

ULP Series (85°C 2000H)

- Compliant to the RoHS directive
- Standard product, Load life of 2000 hours at 85°C
- Used in switching power, frequency converter circuit, filtering circuit, air conditioning, for welder and PCB mounting...



◆ SPECIFICATIONS

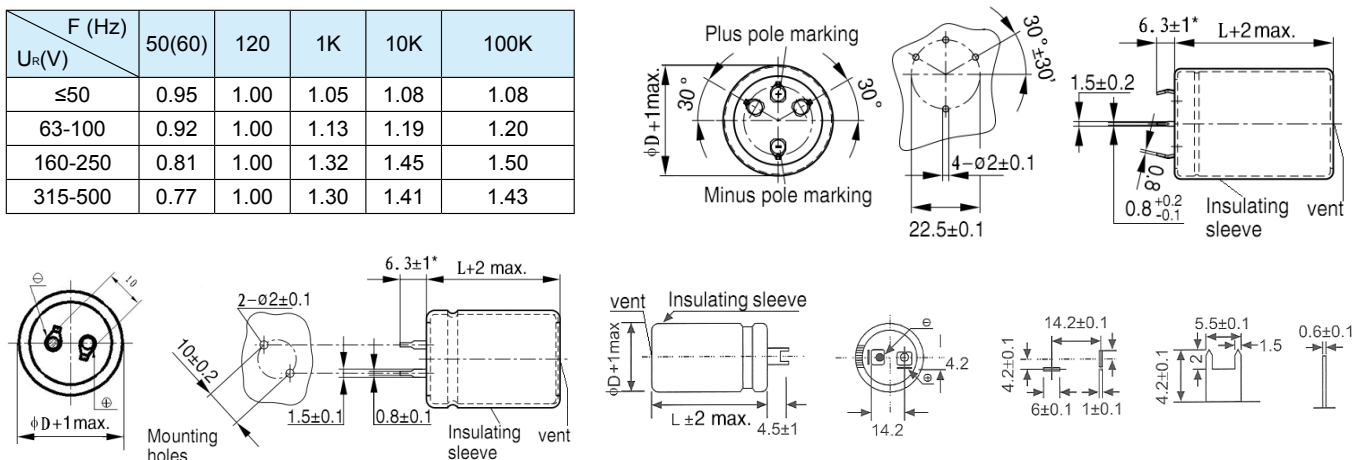
Item	Performance Characteristics							
Operating range	-40°C~+85°C					-25°C~+85°C		
Rated voltage range	10V~100V					160V~450V		
Capacitance tolerance	±20% (20°C, 120Hz)							
Leakage current	≤0.01CV(μA) or1.5mA (Whichever is smaller) (20°C, after 5 minutes) C=Nominal capacitance(μF), V=Rated voltage(V)							
Dissipation factor (20°C,120Hz)	UR(V)	10	16	25	35	50	63 ~ 400	450
	tanδ	0.50	0.40	0.30	0.25	0.20	0.15	0.20
Stability at Low Temperature (Impedance ratio at120Hz)	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 2000 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 than150% of the initial specified value.					
	Leakage current		Not more than the initial specified value.					
Standard	JIS C 5101-4							

◆ Coefficient of rated ripple current

F (Hz)	50(60)	120	1K	10K	100K
UR(V)					
≤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

Unit:mm



◆ Shorter terminal is: $4.0 \pm 0.5 \text{ mm}$

◆ STANDARD RATING

Rated Voltage code (V.DC)	Capacitance (μ F)	Case size $\Phi D \times L$ (mm)	$\tan \delta$ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(m Ω)	ESR(typ.) 20°C, 120Hz(m Ω)	Part number
10 1A (16)	12000	22×30	0.50	3.30	50	40	ULP1A123KP030M
	15000	25×25	0.50	3.31	40	30	ULP1A153KQ025M
	18000	25×30	0.50	3.96	32	26	ULP1A183KQ030M
	22000	25×35	0.50	4.41	25	20	ULP1A223KQ035M
	33000	30×30	0.50	4.81	18	13	ULP1A333KR030M
	39000	30×35	0.50	5.31	15	11	ULP1A393KR035M
	47000	30×40	0.50	6.1	12	9.1	ULP1A473KR040M
	68000	35×40	0.50	7.7	8	6.3	ULP1A683KS040M
16 1C (25)	8200	22×25	0.40	2.51	66	51	ULP1C822KP025M
	10000	22×30	0.40	2.77	55	42	ULP1C103KP030M
		25×25	0.40	2.77	55	42	ULP1C103KQ025M
	12000	22×35	0.40	2.99	48	35	ULP1C123KP035M
	15000	22×40	0.40	3.66	38	30	ULP1C153KP040M
		25×30	0.40	3.66	38	30	ULP1C153KQ030M
		30×25	0.40	3.66	38	30	ULP1C153KR025M
	18000	22×45	0.40	4.00	32	23	ULP1C183KP045M
		25×35	0.40	4.00	32	23	ULP1C183KQ035M
	22000	22×50	0.40	4.44	28	20	ULP1C223KP050M
		25×40	0.40	4.44	28	20	ULP1C223KQ040M
		30×30	0.40	4.44	28	20	ULP1C223KR030M
		35×25	0.40	4.44	28	20	ULP1C223KS025M
25 1E (35)	5600	22×25	0.30	2.25	85	66	ULP1E562KP025M
	6800	22×30	0.30	2.56	70	55	ULP1E682KP030M
		25×25	0.30	2.56	70	55	ULP1E682KQ025M
	8200	22×35	0.30	2.80	58	48	ULP1E822KP035M
	10000	22×40	0.30	3.21	50	40	ULP1E103KP040M
		25×30	0.30	3.21	50	40	ULP1E103KQ030M
		30×25	0.30	3.21	50	40	ULP1E103KR025M
	12000	22×45	0.30	3.86	40	31	ULP1E123KP045M
		25×35	0.30	3.86	40	31	ULP1E123KQ035M
		30×30	0.30	3.86	40	31	ULP1E123KR030M
	15000	25×40	0.30	4.00	35	25	ULP1E153KQ040M
		30×30	0.30	4.00	35	25	ULP1E153KR030M
		35×25	0.30	4.00	35	25	ULP1E153KS025M
	18000	25×50	0.30	4.63	30	21	ULP1E183KQ050M
		30×35	0.30	4.63	30	21	ULP1E183KR035M
	22000	35×30	0.30	4.63	30	21	ULP1E183KS030M
		30×40	0.30	5.21	25	18	ULP1E223KR040M
		35×35	0.30	5.21	25	18	ULP1E223KS035M
35 1V (50)	3300	22×25	0.25	1.95	100	82	ULP1V332KP025M
	3900	22×30	0.25	2.22	90	70	ULP1V392KP030M
	4700	25×25	0.25	2.45	75	60	ULP1V472KQ025M
	5600	22×35	0.25	2.75	75	60	ULP1V562KP035M
		25×30	0.25	2.75	75	60	ULP1V562KQ030M
	6800	22×40	0.25	2.97	60	50	ULP1V682KP040M
		25×35	0.25	2.97	60	50	ULP1V682KQ035M
		30×25	0.25	2.97	60	50	ULP1V682KR025M
	8200	22×50	0.25	3.47	58	47	ULP1V822KP050M
		25×40	0.25	3.47	58	47	ULP1V822KQ040M
		30×30	0.25	3.47	58	47	ULP1V822KR030M
		35×25	0.25	3.47	58	47	ULP1V822KS025M
	10000	25×45	0.25	3.57	50	40	ULP1V103KQ045M
		30×35	0.25	3.57	50	40	ULP1V103KR035M
	12000	25×50	0.25	4.42	40	31	ULP1V123KQ050M
		30×40	0.25	4.42	40	31	ULP1V123KR040M
		35×30	0.25	4.42	40	31	ULP1V123KS030M

◆ STANDARD RATING

Rated Voltage code (V.DC)	Capacitance (μ F)	Case size Φ D×L(mm)	$\tan\delta$ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(m Ω)	ESR(typ.) 20°C, 120Hz(m Ω)	Part number
35 1V (50)	15000	30×45	0.25	5.01	35	25	ULP1V153KR045M
		35×35	0.25	5.01	35	25	ULP1V153KS035M
	18000	30×50	0.25	5.54	30	22	ULP1V183KR050M
		35×40	0.25	5.54	30	22	ULP1V183KS040M
	22000	35×45	0.25	6.15	25	18	ULP1V223KS045M
50 1H (63)	2200	22×25	0.20	1.91	120	100	ULP1H222KP025M
	2700	22×30	0.20	1.95	105	80	ULP1H272KP030M
		25×25	0.20	1.95	105	80	ULP1H272KQ025M
	3300	22×35	0.20	2.38	105	81	ULP1H332KP035M
		25×30	0.20	2.38	105	81	ULP1H332KQ030M
	3900	25×35	0.20	2.68	90	70	ULP1H392KQ035M
		30×25	0.20	2.68	90	70	ULP1H392KR025M
	4700	22×40	0.20	3.03	75	60	ULP1H472KP040M
		25×35	0.20	3.03	75	60	ULP1H472KQ035M
	5600	25×40	0.20	3.42	75	60	ULP1H562KQ040M
		30×30	0.20	3.42	75	60	ULP1H562KR030M
	6800	25×45	0.20	3.85	60	50	ULP1H682KQ045M
		30×35	0.20	3.85	60	50	ULP1H682KR035M
	8200	25×50	0.20	4.41	60	50	ULP1H822KQ050M
		30×40	0.20	4.41	60	50	ULP1H822KR040M
	10000	30×45	0.20	4.97	50	40	ULP1H103KR045M
		35×35	0.20	4.97	50	40	ULP1H103KS035M
	12000	30×50	0.20	5.60	40	31	ULP1H123KR050M
		35×40	0.20	5.60	40	31	ULP1H123KS040M
63 1J (80)	1500	22×25	0.15	1.72	140	110	ULP1J152KP025M
	1800	22×30	0.15	1.97	115	90	ULP1J182KP030M
	2200	22×30	0.15	2.31	100	75	ULP1J222KP030M
		25×25	0.15	2.31	100	75	ULP1J222KQ025M
	2700	22×35	0.15	2.40	80	60	ULP1J272KP035M
		25×30	0.15	2.40	80	60	ULP1J272KQ030M
	3300	22×40	0.15	2.78	90	68	ULP1J332KP040M
		25×35	0.15	2.78	90	68	ULP1J332KQ035M
		30×25	0.15	2.78	90	68	ULP1J332KR025M
	3900	22×45	0.15	3.00	70	60	ULP1J392KP045M
		25×40	0.15	3.00	70	60	ULP1J392KQ040M
		30×30	0.15	3.00	70	60	ULP1J392KR030M
	4700	22×50	0.15	3.39	65	52	ULP1J472KP050M
		25×45	0.15	3.39	65	52	ULP1J472KQ045M
	5600	25×45	0.15	3.77	50	40	ULP1J562KQ045M
		30×35	0.15	3.77	50	40	ULP1J562KR035M
		35×30	0.15	3.77	50	40	ULP1J562KS030M
	6800	30×40	0.15	4.27	45	35	ULP1J682KR040M
		35×35	0.15	4.27	45	35	ULP1J682KS035M
	8200	30×50	0.15	4.83	45	35	ULP1J822KR050M
		35×40	0.15	4.83	45	35	ULP1J822KS040M
80 1K (100)	10000	35×45	0.15	5.49	35	30	ULP1J103KS045M
	12000	35×50	0.15	6.19	30	25	ULP1J123KS050M
	1000	22×25	0.15	1.48	200	160	ULP1K102KP025M
		22×30	0.15	1.70	170	135	ULP1K122KP030M
	1200	22×40	0.15	1.70	170	135	ULP1K122KP040M
		22×35	0.15	1.88	135	110	ULP1K152KP035M
	1500	25×25	0.15	1.88	135	110	ULP1K152KQ025M
		22×35	0.15	2.26	115	90	ULP1K182KP035M
		25×30	0.15	2.26	115	90	ULP1K182KQ030M

◆ STANDARD RATING

Rated Voltage code (V.DC)	Capacitance (μ F)	Case size Φ D×L(mm)	$\tan\delta$ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(m Ω)	ESR(typ.) 20°C, 120Hz(m Ω)	Part number
80 1K (100)	2200	22*40	0.15	2.49	95	75	ULP1K222KP040M
		25*35	0.15	2.49	95	75	ULP1K222KQ035M
		30*25	0.15	2.49	95	75	ULP1K222KR025M
	2700	22*50	0.15	2.81	75	60	ULP1K272KP050M
		25*40	0.15	2.81	75	60	ULP1K272KQ040M
		30*30	0.15	2.81	75	60	ULP1K272KR030M
	3300	25*45	0.15	3.21	65	50	ULP1K332KQ045M
		30*35	0.15	3.21	65	50	ULP1K332KR035M
	3900	30*40	0.15	3.59	55	45	ULP1K392KR040M
		35*30	0.15	3.59	55	45	ULP1K392KS030M
	4700	35*35	0.15	4.09	45	40	ULP1K472KS035M
		30*50	0.15	4.56	50	40	ULP1K562KR050M
100 2A (160)	680	22*25	0.15	1.55	300	240	ULP2A681KP025M
		22*30	0.15	1.86	250	200	ULP2A821KP030M
	1000	22*30	0.15	1.98	210	165	ULP2A102KP030M
		22*35	0.15	1.98	210	165	ULP2A102KP035M
		25*25	0.15	1.98	210	165	ULP2A102KQ025M
	1200	22*35	0.15	2.10	180	145	ULP2A122KP035M
		25*30	0.15	2.10	180	145	ULP2A122KQ030M
	1500	22*40	0.15	2.46	140	115	ULP2A152KP040M
		25*35	0.15	2.46	140	115	ULP2A152KQ035M
		30*25	0.15	2.46	140	115	ULP2A152KR025M
	1800	22*50	0.15	2.75	120	95	ULP2A182KP050M
		25*40	0.15	2.75	120	95	ULP2A182KQ040M
		30*30	0.15	2.75	120	95	ULP2A182KR030M
	2200	25*45	0.15	3.14	100	80	ULP2A222KQ045M
		30*35	0.15	3.14	100	80	ULP2A222KR035M
		35*30	0.15	3.14	100	80	ULP2A222KS030M
	2700	25*50	0.15	3.71	80	65	ULP2A272KQ050M
		30*40	0.15	3.71	80	65	ULP2A272KR040M
	3300	30*45	0.15	4.06	70	55	ULP2A332KR045M
		35*35	0.15	4.06	70	55	ULP2A332KS035M
	3900	30*50	0.15	4.54	60	45	ULP2A392KR050M
		35*40	0.15	4.54	60	45	ULP2A392KS040M
	4700	35*50	0.15	5.13	50	40	ULP2A472KS050M
160 2C (200)	270	22*25	0.15	1.35	500	400	ULP2C271KP025M
	330	22*30	0.15	1.54	420	350	ULP2C331KP030M
	390	22*35	0.15	1.65	350	280	ULP2C391KP035M
		25*25	0.15	1.65	350	280	ULP2C391KQ025M
	470	25*30	0.15	1.85	300	230	ULP2C471KQ030M
	560	22*35	0.15	2.29	250	195	ULP2C561KP035M
		25*30	0.15	2.29	250	195	ULP2C561KQ030M
		30*25	0.15	2.29	250	195	ULP2C561KR025M
	680	22*40	0.15	2.52	200	160	ULP2C681KP040M
		25*35	0.15	2.52	200	160	ULP2C681KQ035M
	820	22*50	0.15	2.78	170	135	ULP2C821KP050M
		25*45	0.15	2.78	170	135	ULP2C821KQ045M
		30*30	0.15	2.78	170	135	ULP2C821KR030M
	1000	25*45	0.15	3.08	140	110	ULP2C102KQ045M
		30*40	0.15	3.08	140	110	ULP2C102KR040M
		35*35	0.15	3.08	140	110	ULP2C102KS035M
	1200	30*40	0.15	3.45	120	92	ULP2C122KR040M
		35*35	0.15	3.45	120	92	ULP2C122KS035M
	1500	30*45	0.15	3.96	110	90	ULP2C152KR045M
		35*40	0.15	3.96	110	90	ULP2C152KS040M
	1800	35*45	0.15	4.35	90	75	ULP2C182KS045M
		35*50	0.15	4.98	80	60	ULP2C222KS050M

◆ STANDARD RATING

Rated Voltage code (V.DC)	Capacitance (μ F)	Case size Φ D×L(mm)	$\tan\delta$ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(m Ω)	ESR(typ.) 20°C, 120Hz(m Ω)	Part number
200 2D (250)	220	22*25	0.15	1.21	600	500	ULP2D221KP025M
	270	22*30	0.15	1.41	500	400	ULP2D271KP030M
	330	22*30	0.15	1.52	410	330	ULP2D331KP030M
		25*25	0.15	1.52	410	330	ULP2D331KQ025M
	390	22*35	0.15	1.75	350	280	ULP2D391KP035M
		25*30	0.15	1.75	350	280	ULP2D391KQ030M
	470	22*40	0.15	1.98	300	230	ULP2D471KP040M
		30*25	0.15	1.98	300	230	ULP2D471KR025M
	560	22*45	0.15	2.43	250	200	ULP2D561KP045M
		25*35	0.15	2.43	250	200	ULP2D561KQ035M
		30*30	0.15	2.43	250	200	ULP2D561KR030M
		35*25	0.15	2.43	250	200	ULP2D561KS025M
	680	25*40	0.15	2.68	200	160	ULP2D681KQ040M
		30*35	0.15	2.68	200	160	ULP2D681KR035M
	820	25*50	0.15	2.93	170	135	ULP2D821KQ050M
		30*40	0.15	2.93	170	135	ULP2D821KR040M
		35*30	0.15	2.93	170	135	ULP2D821KS030M
	1000	30*45	0.15	3.35	150	110	ULP2D102KR045M
		35*35	0.15	3.35	160	130	ULP2D102KS035M
	1200	30*50	0.15	3.65	120	90	ULP2D122KR050M
		35*40	0.15	3.65	140	110	ULP2D122KS040M
	1500	35*50	0.15	4.15	110	90	ULP2D152KS050M
250 2E (300)	180	22*25	0.15	1.12	1110	890	ULP2E181KP025M
	220	22*30	0.15	1.31	910	730	ULP2E221KP030M
		25*25	0.15	1.31	910	730	ULP2E221KQ025M
	270	22*35	0.15	1.50	750	600	ULP2E271KP035M
	330	22*40	0.15	1.75	610	490	ULP2E331KP040M
		25*35	0.15	1.75	610	490	ULP2E331KQ035M
		30*25	0.15	1.75	610	490	ULP2E331KR025M
	390	22*45	0.15	1.91	520	410	ULP2E391KP045M
		25*35	0.15	1.91	520	410	ULP2E391KQ035M
	470	25*40	0.15	2.15	430	340	ULP2E471KQ040M
		30*30	0.15	2.15	430	340	ULP2E471KR030M
		35*25	0.15	2.15	430	340	ULP2E471KS025M
	560	25*45	0.15	2.48	360	290	ULP2E561KQ045M
		30*35	0.15	2.48	360	290	ULP2E561KR035M
	680	30*40	0.15	2.68	300	240	ULP2E681KR040M
		35*30	0.15	2.68	300	240	ULP2E681KS030M
	820	30*45	0.15	3.05	250	200	ULP2E821KR045M
		35*35	0.15	3.05	250	200	ULP2E821KS035M
	1000	35*40	0.15	4.05	200	165	ULP2E102KS040M
	1200	35*45	0.15	4.18	170	140	ULP2E122KS045M
315 2F (365)	100	22*25	0.15	0.85	2000	1600	ULP2F101KP025M
	120	22*25	0.15	0.96	2000	1600	ULP2F121KP025M
	150	22*30	0.15	1.05	1330	1100	ULP2F151KP030M
		25*25	0.15	1.05	1330	1100	ULP2F151KQ025M
	180	22*35	0.15	1.38	1110	890	ULP2F181KP035M
		25*30	0.15	1.38	1110	890	ULP2F181KQ030M
	220	22*40	0.15	1.48	910	730	ULP2F221KP040M
		25*35	0.15	1.48	910	730	ULP2F221KQ035M
		30*25	0.15	1.48	910	730	ULP2F221KR025M
	270	22*45	0.15	1.70	740	600	ULP2F271KP045M
		25*40	0.15	1.70	740	600	ULP2F271KQ040M
		30*30	0.15	1.70	740	600	ULP2F271KR030M
		35*25	0.15	1.70	740	600	ULP2F271KS025M
	330	25*45	0.15	1.98	610	490	ULP2F331KQ045M
		30*35	0.15	1.98	610	490	ULP2F331KR035M

◆ STANDARD RATING

Rated Voltage code (V.DC)	Capacitance (μ F)	Case size Φ D×L(mm)	$\tan\delta$ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(m Ω)	ESR(typ.) 20°C, 120Hz(m Ω)	Part number
315 2F (365)	390	30*40	0.15	2.15	520	410	ULP2F391KR040M
		35*30	0.15	2.15	520	410	ULP2F391KS030M
	470	30*45	0.15	2.46	430	345	ULP2F471KR045M
		35*35	0.15	2.46	430	345	ULP2F471KS035M
	560	30*50	0.15	2.69	360	290	ULP2F561KR050M
		35*40	0.15	2.69	360	290	ULP2F561KS040M
350 2V (400)	680	35*45	0.15	3.05	300	240	ULP2F681KS045M
	82	22*25	0.15	0.75	2450	1950	ULP2V820KP025M
	100	22*25	0.15	0.95	2000	1600	ULP2V101KP025M
	120	22*30	0.15	1.05	1670	1330	ULP2V121KP030M
		25*25	0.15	1.05	1670	1330	ULP2V121KQ025M
	150	22*35	0.15	1.22	1330	1070	ULP2V151KP035M
		25*30	0.15	1.22	1330	1070	ULP2V151KQ030M
	180	22*40	0.15	1.35	1110	890	ULP2V181KP040M
		30*25	0.15	1.35	1110	890	ULP2V181KR025M
	220	22*45	0.15	1.55	920	730	ULP2V221KP045M
		25*35	0.15	1.55	920	730	ULP2V221KQ035M
		30*30	0.15	1.55	920	730	ULP2V221KR030M
	270	25*45	0.15	1.80	745	595	ULP2V271KQ045M
		30*35	0.15	1.80	745	595	ULP2V271KR035M
		35*30	0.15	1.80	745	595	ULP2V271KS030M
	330	25*50	0.15	2.03	610	485	ULP2V331KQ050M
		30*40	0.15	2.03	610	485	ULP2V331KR040M
		35*30	0.15	2.03	610	485	ULP2V331KS030M
	390	30*40	0.15	2.30	515	410	ULP2V391KR040M
		35*35	0.15	2.30	515	410	ULP2V391KS035M
	470	30*45	0.15	2.55	430	340	ULP2V471KR045M
		35*40	0.15	2.55	430	340	ULP2V471KS040M
	560	35*45	0.15	2.75	360	290	ULP2V561KS045M
	680	35*50	0.15	3.15	360	290	ULP2V681KS050M
	820	35*60	0.15	3.50	250	200	ULP2V821KS060M
400 2G (450)	82	22*25	0.15	0.84	2430	1945	ULP2G820KP025M
	100	22*30	0.15	0.99	1995	1595	ULP2G101KP030M
		25*25	0.15	0.99	1995	1595	ULP2G101KQ025M
	120	22*35	0.15	1.15	1660	1330	ULP2G121KP035M
	150	25*30	0.15	1.30	1330	1065	ULP2G151KQ030M
		30*25	0.15	1.30	1330	1065	ULP2G151KR025M
	180	25*35	0.15	1.55	1110	890	ULP2G181KQ035M
		30*30	0.15	1.55	1110	890	ULP2G181KR030M
		35*25	0.15	1.55	1110	890	ULP2G181KS025M
	220	22*50	0.15	1.66	910	730	ULP2G221KP050M
		25*40	0.15	1.66	910	730	ULP2G221KQ040M
		30*35	0.15	1.66	910	730	ULP2G221KR035M
	270	25*45	0.15	1.85	740	600	ULP2G271KQ045M
		30*40	0.15	1.85	740	600	ULP2G271KR040M
		35*35	0.15	1.85	740	600	ULP2G271KS035M
	330	30*40	0.15	2.09	610	490	ULP2G331KR040M
		30*45	0.15	2.09	610	490	ULP2G331KR045M
		35*30	0.15	2.09	610	490	ULP2G331KS030M
	390	30*50	0.15	2.35	515	415	ULP2G391KR050M
		35*35	0.15	2.35	515	415	ULP2G391KS035M
	470	35*40	0.15	2.58	425	345	ULP2G471KS040M
		35*45	0.15	2.58	425	345	ULP2G471KS045M
		35*50	0.15	2.58	425	345	ULP2G471KS050M
	560	35*45	0.15	2.85	360	290	ULP2G561KS045M
		35*50	0.15	2.85	360	290	ULP2G561KS050M
	680	35*50	0.15	3.10	350	270	ULP2G681KS050M

◆ STANDARD RATING

Rated Voltage code (V.DC)	Capacitance (μ F)	Case size Φ D×L(mm)	$\tan\delta$ 20°C, 120Hz	Ripple current 85°C, 120Hz (Arms)	Max ESR 20°C, 120Hz(m Ω)	ESR(typ.) 20°C, 120Hz(m Ω)	Part number
400 2G (450)	820	35*60	0.15	3.45	342	260	ULP2G821KS060M
	1000	35*65	0.15	3.73	300	250	ULP2G102KS065M
	1200	35*80	0.15	4.15	300	250	ULP2G122KS080M
450 2W (500)	68	22*30	0.20	0.71	2930	2345	ULP2W680KP030M
	82	25*35	0.20	0.88	2430	1945	ULP2W820KQ035M
	100	22*35	0.20	0.97	1995	1600	ULP2W101KP035M
		25*30	0.20	0.97	1995	1600	ULP2W101KQ030M
	120	22*40	0.20	1.15	1660	1330	ULP2W121KP040M
		25*35	0.20	1.15	1660	1330	ULP2W121KQ035M
	150	25*40	0.20	1.30	1330	1070	ULP2W151KQ040M
		30*30	0.20	1.30	1330	1070	ULP2W151KR030M
		35*25	0.20	1.30	1330	1070	ULP2W151KS025M
		25*45	0.20	1.45	1110	895	ULP2W181KQ045M
	180	30*35	0.20	1.45	1110	895	ULP2W181KR035M
		35*25	0.20	1.45	1110	895	ULP2W181KS025M
		25*50	0.20	1.66	915	730	ULP2W221KQ050M
	220	30*40	0.20	1.66	915	730	ULP2W221KR040M
		35*30	0.20	1.66	915	730	ULP2W221KS030M
		30*45	0.20	1.90	740	590	ULP2W271KR045M
	270	35*35	0.20	1.90	740	590	ULP2W271KS035M
		30*50	0.20	2.15	610	490	ULP2W331KR050M
	390	35*45	0.20	2.38	520	415	ULP2W391KS045M
	470	35*50	0.20	2.70	430	342	ULP2W471KS050M
	560	35*60	0.20	2.88	360	320	ULP2W561KS060M
	680	35*65	0.20	3.15	320	260	ULP2W681KS065M

- 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.