{-25℃}/Z_{+20℃}$	4	3	3	2	2	4	7
	$Z_{-40℃}/Z_{+20℃}$	15	10	8	6	5	-	-

Load Life (2000hrs, +85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 2000hrs at 85℃.	
	Capacitance change	≤±20% of the initial measured value.
	tan δ	≤200% of the initial specified value .
	DC leakage current	≤The initial specified value.

Shelf Life (1000hrs, +85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1000hrs without voltage applied at 85℃.	
	Capacitance change	≤±20% of the initial measured value.
	Tan δ	≤200% of the initial specified value .
	DC leakage current	≤200% of the initial specified value.

Applicable Standard	IEC384—1/4

Temperature Multiplying Factor For Ripple Current

Temp.(℃)	+45	+65	+70	+85
Factor	1.48	142	1.30	1.00

ALUMINUM ELECTROLYTIC CAPACITORS

Ether

SGS SERIES

Case size/Ripple current(A)(120Hz/+85℃) ΦDxL (mm)

WV(V)	16								25							
	22	L	25	L	30	L	35	L	22	L	25	L	30	L	35	L
4700									22x25	1.68						
6800	22x25	1.57							22x30	1.86	25x25	1.87				
8200	22x30	1.97							22x35	2.11	25x30	2.12				
10000	22x30	2.10	25x25	2.08					22x40	2.39	25x35	2.42	30x30	2.35		
12000	22x35	2.22	25x30	2.24					22x45	2.69	25x40	2.74	30x30	2.70		
15000	22x40	2.55	25x35	2.58	30x30	2.50					25x45	3.15	30x35	3.10	35x30	3.27
18000	22x45	2.87	25x40	2.92	30x30	2.88					25x50	3.54	30x40	3.50	35x35	3.43
22000			25x45	3.32	30x35	3.29							30x50	4.00	35x40	3.64
27000			25x50	3.78	30x40	3.77	35x30	3.45							35x45	4.73
33000					30x45	4.30	35x35	4.26							35x50	5.39
39000					30x50	4.81	35x40	4.79								
47000							35x45	5.43								

WV(V)	35								50							
	22	L	25	L	30	L	35	L	22	L	25	L	30	L	35	L
2700									22x25	1.69						
3300	22x25	1.40							22x30	1.93	25x25	1.85				
3900	22x30	1.57	25x25	1.55					22x35	2.16	25x30	2.18				
4700	22x35	1.83	25x30	1.80					22x40	2.43	25x35	2.38				
5600	22x35	1.95	25x30	1.96					22x45	2.75	25x40	2.70	30x30	2.76		
6800	22x40	2.20	25x35	2.23					22x50	3.35	25x45	3.30	30x35	3.30		
8200	22x45	2.55	25x40	2.53	30x30	2.75					25x50	3.70	30x40	3.60	35x30	3.55
10000			25x45	2.87	30x35	2.90							30x45	4.04	35x35	4.03
12000			25x50	3.24	30x40	3.23	35x30	2.99					30x50	4.70	35x40	4.55
15000					30x45	3.72	35x35	3.67							35x45	5.30
18000					30x50	4.55	35x40	4.37							35x50	5.90
22000							35x45	4.92								
27000							35x50	6.10								

WV(V)	63								80							
	22	L	25	L	30	L	35	L	22	L	25	L	30	L	35	L
1000									22x25	1.10						
1200									22x30	1.38						
1500	22x25	1.19							22x35	1.59	25x25	1.61				
1800	22x30	1.51							22x40	1.80	25x30	1.76				
2200	22x35	1.73	25x25	1.74					22x45	2.04	25x35	2.01				
2700	22x40	1.97	25x30	1.99					22x50	2.42	25x40	2.36	30x30	2.35		
3300	22x45	2.29	25x35	2.27							25x45	2.68	30x35	2.68		
3900	22x50	2.65	25x40	2.54	30x30	2.55							30x40	3.00	35x30	2.98
4700			25x45	2.86	30x35	2.86							30x45	3.39	35x35	3.38
5600			25x50	3.40	30x40	3.22	35x30	3.19					30x50	3.95	35x40	3.80
6800					30x45	3.65	35x35	3.64							35x45	3.90
8200					30x50	4.10	35x40	3.90							35x50	4.80
10000							35x45	4.40								
12000							35x50	5.90								

ALUMINUM ELECTROLYTIC CAPACITORS

Ether

SGS SERIES

Case size/Ripple current(A)(120Hz/+85℃)

ΦDxL (mm)

WV(V)	100								160							
	22	L	25	L	30	L	35	L	22	L	25	L	30	L	35	L
330									22x25	1.20						
390									22x30	1.30	25x25	1.29				
470									22x35	1.40	25x30	1.41				
560									22x40	1.50	25x30	1.51				
680									22x45	1.71	25x35	1.70				
820	22x25	1.32							22x50	1.93	25x40	2.01	30x30	2.00		
1000	22x30	1.50									25x45	2.20	30x35	2.22		
1200	22x35	1.69	25x25	1.71							25x50	2.45	30x40	2.44	35x30	2.44
1500	22x40	1.94	25x30	1.98									30x45	2.82	35x35	2.50
1800	22x45	2.25	25x35	2.23	30x30	2.50							30x50	3.31	35x40	3.31
2200	22x50	2.60	25x40	2.53	30x30	2.70									35x45	3.77
2700			25x45	2.95	30x35	2.88									35x50	4.68
3300			25x50	3.36	30x40	3.28	35x30	3.27								
3900					30x45	3.72	35x35	3.67								
4700					30x50	3.86	35x40	3.80								
5600							35x45	4.60								
6800							35x50	5.15								

WV(V)	180								200							
	22	L	25	L	30	L	35	L	22	L	25	L	30	L	35	L
270	22x25	0.96							22x25	0.87						
330	22x30								22x30	1.20						
390	22x35	1.30	25x25	1.30					22x35	1.31	25x25	1.31				
470	22x40	1.35	25x30	1.40					22x40	1.40	25x30	1.41				
560	22x45	1.51	25x35	1.53					22x45	1.56	25x35	1.53				
680	22x40		25x40	1.74	30x30	1.72			22x50	1.74	25x40	1.74	30x30	1.74		
820			25x45	1.97	30x35	2.00					25x45	2.04	30x35	2.00		
1000			25x50	2.23	30x40	2.24	35x30	2.26			25x50	2.31	30x40	2.30	35x30	2.30
1200					30x45	2.52	35x35	2.50					30x45	2.60	35x35	2.65
1500					30x50	2.89	35x40	2.89					30x50	2.95	35x40	3.08
1800							35x45	3.35							35x45	3.47
2200							35x50	3.80							35x50	3.95

WV(V)	250								315							
	22	L	25	L	30	L	35	L	22	L	25	L	30	L	35	L
120									22x25	0.70						
150									22x30	0.81						
180	22x25	1.04							22x35	0.85	25x25	0.90				
220	22x30								22x40	1.00	25x30	1.05				
270	22x35	1.31	25x25	1.32					22x45	1.10	25x35	1.15				
330	22x40	1.49	25x30	1.51					22x50	1.30	25x40	1.32	30x30	1.35		
390	22x45	1.67	25x35	1.66							25x45	1.48	30x35	1.50		
470	22x50	1.88	25x40	1.86	30x30	1.89					25x50	1.65	30x40	1.70	35x30	1.73
560			25x45	2.09	30x35	2.14							30x45	1.85	35x35	1.89
680			25x50	2.44	30x40	2.43	35x30	2.46					30x50	2.08	35x40	2.10
820					30x45	2.75	35x35	2.77							35x45	2.35
1000					30x50	3.31	35x40	3.32							35x50	2.65
1200							35x45	3.53								
1500							35x50	4.04								

ALUMINUM ELECTROLYTIC CAPACITORS

SGS SERIES

Case size/Ripple current(A)(120Hz/+85℃)

ΦDxL (mm)

WV(V)	350								400							
	22	I~	25	I~	30	I~	35	I~	22	I~	25	I~	30	I~	35	I~
82									22x25	0.60						
100	22x25	0.66							22x30	0.75	25x25	0.74				
120	22x30	0.79							22x35	0.85	25x25	0.83				
150	22x35	0.90	25x25	0.92					22x40	1.28	25x30	1.14				
180	22x40	1.00	25x30	1.04					22x45	1.35	25x35	1.30	30x30	1.40		
220	22x45	1.15	25x35	1.14					22x50	1.79	25x40	1.47	30x30	1.45		
270	22x50	1.24	25x40	1.23	30x30	1.26					25x45	1.68	30x35	1.66	35x30	1.65
330			25x45	1.38	30x35	1.38					25x50	1.93	30x40	1.90	35x35	1.87
390			25x50	1.60	30x40	1.66	35x30	1.65					30x45	2.13	35x40	2.08
470					30x45	1.75	35x35	1.73					30x50	2.41	35x45	2.39
560					30x50	2.00	35x40	2.00							35x50	2.69
680							35x45	2.36								
820							35x50	2.65								

WV(V)	450							
	22	I~	25	I~	30	I~	35	I~
56	22x25	0.55						
68	22x30	0.62						
82	22x35	0.73	25x25	0.75				
100	22x40	0.84	25x30	0.85				
120	22x45	0.96	25x35	0.99				
150	22x50	1.10	25x40	1.13	30x30	1.15		
180			25x45	1.24	30x35	1.25		
220			25x50	1.42	30x40	1.48	35x30	1.48
270					30x45	1.60	35x35	1.62
330					30x50	1.85	35x40	1.84
390							35x45	2.10
470							35x50	2.40

Frequency Corrections factor for Ripple Current

W.V.(V)\Freq(Hz)	50.60	100.120	1K	≥10K
16 to 100	0.90	1.00	1.10	1.15
160 to 250	0.80	1.00	1.30	1.50
315 to 450	0.80	1.00	1.10	1.15

ALUMINUM ELECTROLYTIC CAPACITORS

SGT SERIES

*105℃ **2000 hours assured**
***Snap-in terminal**
***Non solvent-proof type**

SPECIFICATIONS

Item	Performance Characteristics															
Operating Temp Range	-40 to +105℃							-25 to +105℃								
Capacitance Tolerance	±20% (120Hz/+20℃)															
Rated Working Voltage Range	6.3 to 100 V_{DC}							160 to 450 V_{DC}								
Capacitance Range	560 to 39000 μF							47 to 2200 μF								
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃															
	I=0.01CV μA															
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.															
Dissipation Factor (120Hz/+20℃)	WV (V)	6.3	10	16	25	35	50	63~100		160 ~ 250		350 ~ 450				
	Tan δ (max)	0.60	0.50	0.40	0.30	0.25	0.20	0.15		0.10		0.15				
Stability at Low Temperature	Voltage (V)	6.3~16		25	35	50,63		80,100		160~400		450				
	$Z_{-25℃}/Z_{+20℃}$	4		3	3	2		2		4		4				
	$Z_{-40℃}/Z_{+20℃}$	15		10	8	6		5		-		-				
Load Life (2000hrs, +105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 2000hrs at 105℃.															
	Capacitance change	≤±20% of the initial measured value.														
	Tan δ	≤200% of the initial specified value .														
	DC leakage current	≤The initial specified value.														
Shelf Life (1000hrs, +105℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1000hrs without voltage applied at 105℃.															
	Capacitance change	≤±20% of the initial measured value.														
	Tan δ	≤200% of the initial specified value .														
	DC leakage current	≤200% of the initial specified value.														
Applicable Standard	IEC384—1/4															

ALUMINUM ELECTROLYTIC CAPACITORS

Ether

SGT SERIES

Case size/Ripple current(A)(120Hz/+105℃)

ΦDxL (mm)

WV(V)	10								16							
	22	L	25.4	L	30	L	35	L	22	L	25.4	L	30	L	35	L
6800									22x25	1.57						
8200	22x25	1.57							22x30	1.86	25.4x25	1.87				
10000	22x30	1.97	25.4x25	1.97					22x35	2.11	25.4x30	2.12				
12000	22x35	2.22	25.4x30	2.24					22x40	2.39	25.4x35	2.42				
15000	22x40	2.55	25.4x35	2.58					22x45	2.69	25.4x40	2.74	30x30	2.70		
18000	22x45	2.87	25.4x40	2.92	30x30	2.88					25.4x45	3.15	30x35	3.10		
22000	22x50	3.30	25.4x45	3.32	30x35	3.29					25.4x50	3.54	30x40	3.50	35x30	3.27
27000			25.4x50	3.78	30x40	3.77	35x30	3.28					30x45	4.00	35x35	3.64
33000					30x45	4.30	35x35	3.45							35x40	4.73
39000					30x50	4.81	35x40	4.26							35x45	5.39
47000							35x45	4.79								
56000							33x50	5.43								

WV(V)	25								35							
	22	L	25.4	L	30	L	35	L	22	L	25.4	L	30	L	35	L
3300									22x25	1.33						
3900									22x30	1.69						
4700	22x25	1.40							22x35	1.93	25.4x25	1.85				
5600	22x30	1.57							22x40	2.16	25.4x30	2.08				
6800	22x35	1.95	25.4x25	1.80					22x45	2.43	25.4x35	2.30				
8200	22x40	2.20	25.4x30	1.96					22x50	2.75	25.4x40	2.60	30x30	2.25		
10000	22x45	2.55	25.4x35	2.23							25.4x45	2.90	30x35	2.76	35x30	3.25
12000			25.4x40	2.53	30x30	2.75					25.4x50	3.30	30x40	3.30	35x35	3.55
15000			25.4x45	2.87	30x35	2.90	35x30	2.99					30x45	3.60	35x40	4.03
18000			25.4x50	3.24	30x40	3.23	35x35	3.67					30x50	4.04	35x45	4.55
22000					30x45	3.72	35x40	4.37							35x50	4.95
27000							35x45	4.92								
33000							35x50	5.40								

WV(V)	50								63							
	22	L	25.4	L	30	L	35	L	22	L	25.4	L	30	L	35	L
1200									22x25	1.11						
1500									22x30	1.38						
1800	22x25	1.19							22x35	1.59	25.4x25	1.39				
2200	22x30	1.51							22x40	1.80	25.4x30	1.61				
2700	22x35	1.73	25.4x25	1.52					22x45	2.04	25.4x35	2.01				
3300	22x40	1.97	25.4x30	1.74							25.4x40	2.36	30x30	2.05		
3900	22x45	2.29	25.4x35	1.99							25.4x45	2.68	30x35	2.35		
4700	22x50	2.56	25.4x40	2.27	30x30	2.24					25.4x50	2.98	30x40	2.68	35x30	2.45
5600			25.4x45	2.59	30x35	2.55							30x45	3.00	35x35	2.98
6800			25.4x50	3.30	30x40	2.86	35x30	2.79					30x50	3.39	35x40	3.38
8200					30x45	3.22	35x35	3.19							35x45	3.80
10000					30x50	3.65	35x40	3.64							35x50	3.90
12000							35x45	3.90								
15000							35x50	4.40								

ALUMINUM ELECTROLYTIC CAPACITORS

SGT SERIES

Case size/Ripple current(A)(120Hz/+105℃)

ΦDxL (mm)

WV(V)	80								100							
	22	I㎃	25.4	I㎃	30	I㎃	35	I㎃	22	I㎃	25.4	I㎃	30	I㎃	35	I㎃
680									22x25	1.20						
820									22x30	1.30						
1000	22x25	1.05							22x35	1.40	25.4x25	1.41				
1200	22x30	1.32	25.4x25	1.33					22x40	1.50	25.4x30	1.51				
1500	22x35	1.50	25.4x30	1.51					22x45	1.71	25.4x35	1.70				
1800	22x40	1.69	25.4x35	1.71					22x50	1.93	25.4x40	2.01	30x30	2.00		
2200	22x45	1.94	25.4x40	1.98	30x30	1.95					25.4x45	2.20	30x35	2.22		
2700	22x50	2.35	25.4x45	2.23	30x35	2.50					25.4x50	2.45	30x40	2.44	35x30	2.44
3300			25.4x50	2.53	30x40	2.70	35x30	2.50					30x45	2.82	35x35	2.50
3900					30x45	2.88	35x35	2.86					30x50	3.31	35x40	3.31
4700					30x50	3.28	35x40	3.27							35x45	3.77
5600							35x45	3.67							35x50	4.20
6800							35x50	3.80								

WV(V)	160								180							
	22	I㎃	25.4	I㎃	30	I㎃	35	I㎃	22	I㎃	25.4	I㎃	30	I㎃	35	I㎃
270	22x25	0.96							22x25	0.87						
330	22x30	1.11							22x30	1.20						
390	22x35	1.30	25.4x25	1.30					22x35	1.31	25.4x25	1.21				
470	22x40	1.35	25.4x30	1.40					22x40	1.40	25.4x30	1.41				
560	22x45	1.51	25.4x35	1.53					22x45	1.56	25.4x35	1.53				
680	22x50	1.75	25.4x40	1.74	30x30	1.72			22x50	1.74	25.4x40	1.74	30x30	1.74		
820			25.4x45	1.97	30x35	2.00					25.4x45	2.04	30x35	2.00		
1000			25.4x50	2.23	30x40	2.24	35x30	2.26			25.4x50	2.31	30x40	2.30	35x30	2.30
1200					30x45	2.52	35x35	2.50					30x45	2.60	35x35	2.65
1500					30x50	2.89	35x40	2.89					30x50	3.10	35x40	3.08
1800							35x45	3.35							35x45	3.47
2200							35x50	3.80							35x50	3.65

WV(V)	200								250							
	22	I㎃	25.4	I㎃	30	I㎃	35	I㎃	22	I㎃	25.4	I㎃	30	I㎃	35	I㎃
180									22x25	0.94						
220									22x30	1.11						
270	22x25	1.04							22x35	1.20	25.4x25	1.22				
330	22x30	1.21							22x40	1.41	25.4x30	1.38				
390	22x35	1.31	25.4x25	1.32					22x45	1.60	25.4x35	1.59	30x30	1.59		
470	22x40	1.49	25.4x30	1.51					22x50	2.00	25.4x40	2.01	30x35	1.99		
560	22x45	1.67	25.4x35	1.86							25.4x45	2.28	30x40	2.27		
680	22x50	1.88	25.4x40	2.09	30x30	1.89					25.4x50	2.58	30x45	2.56	35x30	2.23
820			25.4x45	2.44	30x35	2.14							30x50	2.90	35x35	2.49
1000			25.4x50	2.77	30x40	2.43	35x30	2.46							35x40	2.87
1200					30x45	2.75	35x35	2.77							35x45	3.25
1500					30x50	3.31	35x40	3.32							35x50	3.60
1800							35x45	3.53								
2200							35x50	4.04								

ALUMINUM ELECTROLYTIC CAPACITORS

SGT SERIES

Case size/Ripple current(A)(120Hz/+105℃)

ΦDxL (mm)

WV(V)	315								350							
	22	L	25.4	L	30	L	35	L	22	L	25.4	L	30	L	35	L
82									22x25	0.78						
100	22x25	0.64							22x30	0.90						
120	22x30	0.86							22x35	1.02	25.4x25	1.02				
150	22x35	0.99	25.4x25	0.91					22x40	1.16	25.4x30	1.14				
180	22x40	1.14	25.4x30	1.14					22x45	1.31	25.4x35	1.30	30x30	1.30		
220	22x45	1.28	25.4x35	1.24					22x50	1.49	25.4x40	1.47	30x35	1.47		
270	22x50	1.44	25.4x40	1.45	30x30	1.44					25.4x45	1.66	30x40	1.66	35x30	1.87
330			25.4x45	1.66	30x35	1.66					25.4x50	1.90	30x45	1.90	35x35	2.08
390			25.4x50	1.88	30x40	1.88	35x30	1.87					30x50	2.13	35x40	2.13
470					30x45	2.06	35x35	2.06							35x45	2.39
560					30x50	2.40	35x40	2.60							35x50	2.49
680							35x45	2.96								

WV(V)	400								450							
	22	L	25.4	L	30	L	35	L	22	L	25.4	L	30	L	35	L
47									22x25	0.78						
56	22x25	0.68							22x30	0.90						
68	22x30	0.86							22x35	1.02	25.4x25	0.90				
82	22x35	0.99	25.4x25	0.99					22x40	1.16	25.4x30	1.14				
100	22x40	1.14	25.4x30	1.11					22x45	1.31	25.4x35	1.30				
120	22x45	1.28	25.4x35	1.24					22x50	1.49	25.4x40	1.47	30x30	1.40		
150	22x50	1.44	25.4x40	1.44	30x30	1.44					25.4x45	1.67	30x35	1.66		
180			25.4x45	1.63	30x35	1.66					25.4x50	1.89	30x40	1.90	35x30	1.87
220			25.4x50	1.88	30x40	1.88	35x30	1.87					30x45	2.13	35x35	2.08
270					30x45	2.06	35x35	2.05					30x50	2.40	35x40	2.39
330					30x50	2.40	35x40	2.33							35x45	2.69
390							35x45	2.60							35x50	2.98
470							35x50	2.96								

Frequency Corrections factor for Ripple Current

W.V.(V)\Freq(Hz)	50.60	100.120	1K	≥10K
16 to 100	0.90	1.00	1.10	1.15
160 to 250	0.80	1.00	1.30	1.50
315 to 450	0.80	1.00	1.10	1.15

Temperature Multiplying Factor For Ripple Current

Temp.(℃)	+45	+65	+70	+85	+105
Factor	2.47	2.37	2.17	1.67	1.00

ALUMINUM ELECTROLYTIC CAPACITORS

CGS SERIES

*High ripple current
***Screw terminal**
***Excellent stability**

SPECIFICATIONS

Item	Performance Characteristics											
Operating Temp Range	-40 to +85℃						-25 to +85℃					
Capacitance Tolerance	±20% (120Hz/+20℃)											
Rated Working Voltage Range	10 to 100 V_{DC}						160 to 450 V_{DC}					
Capacitance Range	1800 to 680000 μF						180 to 27000 μF					
DC Leakage Current	After 5 minutes application of rated working voltage at +20℃											
	I=0.02CV or 5mA (whichever is smaller)											
	Where C: Nominal capacitance in μF, V: Rated working voltage in V.											
Dissipation Factor (120Hz/+20℃)	w.v\ Φ	35	50	65	76	80	w.v\ Φ	35	50	65	76	80
	10	0.75	1.0	1.3	1.5	1.5	63	0.2	0.3	0.3	0.4	0.4
	16	0.6	0.7	0.8	1.0	1.0	80	0.2	0.25	0.25	0.3	0.3
	25	0.4	0.5	0.7	0.8	0.8	100	0.15	0.2	0.25	0.25	0.25
	35	0.3	0.5	0.6	0.7	0.7	160/250	0.15	0.15	0.2	0.2	0.2
	50	0.25	0.3	0.5	0.6	0.6	350/450	0.2	0.2	0.25	0.25	0.25
Load Life (2000hrs, +85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 2000hrs at 85℃.											
	Capacitance change	≤±20% of the initial measured value.										
	tan δ	≤200% of the initial specified value .										
	DC leakage current	≤The initial specified value.										
Shelf Life (1000hrs, +85℃)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1000hrs without voltage applied at 85℃.											
	Capacitance change	≤±20% of the initial measured value.										
	Tan δ	≤200% of the initial specified value .										
	DC leakage current	≤200% of the initial specified value.										
Applicable Standard	IEC384—1/4											

ALUMINUM ELECTROLYTIC CAPACITORS

Ether

CGS SERIES

Case Size/Ripple Current (A) (120Hz/+85℃)/Dissipation Factor

	10			16			25			35			50		
	case	L~	tg δ	case	L~	tg δ	case	L~	tg δ	case	L~	tg δ	case	L~	tg δ
3900													A5	2.8	0.20
4700													A5	3.1	0.20
5600													A5	3.3	0.20
6800													A5	3.3	0.25
8200										A5	3.3	0.30	A6	3.8	0.25
10000										A5	3.6	0.30	A8	4.6	0.25
12000							A5	3.7	0.35	A6	4.2	0.30	A8	5.1	0.25
15000							A5	4.1	0.35	A6	4.7	0.30	A8	5.7	0.25
18000				A5	4.2	0.40	A6	4.8	0.35	A8	5.7	0.30	A10	6.7	0.25
22000				A5	4.7	0.40	A6	5.3	0.35	A8	6.3	0.30	A12	8.1	0.25
27000	A5	4.9	0.45	A6	5.5	0.40	A8	6.4	0.35	A10	7.5	0.30	C8	9.1	0.25
33000	A5	5.1	0.50	A6	5.7	0.45	A8	6.7	0.40	A12	9.0	0.30	C10	11.1	0.25
39000	A6	5.9	0.50	A8	6.8	0.45	A10	7.8	0.40	C8	9.2	0.35	C12	13.1	0.25
47000	A8	7.1	0.50	A8	7.1	0.50	A12	9.3	0.40	C10	11.2	0.35	C12	13.9	0.30
56000	A8	7.1	0.60	A10	8.4	0.50	C8	9.7	0.45	C10	11.4	0.40	D10	13.9	0.35
68000	A10	8.5	0.60	A10	8.8	0.55	C10	11.2	0.45	C12	13.6	0.40	D12	16.6	0.35
82000	A10	8.9	0.65	C8	10.7	0.55	C10	11.2	0.50	D10	14.8	0.45	E12	18.9	0.40
100000	A12	10.7	0.65	C8	10.8	0.65	C12	14.8	0.50	D12	17.6	0.45	E12	19.5	0.45
120000	C8	11.0	0.75	C10	13.1	0.65	D10	14.9	0.65	D12	17.6	0.55	E12	19.5	0.55
150000	C10	13.2	0.80	C12	15.3	0.70	D12	17.9	0.65	E12	19.8	0.65	E14	23.9	0.60
180000	C12	15.7	0.80	C12	15.7	0.80	D12	17.9	0.80	E12	19.8	0.80	F14	23.9	0.75
220000	C12	16.8	0.85	D12	19.2	0.85	E12	21.3	0.85	E14	23.4	0.80			
270000	D12	19.6	1.00	D12	19.6	1.00	E12	21.7	1.00	F14	25.5	1.00			
330000	D12	19.7	1.20	E12	21.1	1.30	E14	23.4	1.20						
390000	E12	21.3	1.50	E12	21.3	1.50	F14	24.9	1.50						
470000	E12	21.4	1.80	E14	24.2	1.60									
560000	E14	23.6	2.00	F14	28.1	2.00									
680000	F14	26.0	2.40	F14	28.5	2.40									

	63			80			100			160			200		
	case	L~	tg δ	case	L~	tg δ	case	L~	tg δ	case	L~	tg δ	case	L~	tg δ
330													A5	0.9	0.15
390													A5	1.0	0.15
470													A5	1.1	0.15
560										A5	1.2	0.15	A5	1.2	0.15
680										A5	1.3	0.15	A5	1.3	0.15
820										A5	1.4	0.15	A5	1.4	0.15
1000										A5	1.6	0.15	A6	1.7	0.15
1200										A6	1.9	0.15	A6	1.9	0.15
1500										A6	2.1	0.15	A8	2.3	0.15
1800							A5	2.7	0.10	A8	2.5	0.15	A8	2.5	0.15
2200				A5	2.4	0.15	A5	3.0	0.10	A8	2.8	0.15	A10	3.0	0.15
2700	A5	2.3	0.20	A5	2.7	0.15	A6	3.5	0.10	A10	3.3	0.15	A12	3.6	0.15
3300	A5	2.5	0.20	A5	3.0	0.15	A8	4.2	0.10	A12	3.8	0.15	C8	4.1	0.15
3900	A5	2.8	0.20	A6	3.4	0.15	A8	4.2	0.12	C8	3.8	0.20	C10	4.9	0.15
4700	A5	3.1	0.20	A6	3.7	0.15	A10	5.0	0.12	C10	4.6	0.20	D10	5.3	0.20
5600	A6	3.5	0.20	A8	4.5	0.15	A10	5.4	0.12	C10	5.1	0.20	D10	5.8	0.20
6800	A6	3.9	0.20	A8	4.9	0.15	A12	5.8	0.15	C12	6.1	0.20	D12	6.9	0.20
8200	A8	4.7	0.20	A10	5.1	0.20	C8	6.4	0.15	D10	7.0	0.20	D12	7.6	0.20
10000	A8	4.7	0.25	A12	6.1	0.20	C10	7.8	0.15	D12	8.4	0.20	E12	9.3	0.20
12000	A10	5.5	0.25	C8	6.7	0.20	C12	9.3	0.15	E10	9.4	0.20	E12	12.2	0.20
15000	A12	6.6	0.25	C10	8.3	0.20	C12	10.4	0.15	E12	11.4	0.20	E14	12.2	0.20
18000	C8	7.4	0.25	C12	9.9	0.20	D10	10.4	0.20	E14	13.4	0.20	F14	13.1	0.25
22000	C10	9.0	0.25	C12	11.0	0.20	D12	12.5	0.20	F14	14.5	0.25			
27000	C12	10.9	0.25	D10	11.4	0.25	E12	13.7	0.25	F14	16.0	0.25			
33000	C12	12.0	0.25	E10	13.9	0.25	E12	15.2	0.25						
39000	D10	12.5	0.30	E10	13.9	0.30	E14	16.1	0.30						
47000	D12	14.9	0.30	E12	16.5	0.30	F14	19.3	0.30						
56000	D12	16.3	0.30	E12	18.1	0.30	F14	21.1	0.30						
68000	E12	18.4	0.35	E14	19.7	0.35									
82000	E14	20.0	0.40	F14	22.1	0.40									
100000	E14	20.0	0.50												
120000	F14	21.8	0.60												

ALUMINUM ELECTROLYTIC CAPACITORS

Ether

CGS SERIES

Case Size/Ripple Current (A) (120Hz/+85℃)/Dissipation Factor

	250			315			350			400			450		
	case	L	tg δ	case	L	tg δ	case	L	tg δ	case	L	tg δ	case	L	tg δ
180				A5	0.8	0.10	A5	0.80	0.10	A5	0.8	0.10	A5	0.9	0.10
220				A5	0.90	0.10	A5	0.90	0.10	A5	0.9	0.10	A5	1.0	0.10
270	A5	0.80	0.15	A5	1.00	0.10	A5	1.00	0.10	A5	1.0	0.10	A6	1.2	0.10
330	A5	0.90	0.15	A5	1.10	0.10	A5	1.1	0.10	A6	1.2	0.10	A6	1.3	0.10
390	A5	1.00	0.15	A5	1.20	0.10	A6	1.3	0.10	A6	1.3	0.10	A8	1.4	0.10
470	A5	1.10	0.15	A6	1.40	0.10	A6	1.4	0.10	A8	1.4	0.10	A8	1.4	0.15
560	A5	1.20	0.15	A6	1.5	0.10	A8	1.6	0.10	A8	1.4	0.15	A10	1.7	0.15
680	A6	1.40	0.15	A8	1.7	0.10	A8	1.6	0.15	A10	1.7	0.15	A12	2.0	0.15
820	A8	1.6	0.15	A8	1.7	0.15	A10	1.8	0.15	A12	2.0	0.15	C8	2.2	0.15
1000	A8	1.6	0.20	A10	2.0	0.15	A12	2.2	0.15	C8	2.2	0.15	C10	2.7	0.15
1200	A8	1.8	0.20	A12	2.4	0.15	C8	2.4	0.15	C10	2.7	0.15	C12	3.3	0.15
1500	A10	2.1	0.20	C8	2.7	0.15	C10	3.0	0.15	C12	3.3	0.15	D10	4.2	0.15
1800	A12	2.5	0.20	C10	3.3	0.15	C12	3.6	0.15	D10	4.2	0.15	D10	4.2	0.15
2200	C8	2.9	0.20	C12	4.0	0.15	C12	4.0	0.15	D10	4.2	0.15	D12	5.5	0.15
2700	C10	3.5	0.20	C12	4.4	0.15	D10	4.6	0.15	D12	5.5	0.15	D12	5.5	0.15
3300	C12	4.2	0.20	D10	5.1	0.15	D12	5.5	0.15	D12	5.5	0.15	E12	6.7	0.15
3900	C12	4.6	0.20	D12	6.0	0.15	E12	6.7	0.15	E13	7.6	0.15	E13	7.6	0.15
4700	D12	5.7	0.20	E10	6.8	0.15	E13	7.6	0.15	E13	7.6	0.15	F14	9.4	0.15
5600	D12	6.3	0.20	E12	8.0	0.15	E13	8.3	0.15	F14	9.4	0.15	F14	10.4	0.15
6800	E12	7.7	0.20	E13	9.2	0.15	E14	9.5	0.15	F14	10.4	0.15			
8200	E12	8.4	0.20	F14	11.4	0.15	F14	11.4	0.15						
10000	E14	10.0	0.20	F14	12.6	0.15									
12000	F14	11.9	0.20												

Frequency Corrections factor for Ripple Current

W.V. (V)	Case Diameter (mm)	Frequency					
		50	120	300	1.10	10K	50k
10 to 50	φ35 – φ89	0.95	1.00	1.03	1.05	1.09	1.12
60 to 80	φ35	0.90	1.00	1.06	1.34	1.18	1.22
	φ50 – φ89	0.95	1.00	1.03	1.26	1.09	1.12
	φ35	0.82	1.00	1.12	1.22	1.30	1.33
100	φ50	0.90	1.00	1.06	1.34	1.18	1.22
	φ63.5– φ89	0.95	1.00	1.03	1.05	1.09	1.12
	φ35	0.80	1.00	1.19	1.34	1.46	1.52
160 to 250	φ50, φ63.5	0.81	1.00	1.14	1.26	1.36	1.41
	φ76– φ89	0.82	1.00	1.12	1.22	1.30	1.33
315 to 400	φ35– φ89	0.80	1.00	1.19	1.34	1.46	1.52

Case Code (mm)

Code	φD	L
A5	35	50
A6	35	60
A8	35	80
A10	35	100
A12	35	120
C8	50	80
C10	50	100
C12	50	120
D10	63.5	100
D12	63.5	120
E10	76	100
E12	76	120
E13	76	130
E14	76	140
F14	89	140

Temperature Multiplying Factor For Ripple Current

Temp.(℃)	+40	+60	+70	+85
16 to 250V	1.50	1.42	1.30	1.00
350 to 450V	2.70	2.00	1.70	1.00