

# ULS Series (85°C 3000H)

- Compliant to the RoHS directive
- High ripple current design
- Used in switching power, frequency converter circuit, filtering circuit, air conditioning, for welder and PCB mounting...



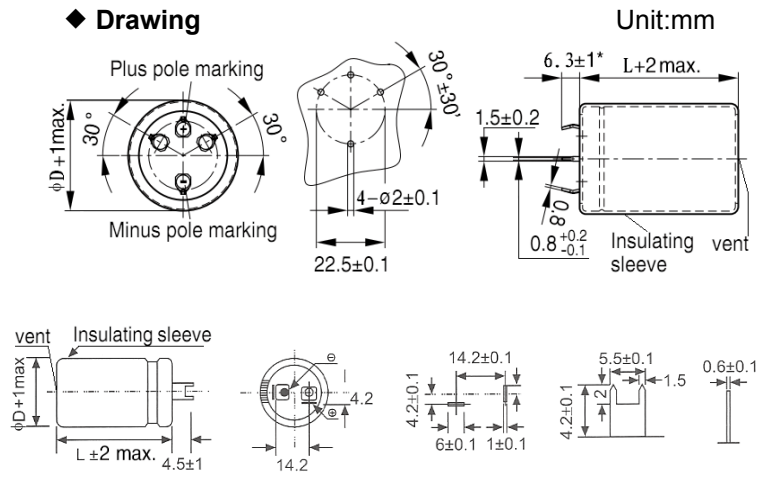
## ◆ SPECIFICATIONS

Item	Performance Characteristics							
Operating range	-40°C~+85°C				-25°C~+85°C			
Rated voltage range	10V~100V				160V~450V			
Capacitance tolerance	±20% (20°C, 120Hz)							
Leakage current	I≤0.01CV(µA) or 1.5mA (Whichever is smaller) (20°C, after 5 minutes) C=Nominal capacitance(µF), V=Rated voltage(V)							
Dissipation factor (20°C, 120Hz)	UR(V)	10	16	25	35	50	63 ~ 400	450
	tanδ	0.50	0.400	0.30	0.25	0.20	0.15	0.20
Stability at Low Temperature (Impedance ratio at 120Hz)	UR(V)	10 ~ 16	25	35	50~63	80~100	160~250	315~450
	Z(-25°C)/Z(+20°C)	4	3	3	2		4	8
	Z(-40°C)/Z(+20°C)	15	10	8	6	5		
Load Life	After applying rated voltage with specified ripple current for 3000 hours at 85°C(the peak voltage shall not exceed the rated voltage), and then restored for 24 hours, capacitor shall meet the following requirement:							
	Capacitance change	Within ±20% of the initial value.						
	Dissipation factor	Not more than 200% of the initial specified value.						
	Leakage current	Not more than the initial specified value.						
Shelf Life	After storing for 1000 hours at 85°C, UR to be applied for 30 minutes and then restored for 24 hours, capacitor shall meet the following requirement:							
	Capacitance change	Within ±15% of the initial value.						
	Dissipation factor	Not more than 150% of the initial specified value.						
	Leakage current	Not more than the initial specified value.						
Standard	JIS C 5101-4							

## ◆ Coefficient of rated ripple current

UR(V) \ F (Hz)	50(60)	120	1K	10K	100K
≤50	0.95	1.00	1.05	1.08	1.08
63-100	0.92	1.00	1.13	1.19	1.20
160-250	0.81	1.00	1.32	1.45	1.50
315-500	0.77	1.00	1.30	1.41	1.43

## ◆ Drawing



◆ Shorter terminal is: 4.0±0.5mm

**◆ STANDARD RATING**

Rated Voltage code (V.DC)	Capacitance (μF)	Case size ΦD×L(mm)	tanδ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(mΩ)	ESR(typ.) 20°C, 120Hz(mΩ)	Part number	
10 1A (16)	12000	22×30	0.50	3.46	50	40	ULS1A123KP030M	
	15000	25×25	0.50	3.47	40	30	ULS1A153KQ025M	
	18000	25×30	0.50	4.15	32	26	ULS1A183KQ030M	
	22000	25×35	0.50	4.63	25	20	ULS1A223KQ035M	
	33000	30×30	0.50	5.05	18	13	ULS1A333KR030M	
	39000	30×35	0.50	5.57	15	11	ULS1A393KR035M	
	47000	30×40	0.50	6.40	12	9.1	ULS1A473KR040M	
	68000	35×40	0.50	8.08	8	6.3	ULS1A683KS040M	
16 1C (25)	8200	22×25	0.40	2.63	66	51	ULS1C822KP025M	
	10000	22×30	0.40	2.91	55	42	ULS1C103KP030M	
		25×25	0.40	2.91	55	42	ULS1C103KQ025M	
	12000	22×35	0.40	3.14	48	35	ULS1C123KP035M	
	15000	22×40	0.40	3.84	38	30	ULS1C153KP040M	
		25×30	0.40	3.84	38	30	ULS1C153KQ030M	
		30×25	0.40	3.84	38	30	ULS1C153KR025M	
	18000	22×45	0.40	4.20	32	23	ULS1C183KP045M	
		25×35	0.40	4.20	32	23	ULS1C183KQ035M	
	22000	22×50	0.40	4.66	28	20	ULS1C223KP050M	
		25×40	0.40	4.66	28	20	ULS1C223KQ040M	
		30×30	0.40	4.66	28	20	ULS1C223KR030M	
		35×25	0.40	4.66	28	20	ULS1C223KS025M	
	25 1E (35)	5600	22×25	0.30	2.36	85	66	ULS1E562KP025M
		6800	22×30	0.30	2.68	70	55	ULS1E682KP030M
			25×25	0.30	2.68	70	55	ULS1E682KQ025M
8200		22×35	0.30	2.94	58	48	ULS1E822KP035M	
10000		22×40	0.30	3.37	50	40	ULS1E103KP040M	
		25×30	0.30	3.37	50	40	ULS1E103KQ030M	
		30×25	0.30	3.37	50	40	ULS1E103KR025M	
12000		22×45	0.30	4.05	40	31	ULS1E123KP045M	
		25×35	0.30	4.05	40	31	ULS1E123KQ035M	
		30×30	0.30	4.05	40	31	ULS1E123KR030M	
15000		25×40	0.30	4.20	35	25	ULS1E153KQ040M	
		30×30	0.30	4.20	35	25	ULS1E153KR030M	
		35×25	0.30	4.20	35	25	ULS1E153KS025M	
18000		25×50	0.30	4.86	30	21	ULS1E183KQ050M	
		30×35	0.30	4.86	30	21	ULS1E183KR035M	
22000		35×30	0.30	4.86	30	21	ULS1E183KS030M	
		30×40	0.30	5.47	25	18	ULS1E223KR040M	
		35×35	0.30	5.47	25	18	ULS1E223KS035M	
35 1V (50)		3300	22×25	0.25	2.05	100	82	ULS1V332KP025M
		3900	22×30	0.25	2.33	90	70	ULS1V392KP030M
	4700	25×25	0.25	2.57	75	60	ULS1V472KQ025M	
	5600	22×35	0.25	2.88	75	60	ULS1V562KP035M	
		25×30	0.25	2.88	75	60	ULS1V562KQ030M	
	6800	22×40	0.25	3.11	60	50	ULS1V682KP040M	
		25×35	0.25	3.11	60	50	ULS1V682KQ035M	
		30×25	0.25	3.11	60	50	ULS1V682KR025M	
	8200	22×50	0.25	3.64	58	47	ULS1V822KP050M	
		25×40	0.25	3.64	58	47	ULS1V822KQ040M	
		30×30	0.25	3.64	58	47	ULS1V822KR030M	
		35×25	0.25	3.64	58	47	ULS1V822KS025M	
	10000	25×45	0.25	3.74	50	40	ULS1V103KQ045M	
		30×35	0.25	3.74	50	40	ULS1V103KR035M	
	12000	25×50	0.25	4.64	40	31	ULS1V123KQ050M	
		30×40	0.25	4.64	40	31	ULS1V123KR040M	
35×30		0.25	4.64	40	31	ULS1V123KS030M		

## ◆ STANDARD RATING

Rated Voltage code (V.DC)	Capacitance (μF)	Case size ΦD×L(mm)	tanδ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(mΩ)	ESR(typ.) 20°C, 120Hz(mΩ)	Part number
35 1V (50)	15000	30×45	0.25	5.26	35	25	ULS1V153KR045M
		35×35	0.25	5.26	35	25	ULS1V153KS035M
	18000	30×50	0.25	5.81	30	22	ULS1V183KR050M
		35×40	0.25	5.81	30	22	ULS1V183KS040M
	22000	35×45	0.25	6.45	25	18	ULS1V223KS045M
50 1H (63)	2200	22×25	0.20	2.01	120	100	ULS1H222KP025M
	2700	22×30	0.20	2.05	105	80	ULS1H272KP030M
		25×25	0.20	2.05	105	80	ULS1H272KQ025M
	3300	22×35	0.20	2.50	105	81	ULS1H332KP035M
		25×30	0.20	2.50	105	81	ULS1H332KQ030M
	3900	25×35	0.20	2.81	90	70	ULS1H392KQ035M
		30×25	0.20	2.81	90	70	ULS1H392KR025M
	4700	22×40	0.20	3.18	75	60	ULS1H472KP040M
		25×35	0.20	3.18	75	60	ULS1H472KQ035M
	5600	25×40	0.20	3.59	75	60	ULS1H562KQ040M
		30×30	0.20	3.59	75	60	ULS1H562KR030M
	6800	25×45	0.20	4.04	60	50	ULS1H682KQ045M
		30×35	0.20	4.04	60	50	ULS1H682KR035M
	8200	25×50	0.20	4.63	60	50	ULS1H822KQ050M
		30×40	0.20	4.63	60	50	ULS1H822KR040M
	10000	30×45	0.20	5.21	50	40	ULS1H103KR045M
		35×35	0.20	5.21	50	40	ULS1H103KS035M
	12000	30×50	0.20	5.88	40	31	ULS1H123KR050M
		35×40	0.20	5.88	40	31	ULS1H123KS040M
	15000	35×50	0.20	6.76	40	30	ULS1H153KS050M
22000	35×60	0.20	7.56	40	30	ULS1H223KS060M	
63 1J (80)	1500	22×25	0.15	1.81	140	110	ULS1J152KP025M
	1800	22×30	0.15	2.07	115	90	ULS1J182KP030M
	2200	22×30	0.15	2.42	100	75	ULS1J222KP030M
		25×25	0.15	2.42	100	75	ULS1J222KQ025M
	2700	22×35	0.15	2.52	80	60	ULS1J272KP035M
		25×30	0.15	2.52	80	60	ULS1J272KQ030M
	3300	22×40	0.15	2.92	90	68	ULS1J332KP040M
		25×35	0.15	2.92	90	68	ULS1J332KQ035M
		30×25	0.15	2.92	90	68	ULS1J332KR025M
	3900	22×45	0.15	3.15	70	60	ULS1J392KP045M
		25×40	0.15	3.15	70	60	ULS1J392KQ040M
		30×30	0.15	3.15	70	60	ULS1J392KR030M
	4700	22×50	0.15	3.56	65	52	ULS1J472KP050M
		25×45	0.15	3.56	65	52	ULS1J472KQ045M
	5600	25×45	0.15	3.96	50	40	ULS1J562KQ045M
		30×35	0.15	3.96	50	40	ULS1J562KR035M
		35×30	0.15	3.96	50	40	ULS1J562KS030M
	6800	30×40	0.15	4.48	45	35	ULS1J682KR040M
		35×35	0.15	4.48	45	35	ULS1J682KS035M
	8200	30×50	0.15	5.07	45	35	ULS1J822KR050M
35×40		0.15	5.07	45	35	ULS1J822KS040M	
10000	35×45	0.15	5.76	35	30	ULS1J103KS045M	
12000	35×50	0.15	6.49	30	25	ULS1J123KS050M	
80 1K (100)	1000	22×25	0.15	1.55	200	160	ULS1K102KP025M
	1200	22×30	0.15	1.78	170	135	ULS1K122KP030M
		22×40	0.15	1.78	170	135	ULS1K122KP040M
	1500	22×35	0.15	1.97	135	110	ULS1K152KP035M
		25×25	0.15	1.97	135	110	ULS1K152KQ025M
	1800	22×35	0.15	2.37	115	90	ULS1K182KP035M
25×30		0.15	2.37	115	90	ULS1K182KQ030M	

**◆ STANDARD RATING**

Rated Voltage code (V.DC)	Capacitance (μF)	Case size ΦD×L(mm)	tanδ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(mΩ)	ESR(typ.) 20°C, 120Hz(mΩ)	Part number
80 1K (100)	2200	22*40	0.15	2.61	95	75	ULS1K222KP040M
		25*35	0.15	2.61	95	75	ULS1K222KQ035M
		30*25	0.15	2.61	95	75	ULS1K222KR025M
	2700	22*50	0.15	2.95	75	60	ULS1K272KP050M
		25*40	0.15	2.95	75	60	ULS1K272KQ040M
		30*30	0.15	2.95	75	60	ULS1K272KR030M
	3300	25*45	0.15	3.37	65	50	ULS1K332KQ045M
		30*35	0.15	3.37	65	50	ULS1K332KR035M
	3900	30*40	0.15	3.76	55	45	ULS1K392KR040M
		35*30	0.15	3.76	55	45	ULS1K392KS030M
	4700	35*35	0.15	4.29	45	40	ULS1K472KS035M
		30*50	0.15	4.78	50	40	ULS1K562KR050M
	5600	35*40	0.15	4.78	50	40	ULS1K562KS040M
100 2A (160)	680	22*25	0.15	1.63	300	240	ULS2A681KP025M
	820	22*30	0.15	1.95	250	200	ULS2A821KP030M
	1000	22*30	0.15	2.08	210	165	ULS2A102KP030M
		22*35	0.15	2.08	210	165	ULS2A102KP035M
	1200	25*25	0.15	2.08	210	165	ULS2A102KQ025M
		22*35	0.15	2.21	180	145	ULS2A122KP035M
	1500	25*30	0.15	2.21	180	145	ULS2A122KQ030M
		22*40	0.15	2.58	140	115	ULS2A152KP040M
		25*35	0.15	2.58	140	115	ULS2A152KQ035M
	1800	30*25	0.15	2.58	140	115	ULS2A152KR025M
		22*50	0.15	2.88	120	95	ULS2A182KP050M
		25*40	0.15	2.88	120	95	ULS2A182KQ040M
	2200	30*30	0.15	2.88	120	95	ULS2A182KR030M
		25*45	0.15	3.29	100	80	ULS2A222KQ045M
		30*35	0.15	3.29	100	80	ULS2A222KR035M
	2700	35*30	0.15	3.29	100	80	ULS2A222KS030M
		25*50	0.15	3.89	80	65	ULS2A272KQ050M
		30*40	0.15	3.89	80	65	ULS2A272KR040M
	3300	30*45	0.15	4.26	70	55	ULS2A332KR045M
		35*35	0.15	4.26	70	55	ULS2A332KS035M
	3900	30*50	0.15	4.76	60	45	ULS2A392KR050M
		35*40	0.15	4.76	60	45	ULS2A392KS040M
	4700	35*50	0.15	5.38	50	40	ULS2A472KS050M
	160 2C (200)	270	22*25	0.15	1.41	500	400
330		22*30	0.15	1.61	420	350	ULS2C331KP030M
390		22*35	0.15	1.73	350	280	ULS2C391KP035M
		25*25	0.15	1.73	350	280	ULS2C391KQ025M
470		25*30	0.15	1.94	300	230	ULS2C471KQ030M
560		22*35	0.15	2.40	250	195	ULS2C561KP035M
		25*30	0.15	2.40	250	195	ULS2C561KQ030M
		30*25	0.15	2.40	250	195	ULS2C561KR025M
680		22*40	0.15	2.64	200	160	ULS2C681KP040M
		25*35	0.15	2.64	200	160	ULS2C681KQ035M
820		22*50	0.15	2.92	170	135	ULS2C821KP050M
		25*45	0.15	2.92	170	135	ULS2C821KQ045M
		30*30	0.15	2.92	170	135	ULS2C821KR030M
1000		25*45	0.15	3.23	140	110	ULS2C102KQ045M
		30*40	0.15	3.23	140	110	ULS2C102KR040M
		35*35	0.15	3.23	140	110	ULS2C102KS035M
1200		30*40	0.15	3.62	120	92	ULS2C122KR040M
		35*35	0.15	3.62	120	92	ULS2C122KS035M
1500		30*45	0.15	4.15	110	90	ULS2C152KR045M
		35*40	0.15	4.15	110	90	ULS2C152KS040M
1800		35*45	0.15	4.56	90	75	ULS2C182KS045M
2200		35*50	0.15	5.23	80	60	ULS2C222KS050M

◆ STANDARD RATING

Rated Voltage code (V.DC)	Capacitance (μF)	Case size ΦD×L(mm)	tanδ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(mΩ)	ESR(typ.) 20°C, 120Hz(mΩ)	Part number
200 2D (250)	220	22*25	0.15	1.27	600	500	ULS2D221KP025M
	270	22*30	0.15	1.48	500	400	ULS2D271KP030M
	330	22*30	0.15	1.59	410	330	ULS2D331KP030M
		25*25	0.15	1.59	410	330	ULS2D331KQ025M
	390	22*35	0.15	1.83	350	280	ULS2D391KP035M
		25*30	0.15	1.83	350	280	ULS2D391KQ030M
	470	22*40	0.15	2.08	300	230	ULS2D471KP040M
		30*25	0.15	2.08	300	230	ULS2D471KR025M
	560	22*45	0.15	2.55	250	200	ULS2D561KP045M
		25*35	0.15	2.55	250	200	ULS2D561KQ035M
		30*30	0.15	2.55	250	200	ULS2D561KR030M
		35*25	0.15	2.55	250	200	ULS2D561KS025M
	680	25*40	0.15	2.81	200	160	ULS2D681KQ040M
		30*35	0.15	2.81	200	160	ULS2D681KR035M
	820	25*50	0.15	3.08	170	135	ULS2D821KQ050M
		30*40	0.15	3.08	170	135	ULS2D821KR040M
		35*30	0.15	3.08	170	135	ULS2D821KS030M
	1000	30*45	0.15	3.52	150	110	ULS2D102KR045M
		35*35	0.15	3.52	160	130	ULS2D102KS035M
	1200	30*50	0.15	3.83	120	90	ULS2D122KR050M
35*40		0.15	3.83	140	110	ULS2D122KS040M	
1500	35*50	0.15	4.36	110	90	ULS2D152KS050M	
250 2E (300)	180	22*25	0.15	1.18	1110	890	ULS2E181KP025M
	220	22*30	0.15	1.37	910	730	ULS2E221KP030M
		25*25	0.15	1.37	910	730	ULS2E221KQ025M
	270	22*35	0.15	1.57	750	600	ULS2E271KP035M
	330	22*40	0.15	1.83	610	490	ULS2E331KP040M
		25*35	0.15	1.83	610	490	ULS2E331KQ035M
		30*25	0.15	1.83	610	490	ULS2E331KR025M
	390	22*45	0.15	2.00	520	410	ULS2E391KP045M
		25*35	0.15	2.00	520	410	ULS2E391KQ035M
	470	25*40	0.15	2.25	430	340	ULS2E471KQ040M
		30*30	0.15	2.25	430	340	ULS2E471KR030M
		35*25	0.15	2.25	430	340	ULS2E471KS025M
	560	25*45	0.15	2.60	360	290	ULS2E561KQ045M
		30*35	0.15	2.60	360	290	ULS2E561KR035M
	680	30*40	0.15	2.81	300	240	ULS2E681KR040M
		35*30	0.15	2.81	300	240	ULS2E681KS030M
	820	30*45	0.15	3.20	250	200	ULS2E821KR045M
		35*35	0.15	3.20	250	200	ULS2E821KS035M
	1000	35*40	0.15	4.25	200	165	ULS2E102KS040M
	1200	35*45	0.15	4.39	170	140	ULS2E122KS045M
315 2F (365)	100	22*25	0.15	0.89	2000	1600	ULS2F101KP025M
	120	22*25	0.15	1.00	2000	1600	ULS2F121KP025M
	150	22*30	0.15	1.10	1330	1100	ULS2F151KP030M
		25*25	0.15	1.10	1330	1100	ULS2F151KQ025M
	180	22*35	0.15	1.45	1110	890	ULS2F181KP035M
		25*30	0.15	1.45	1110	890	ULS2F181KQ030M
	220	22*40	0.15	1.55	910	730	ULS2F221KP040M
		25*35	0.15	1.55	910	730	ULS2F221KQ035M
		30*25	0.15	1.55	910	730	ULS2F221KR025M
	270	22*45	0.15	1.78	740	600	ULS2F271KP045M
		25*40	0.15	1.78	740	600	ULS2F271KQ040M
		30*30	0.15	1.78	740	600	ULS2F271KR030M
		35*25	0.15	1.78	740	600	ULS2F271KS025M
	330	25*45	0.15	2.08	610	490	ULS2F331KQ045M
		30*35	0.15	2.08	610	490	ULS2F331KR035M

**◆ STANDARD RATING**

Rated Voltage code (V.DC)	Capacitance (μF)	Case size ΦD×L(mm)	tanδ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(mΩ)	ESR(typ.) 20°C, 120Hz(mΩ)	Part number
315 2F (365)	390	30*40	0.15	2.26	520	410	ULS2F391KR040M
		35*30	0.15	2.26	520	410	ULS2F391KS030M
	470	30*45	0.15	2.58	430	345	ULS2F471KR045M
		35*35	0.15	2.58	430	345	ULS2F471KS035M
	560	30*50	0.15	2.82	360	290	ULS2F561KR050M
		35*40	0.15	2.82	360	290	ULS2F561KS040M
680	35*45	0.15	3.20	300	240	ULS2F681KS045M	
350 2V (400)	82	22*25	0.15	0.78	2450	1950	ULS2V820KP025M
	100	22*25	0.15	0.99	2000	1600	ULS2V101KP025M
	120	22*30	0.15	1.10	1670	1330	ULS2V121KP030M
		25*25	0.15	1.10	1670	1330	ULS2V121KQ025M
	150	22*35	0.15	1.28	1330	1070	ULS2V151KP035M
		25*30	0.15	1.28	1330	1070	ULS2V151KQ030M
	180	22*40	0.15	1.42	1110	890	ULS2V181KP040M
		30*25	0.15	1.42	1110	890	ULS2V181KR025M
	220	22*45	0.15	1.62	920	730	ULS2V221KP045M
		25*35	0.15	1.62	920	730	ULS2V221KQ035M
		30*30	0.15	1.62	920	730	ULS2V221KR030M
	270	25*45	0.15	1.89	745	595	ULS2V271KQ045M
		30*35	0.15	1.89	745	595	ULS2V271KR035M
		35*30	0.15	1.89	745	595	ULS2V271KS030M
	330	25*50	0.15	2.15	610	485	ULS2V331KQ050M
		30*40	0.15	2.15	610	485	ULS2V331KR040M
		35*30	0.15	2.15	610	485	ULS2V331KS030M
	390	30*40	0.15	2.41	515	410	ULS2V391KR040M
		35*35	0.15	2.41	515	410	ULS2V391KS035M
	470	30*45	0.15	2.67	430	340	ULS2V471KR045M
		35*40	0.15	2.67	430	340	ULS2V471KS040M
	560	35*45	0.15	2.88	360	290	ULS2V561KS045M
	680	35*50	0.15	3.31	360	290	ULS2V681KS050M
	820	35*60	0.15	3.67	250	200	ULS2V821KS060M
400 2G (450)	82	22*25	0.15	0.88	2430	1945	ULS2G820KP025M
	100	22*30	0.15	1.04	1995	1595	ULS2G101KP030M
		25*25	0.15	1.04	1995	1595	ULS2G101KQ025M
	120	22*35	0.15	1.21	1660	1330	ULS2G121KP035M
	150	25*30	0.15	1.36	1330	1065	ULS2G151KQ030M
		30*25	0.15	1.36	1330	1065	ULS2G151KR025M
	180	25*35	0.15	1.63	1110	890	ULS2G181KQ035M
		30*30	0.15	1.63	1110	890	ULS2G181KR030M
		35*25	0.15	1.63	1110	890	ULS2G181KS025M
	220	22*50	0.15	1.74	910	730	ULS2G221KP050M
		25*40	0.15	1.74	910	730	ULS2G221KQ040M
		30*35	0.15	1.74	910	730	ULS2G221KR035M
	270	25*45	0.15	1.94	740	600	ULS2G271KQ045M
		30*40	0.15	1.94	740	600	ULS2G271KR040M
		35*35	0.15	1.94	740	600	ULS2G271KS035M
	330	30*40	0.15	2.19	610	490	ULS2G331KR040M
		30*45	0.15	2.19	610	490	ULS2G331KR045M
		35*30	0.15	2.19	610	490	ULS2G331KS030M
	390	30*50	0.15	2.46	515	415	ULS2G391KR050M
		35*35	0.15	2.46	515	415	ULS2G391KS035M
	470	35*40	0.15	2.70	425	345	ULS2G471KS040M
		35*45	0.15	2.70	425	345	ULS2G471KS045M
		35*50	0.15	2.70	425	345	ULS2G471KS050M
	560	35*45	0.15	2.99	360	290	ULS2G561KS045M
35*50		0.15	2.99	360	290	ULS2G561KS050M	

## ◆ STANDARD RATING

Rated Voltage code (V.DC)	Capacitance (μF)	Case size ΦD×L(mm)	tanδ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(mΩ)	ESR(typ.) 20°C, 120Hz(mΩ)	Part number
400 2G (450)	680	35*50	0.15	3.25	350	270	ULS2G681KS050M
	820	35*60	0.15	3.62	342	260	ULS2G821KS060M
	1000	35*65	0.15	3.91	300	250	ULS2G102KS065M
	1200	35*80	0.15	4.36	300	250	ULS2G122KS080M
450 2W (500)	68	22*30	0.20	0.74	2930	2345	ULS2W680KP030M
	82	25*35	0.20	0.92	2430	1945	ULS2W820KQ035M
	100	22*35	0.20	1.01	1995	1600	ULS2W101KP035M
		25*30	0.20	1.01	1995	1600	ULS2W101KQ030M
	120	22*40	0.20	1.21	1660	1330	ULS2W121KP040M
		25*35	0.20	1.21	1660	1330	ULS2W121KQ035M
	150	25*40	0.20	1.36	1330	1070	ULS2W151KQ040M
		30*30	0.20	1.36	1330	1070	ULS2W151KR030M
		35*25	0.20	1.36	1330	1070	ULS2W151KS025M
	180	25*45	0.20	1.52	1110	895	ULS2W181KQ045M
		30*35	0.20	1.52	1110	895	ULS2W181KR035M
		35*25	0.20	1.52	1110	895	ULS2W181KS025M
	220	25*50	0.20	1.74	915	730	ULS2W221KQ050M
		30*40	0.20	1.74	915	730	ULS2W221KR040M
		35*30	0.20	1.74	915	730	ULS2W221KS030M
	270	30*45	0.20	1.99	740	590	ULS2W271KR045M
		35*35	0.20	1.99	740	590	ULS2W271KS035M
	330	30*50	0.20	2.25	610	490	ULS2W331KR050M
	390	35*45	0.20	2.49	520	415	ULS2W391KS045M
	470	35*50	0.20	2.83	430	342	ULS2W471KS050M
560	35*60	0.20	3.02	360	320	ULS2W561KS060M	
680	35*65	0.20	3.31	320	260	ULS2W681KS065M	

- The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 10°C rise.
- When long life performance is required in actual use, the rms ripple current has to be reduced.