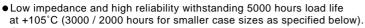


Low Impedance, For Switching Power Supplies





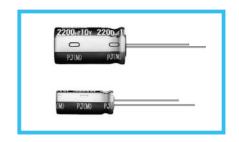




- Capacitance ranges available based on the numerical values in E12 series under JIS.
- Ideally suited for use of switching power supplies.
- Compliant to the RoHS directive (2002/95/EC).

series

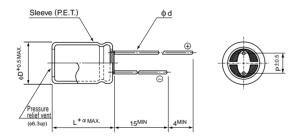




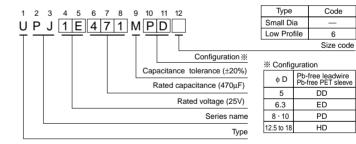
Specifications

Item		Performance Characteristics 5 to +105°C (6.3 to 100V), -40 to +105°C (160 to 400V), -25 to +105°C (450V)													
Category Temperature Range	-55 to +105°C (6	3 to 100V),	-40 to	+105°C (160 to 400	OV), -25 t	to +105°C ((450V)							
Rated Voltage Range	6.3 to 450V														
Rated Capacitance Range	0.47 to 15000μF														
Capacitance Tolerance	±20% at 120Hz, 2	20°C													
	Rated Voltage (V)			(6.3 to 100						160 to 45	0			
Leakage Current	Leakage current	After 1 minute	e's appl	ication of r	ated voltag	e, leakage	current is n	ot more	CV ≦ 1000	: I = 0.10	CV+40 (µA)	max. (1 minu	ıte's)		
	Leakage current	than 0.03CV or 4 (μ A), whichever is greater. CV > 1000 : I = 0.04CV+100 (μ A) max. (1 minute's)													
		120Hz, 20°C													
Tangent of loss angle (tan δ)	Rated Voltage (V)														
rangent er rees angre (tan e)		tan δ (MAX.) 0.22 0.19 0.16 0.14 0.12 0.10 0.08 0.20 0.25													
	For capacitance of	r capacitance of more than 1000µF, add 0.02 for every increase of 1000µF.													
	Rated v	oltage (V)		6.3 - 10	16	25 · 35	50 to 100	160 -200	250	315 · 3	350 400	450	120Hz		
Stability at Low Temperature	Impedance	Z-25°C / Z	+20°C	_	_	_		_	_	_	_	15			
Stability at Low Temperature	ratio (MAX.)	Z-40°C / Z	+20°C	_	_	_		4	6	8	10	_			
	Tatto (IIII VII)	Z-55°C / Z	+20°C	4	3	3	2		_	_					
	The specifications	listed at righ	nt shall	be met w	hen the										
	capacitors are res					l ripple	Capacitan	ce change	Within ±2	20% of th	he initial cap	pacitance valu	ue		
	current is applied						tan δ		200% or	r less tha	an the initial	specified value	re		
	3000 hours for ∮E						Leakage c	urrent	Less tha	an or equ	ual to the init	tial specified	value		
	exceed the rated		,												
		After storing the capacitors under no load at 105°C for 1000 Capacitance change Within +20% of the initial capacitance value													
Shelf Life	hours and then p	ours and then performing voltage treatment based on JIS C													
	values for the en	101-4 clause 4.1 at 20°C, they shall meet the specified uses for the endurance characteristics listed above. tan 8													
Marking	Printed with white	color letter o	n dark	brown sle	eeve.										

Radial Lead Type



Type numbering system (Example: 25V 470µF)

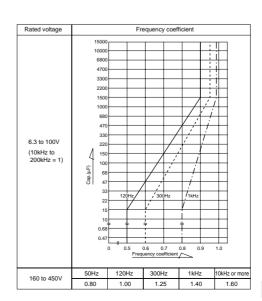


~	(φD < 10) 1.0
u	(¢D ≥ 10) 1.5

Frequency coefficient of rated ripple current

							(mm)
φD	5	6.3	8	10	12.5	16	18
Р	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φd	0.5	0.5	0.6	0.6	0.6*	0.8	0.8

• Please refer to page 20 about the end seal configulation.



Please refer to page 20, 21, 22 about the formed or taped product spec. Please refer to page 4 for the minimum order quantity.



■Dimensions

	V (Code)	6.3	(OJ)	10 (1A)	16	(1C)	25 (1E)	35	(1V)
Cap. (µF)	Size code	_	6		6	_	6	_	6	_	6
22	220									5×11	
27	270									5×11	
33	330							5×11		6.3×11	
39	390							5×11		6.3×11	
47	470					5×11		6.3×11		6.3×11	
56	560					5×11		6.3×11		6.3×11	
68	680			5×11		6.3×11		6.3×11		6.3 × 15	
82	820			5×11		6.3×11		6.3×11		6.3×15	
100	101	5×11		6.3×11		6.3×11		6.3×15		8×11.5	
120	121	5×11		6.3×11		6.3×11		6.3×15		8 × 15	10 × 12.5
150	151	6.3×11		6.3×11		6.3×15		8×11.5		8 × 15	10 × 12.5
180	181	6.3×11		6.3×11		6.3×15		8 × 15	10×12.5	8 × 20	10×15
220	221	6.3×11		6.3 × 15		8×11.5		8×15	10×12.5	8 × 20	10×15
270	271	6.3×15		6.3×15		8×15	10×12.5	8 × 20	10×15	10 × 20	12.5 × 15
330	331	6.3×15		8×11.5		8×15	10×12.5	8 × 20	10×15	10×20	12.5 × 15
390	391	8×11.5		8 × 15	10 × 12.5	8×20	10×15	10×20	12.5 × 15	10×25	12.5 × 15
470	471	8×15	10×12.5	8 × 15	10 × 12.5	8×20	10×15	10×20	12.5 × 15	10 × 31.5	16×15
560	561	8×15	10 × 12.5	8 × 20	10×15	10×20	12.5 × 15	10×25	12.5 × 15	12.5 × 20	16×15
680	681	8 × 20	10×15	8 × 20	10×15	10×20	12.5 × 15	10×31.5	16×15	12.5 × 25	18×15
820	821	8 × 20	10×15	10 × 20	12.5 × 15	10×25	12.5 × 15	12.5 × 20	16×15	12.5 × 25	18×15
1000	102	10 × 20	12.5×15	10 × 20	12.5 × 15	10 × 31.5	16×15	12.5 × 25	18×15	12.5 × 31.5	16×20
1200	122	10×20	12.5×15	10 × 25	12.5 × 15	12.5 × 20	16×15	12.5 × 25	18×15	12.5×35.5	16×25
1500	152	10 × 25	12.5×15	10 × 31.5	16×15	12.5 × 25	18×15	12.5 × 31.5	16×20	12.5 × 40	18×20
1800	182	10 × 31.5	16×15	12.5×20	16×15	12.5 × 31.5	16×20	12.5 × 35.5	16×25	16 × 31.5	18 × 25
2200	222	10 × 31.5	16×15	12.5×25	18×15	12.5 × 31.5	16×20	12.5 × 40	18×20	16 × 35.5	18 × 31.5
2700	272	12.5×25	18×15	12.5×31.5	16×20	12.5 × 35.5	16×25	16×31.5	18 × 25	16 × 40	18 × 35.5
3300	332	12.5×25	18×15	12.5×35.5	16×20	12.5 × 40	18×20	16 × 35.5	18 × 31.5	18 × 40	
3900	392	12.5×31.5	16×20	12.5×40	18×20	16 × 31.5	18×25	16×40	18 × 35.5		
4700	472	12.5×35.5	18×20	16 × 31.5	18 × 25	16 × 35.5	18×31.5	18×40			
5600	562	12.5 × 40	18×20	16 × 35.5	18 × 25	16×40	18 × 35.5				
6800	682	16 × 31.5	18 × 25	16 × 35.5	18 × 31.5	18 × 35.5					
8200	822	16 × 35.5	18 × 31.5	16 × 40	18 × 35.5	18 × 40					
10000	103	16 × 40	18 × 31.5	18 × 40							
12000	123	18 × 35.5									φD×L (mm)
15000	153	18 × 40									¥ 5 / L ()

	V (Code)	50 ((1H)	63	(1J)	80	(1K)	100	(2A)
Cap. (µF)	Size code de	_	6	_	6	_	6	_	6
0.47	R47	5×11						5×11	
0.68	R68	5×11						5×11	
1	010	5×11						5×11	
1.5	1R5	5×11						5×11	
2.2	2R2	5×11						5×11	
3.3	3R3	5×11						5×11	
4.7	4R7	5×11				5×11		6.3×11	
6.8	6R8	5×11				5×11		6.3×11	
10	100	5×11		5×11		6.3×11		6.3×11	
12	120	5×11		5×11		6.3×11		6.3×11	
15	150	5×11		6.3×11		6.3×11		6.3×15	
18	180	5×11		6.3×11		6.3×11		6.3×15	
22	220	6.3×11		6.3×11		6.3×15		8×11.5	
27	270	6.3×11		6.3×11		6.3×15		8×15	10×12.5
33	330	6.3×11		6.3×15		8×11.5		8×15	10 × 12.5
39	390	6.3×11		6.3×15		8×15	10×12.5	8×20	10×15
47	470	6.3×15		8×11.5		8×15	10×12.5	10×20	12.5 × 15
56	560	6.3×15		8×15	10×12.5	8×20	10×15	10×20	12.5 × 15
68	680	8×11.5		8×15	10×12.5	10×20	12.5 × 15	10×25	12.5 × 15
82	820	8×15	10×12.5	8 × 20	10×15	10×20	12.5 × 15	10 × 31.5	16×15
100	101	8×20	10×15	10×20	12.5 × 15	10×25	12.5 × 15	10 × 31.5	16×15
120	121	8×20	10×15	10×20	12.5 × 15	10×31.5	16×15	12.5 × 25	16×15
150	151	10×20	12.5 × 15	10 × 25	12.5 × 15	10×31.5	16×15	12.5 × 25	18×15
180	181	10×20	12.5 × 15	10 × 31.5	16×15	12.5 × 25	16×15	12.5 × 31.5	16×20
220	221	10 × 25	12.5 × 15	12.5 × 20	16×15	12.5 × 31.5	18×15	12.5 × 35.5	16×25
270	271	10 × 31.5	16×15	12.5 × 25	18×15	12.5 × 31.5	16×20	12.5 × 40	18×20
330	331	10 × 31.5	16×15	12.5 × 25	18×15	12.5×35.5	16×25	16 × 31.5	18×25
390	391	12.5 × 25	16×15	12.5 × 31.5	16×20	12.5 × 40	18×20	16 × 35.5	18 × 31.5
470	471	12.5 × 25	18×15	12.5×35.5	16×25	16 × 31.5	18×25	16 × 40	18 × 35.5
560	561	12.5 × 31.5	16×20	12.5 × 40	18×20	16 × 35.5	18×31.5	18 × 35.5	
680	681	12.5 × 35.5	16×20	16 × 31.5	18×25	16×40	18×31.5	18 × 40	
820	821	12.5 × 40	18×20	16 × 35.5	18×31.5	18 × 35.5			
1000	102	16 × 31.5	18×25	16 × 40	18 × 35.5	18 × 40			
1200	122	16 × 35.5	18×31.5	18 × 40					
1500	152	16 × 40	18 × 31.5						
1800	182	18 × 35.5							φD×L (mm)
2200	222	18×40							+ 3 / 2 ()



	V (Code)		6.3 (0J) — 6										
	Size code			_			-		6				
	Item	Case size	Impedance	(Ω) MAX.	Rated rippl	e (mArms)	Case size	Impedance	(Ω) MAX.	Rated rippl	e (mArms)		
Cap. (μF)	6	φD×L (mm)	20°C / 100kHz	-10°C / 100kHz	105°C /10kHz to 200kHz	105°C / 120Hz	$\phi D \times L$ (mm)			105°C /10kHz to 200kHz	105°C / 120Hz		
100	101	5×11	1.40	3.50	150	99							
120	121	5×11	1.10	2.80	175	115							
150	151	6.3 × 11	0.78	2.10	225	155							
180	181	6.3 × 11	0.60	1.50	250	175							
220	221	6.3 × 11	0.48	1.20	285	205							
270	271	6.3 × 15	0.39	1.00	370	275							
330	331	6.3 × 15	0.32	0.80	405	310							
390	391	8 × 11.5	0.27	0.68	445	345							
470	471	8 × 15	0.22	0.55	550	435	10 × 12.5	0.23	0.58	575	455		
560	561	8 × 15	0.19	0.48	595	480	10 × 12.5	0.21	0.53	600	485		
680	681	8 × 20	0.16	0.40	730	605	10×15	0.18	0.45	700	580		
820	821	8 × 20	0.13	0.33	795	670	10 × 15	0.15	0.38	750	635		
1000	102	10 × 20	0.12	0.30	950	820	12.5 × 15	0.13	0.33	890	765		
1200	122	10 × 20	0.10	0.25	1020	895	12.5 × 15	0.12	0.30	950	835		
1500	152	10 × 25	0.084	0.21	1220	1090	12.5 × 15	0.10	0.25	1020	915		
1800	182	10 × 31.5	0.078	0.20	1370	1230	16×15	0.084	0.21	1270	1140		
2200	222	10 × 31.5	0.066	0.17	1470	1320	16×15	0.078	0.20	1340	1200		
2700	272	12.5 × 25	0.051	0.14	1590	1430	18 × 15	0.072	0.18	1500	1350		
3300	332	12.5 × 25	0.045	0.11	1710	1530	18 × 15	0.065	0.16	1600	1440		
3900	392	12.5 × 31.5	0.037	0.093	1910	1710	16 × 20	0.056	0.14	1720	1540		
4700	472	12.5 × 35.5	0.034	0.085	2100	1890	18 × 20	0.050	0.13	1920	1720		
5600	562	12.5 × 40	0.031	0.078	2270	2040	18 × 20	0.047	0.12	1980	1780		
6800	682	16 × 31.5	0.029	0.073	2370	2130	18 × 25	0.039	0.098	2210	1980		
8200	822	16 × 35.5	0.027	0.068	2550	2290	18 × 31.5	0.031	0.078	2390	2150		
10000	103	16 × 40	0.025	0.063	2750	2470	18 × 31.5	0.028	0.070	2490	2240		
12000	123	18 × 35.5	0.023	0.058	2820	2530							
15000	153	18 × 40	0.022	0.055	2960	2660							

	V (Code)		10 (1A) — 6											
	Size code			_					6					
	Item	Case size	Impedance	(Ω) MAX.	Rated ripple	e (mArms)	Case size	Impedance	(Ω) MAX.	Rated ripple	e (mArms)			
Cap.(µF)	ì	$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz	$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz			
68	680	5×11	1.30	3.30	155	97								
82	820	5×11	1.10	2.80	175	110								
100	101	6.3 × 11	0.84	2.10	210	135								
120	121	6.3 × 11	0.72	1.80	235	160								
150	151	6.3 × 11	0.55	1.40	265	185								
180	181	6.3 × 11	0.46	1.20	290	205								
220	221	6.3 × 15	0.38	0.95	370	270								
270	271	6.3 × 15	0.31	0.78	405	300								
330	331	8 × 11.5	0.26	0.65	460	350								
390	391	8 × 15	0.22	0.55	550	430	10 × 12.5	0.24	0.60	555	430			
470	471	8 × 15	0.19	0.48	595	475	10 × 12.5	0.21	0.53	600	475			
560	561	8 × 20	0.16	0.40	730	590	10 × 15	0.18	0.45	700	565			
680	681	8 × 20	0.13	0.33	795	660	10 × 15	0.14	0.35	770	635			
820	821	10 × 20	0.11	0.28	985	835	12.5 × 15	0.13	0.33	920	780			
1000	102	10 × 20	0.096	0.24	1060	915	12.5 × 15	0.10	0.25	1040	895			
1200	122	10 × 25	0.078	0.20	1280	1120	12.5 × 15	0.096	0.24	1060	930			
1500	152	10 × 31.5	0.072	0.18	1440	1290	16 × 15	0.078	0.20	1330	1190			
1800	182	12.5 × 20	0.057	0.14	1470	1320	16 × 15	0.072	0.18	1420	1270			
2200	222	12.5 × 25	0.045	0.11	1710	1530	18 × 15	0.060	0.15	1600	1440			
2700	272	12.5×31.5	0.036	0.090	1940	1740	16 × 20	0.051	0.13	1740	1560			
3300	332	12.5×35.5	0.032	0.080	2180	1960	16 × 20	0.045	0.11	1850	1660			
3900	392	12.5×40	0.030	0.075	2360	2120	18 × 20	0.041	0.10	2050	1840			
4700	472	16 × 31.5	0.028	0.070	2420	2170	18 × 25	0.035	0.088	2250	2020			
5600	562	16 × 35.5	0.026	0.065	2610	2340	18 × 25	0.033	0.083	2340	2100			
6800	682	16 × 35.5	0.024	0.060	2680	2410	18 × 31.5	0.027	0.068	2540	2280			
8200	822	16 × 40	0.023	0.058	2820	2530	18 × 35.5	0.025	0.063	2690	2420			
10000	103	18 × 40	0.021	0.053	3040	2730								



	V (Code)		16 (1C) — 6											
	Size code			_					6					
	Item	Case size	Impedance	(Ω) MAX.	Rated ripple	e (mArms)	Case size	Impedance	(Ω) MAX.	Rated rippl	e (mArms)			
Сар. (µF) — Соде		$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz	$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz			
47	470	5×11	1.30	3.30	155	92								
56	560	5 × 11	1.10	2.80	175	105								
68	680	6.3×11	0.78	2.00	220	135								
82	820	6.3×11	0.66	1.70	240	155								
100	101	6.3×11	0.55	1.40	265	175								
120	121	6.3×11	0.45	1.10	290	195								
150	151	6.3×15	0.37	0.93	375	260								
180	181	6.3×15	0.31	0.78	405	285								
220	221	8 × 11.5	0.26	0.65	460	335								
270	271	8 × 15	0.22	0.55	550	410	10 × 12.5	0.22	0.55	575	430			
330	331	8 × 15	0.18	0.45	595	455	10 × 12.5	0.18	0.45	625	480			
390	391	8 × 20	0.16	0.40	730	570	10 × 15	0.16	0.40	730	570			
470	471	8 × 20	0.14	0.35	770	615	10 × 15	0.14	0.35	770	615			
560	561	10 × 20	0.12	0.30	950	770	12.5 × 15	0.13	0.33	920	745			
680	681	10 × 20	0.10	0.25	1020	845	12.5 × 15	0.11	0.28	985	815			
820	821	10 × 25	0.084	0.21	1220	1030	12.5 × 15	0.096	0.24	1060	895			
1000	102	10×31.5	0.072	0.18	1410	1210	16 × 15	0.084	0.21	1270	1090			
1200	122	12.5×20	0.060	0.15	1430	1250	16 × 15	0.072	0.18	1390	1220			
1500	152	12.5×25	0.048	0.12	1660	1490	18 × 15	0.066	0.17	1560	1400			
1800	182	12.5×31.5	0.039	0.10	1880	1690	16 × 20	0.054	0.14	1700	1530			
2200	222	12.5×31.5	0.034	0.085	2010	1800	16 × 20	0.048	0.12	1800	1620			
2700	272	12.5×35.5	0.031	0.078	2220	1990	16 × 25	0.040	0.10	2010	1800			
3300	332	12.5 × 40	0.028	0.070	2410	2160	18 × 20	0.039	0.10	2090	1880			
3900	392	16 × 31.5	0.027	0.068	2470	2220	18 × 25	0.034	0.085	2290	2060			
4700	472	16 × 35.5	0.025	0.063	2680	2410	18 × 31.5	0.028	0.070	2490	2240			
5600	562	16 × 40	0.024	0.060	2820	2530	18 × 35.5	0.027	0.068	2620	2350			
6800	682	18 × 35.5	0.022	0.055	2900	2610								
8200	822	18 × 40	0.021	0.053	3040	2730								

	V (Code)					25 (1E)				
	Size code			_					6		
	Item	Case size	Impedance	(Ω) MAX.	Rated rippl	e (mArms)	Case size	Impedance	(Ω) MAX.	Rated ripple	e (mArms)
Cap. (μF)		$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz	$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz
33	330	5 × 11	1.30	3.30	155	88					
39	390	5×11	1.10	2.80	175	100					
47	470	6.3×11	0.84	2.10	210	125					
56	560	6.3×11	0.72	1.80	235	140					
68	680	6.3×11	0.57	1.40	260	160					
82	820	6.3×11	0.47	1.20	285	180					
100	101	6.3×15	0.39	0.98	370	245					
120	121	6.3×15	0.32	0.80	405	275					
150	151	8 × 11.5	0.26	0.65	460	320					
180	181	8×15	0.22	0.55	550	390	10 × 12.5	0.24	0.60	555	395
220	221	8 × 15	0.18	0.45	625	455	10 × 12.5	0.21	0.53	600	435
270	271	8 × 20	0.15	0.38	750	560	10 × 15	0.18	0.45	700	525
330	331	8 × 20	0.13	0.33	795	610	10 × 15	0.15	0.38	750	575
390	391	10×20	0.11	0.28	985	770	12.5 × 15	0.13	0.33	920	720
470	471	10×20	0.10	0.25	1020	810	12.5 × 15	0.11	0.28	985	785
560	561	10 × 25	0.084	0.21	1220	990	12.5 × 15	0.10	0.25	1060	860
680	681	10×31.5	0.072	0.18	1420	1180	16 × 15	0.084	0.21	1270	1050
820	821	12.5 × 20	0.059	0.15	1430	1210	16 × 15	0.079	0.20	1340	1130
1000	102	12.5×25	0.048	0.12	1660	1430	18 × 15	0.066	0.17	1520	1310
1200	122	12.5 × 25	0.043	0.11	1760	1550	18 × 15	0.061	0.15	1600	1400
1500	152	12.5×31.5	0.035	0.088	1980	1780	16 × 20	0.050	0.13	1770	1590
1800	182	12.5×35.5	0.032	0.080	2180	1960	16 × 25	0.041	0.10	1980	1780
2200	222	12.5 × 40	0.029	0.073	2360	2120	18 × 20	0.040	0.10	2050	1840
2700	272	16 × 31.5	0.027	0.068	2470	2220	18 × 25	0.034	0.085	2290	2060
3300	332	16 × 35.5	0.025	0.063	2680	2410	18 × 31.5	0.029	0.073	2490	2240
3900	392	16×40	0.023	0.058	2820	2530	18 × 35.5	0.026	0.065	2690	2420
4700	472	18 × 40	0.022	0.055	2960	2660			<u> </u>		



	V (Code)		35 (1V) — 6										
	Size code			_					6				
	Item	Case size	Impedance	(Ω) MAX.	Rated rippl	e (mArms)	Case size	Impedance	(Ω) MAX.	Rated rippl	e (mArms)		
Сар. (µF)	6	$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	105°C /10kHz to 200kHz	105°C / 120Hz	$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz		
22	220	5×11	1.30	3.30	160	85							
27	270	5 × 11	1.00	2.50	180	99							
33	330	6.3 × 11	0.78	2.00	225	125							
39	390	6.3 × 11	0.66	1.70	245	140							
47	470	6.3 × 11	0.54	1.40	270	160							
56	560	6.3 × 11	0.45	1.10	295	180							
68	680	6.3 × 15	0.37	0.93	370	230							
82	820	6.3 × 15	0.31	0.78	415	265							
100	101	8 × 11.5	0.26	0.65	460	305							
120	121	8 × 15	0.22	0.55	550	370	10 × 12.5	0.24	0.60	555	375		
150	151	8 × 15	0.18	0.45	595	415	10 × 12.5	0.20	0.50	625	435		
180	181	8 × 20	0.16	0.40	730	520	10 × 15	0.18	0.45	700	500		
220	221	8 × 20	0.13	0.33	795	580	10 × 15	0.14	0.35	770	560		
270	271	10 × 20	0.11	0.28	985	735	12.5 × 15	0.13	0.33	920	690		
330	331	10 × 20	0.096	0.24	1060	810	12.5 × 15	0.10	0.25	1020	780		
390	391	10 × 25	0.084	0.21	1220	955	12.5 × 15	0.096	0.24	1060	825		
470	471	10 × 31.5	0.072	0.18	1420	1130	16 × 15	0.084	0.21	1270	1010		
560	561	12.5 × 20	0.059	0.15	1430	1160	16 × 15	0.075	0.19	1360	1100		
680	681	12.5 × 25	0.048	0.12	1660	1370	18 × 15	0.066	0.17	1540	1270		
820	821	12.5 × 25	0.042	0.11	1760	1490	18 × 15	0.060	0.15	1620	1370		
1000	102	12.5 × 31.5	0.035	0.088	1980	1710	16 × 20	0.050	0.13	1770	1530		
1200	122	12.5 × 35.5	0.031	0.078	2180	1920	16 × 25	0.041	0.10	1980	1740		
1500	152	12.5 × 40	0.029	0.073	2360	2120	18 × 20	0.040	0.10	2050	1840		
1800	182	16 × 31.5	0.027	0.068	2470	2220	18 × 25	0.034	0.085	2290	2060		
2200	222	16 × 35.5	0.024	0.060	2680	2410	18 × 31.5	0.028	0.070	2490	2240		
2700	272	16 × 40	0.022	0.055	2900	2610	18 × 35.5	0.026	0.065	2690	2420		
3300	332	18 × 40	0.021	0.053	3040	2730							

	V (Code)		50 (1H) — 6									
	Size code			_			,		6			
	Item	Case size	Impedance	(Ω) MAX.	Rated ripple	e (mArms)	Case size	Impedance	(Ω) MAX.	Rated ripple	e (mArms)	
Сар. (µF)	16	φD × L (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz	(mm)	20°C / 100kHz	-10°C / 100kHz	105°C /10kHz to 200kHz	105°C / 120Hz	
0.47	R47	5 × 11	31.0	80.0	22	11						
0.68	R68	5 × 11	21.0	55.0	28	14						
1	010	5×11	14.0	38.0	36	18						
1.5	1R5	5×11	9.80	28.0	45	22						
2.2	2R2	5 × 11	6.50	18.0	54	27						
3.3	3R3	5×11	4.60	12.0	66	33						
4.7	4R7	5 × 11	3.10	7.80	81	40						
6.8	6R8	5×11	2.50	6.30	91	45						
10	100	5×11	2.00	5.00	115	57						
12	120	5 × 11	1.70	4.30	125	62						
15	150	5×11	1.30	3.30	145	72						
18	180	5×11	1.10	2.80	155	79						
22	220	6.3 × 11	0.91	2.30	195	100						
27	270	6.3 × 11	0.74	1.90	215	115						
33	330	6.3 × 11	0.60	1.50	240	135						
39	390	6.3 × 11	0.50	1.30	260	150						
47	470	6.3×15	0.42	1.10	330	195						
56	560	6.3×15	0.35	0.88	360	220						
68	680	8 × 11.5	0.28	0.70	410	255						
82	820	8 × 15	0.22	0.55	500	320	10×12.5	0.23	0.58	510	330	
100	101	8 × 20	0.18	0.45	620	410	10×15	0.21	0.53	580	385	
120	121	8 × 20	0.16	0.40	670	455	10×15	0.17	0.43	640	435	
150	151	10 × 20	0.13	0.33	820	570	12.5 × 15	0.14	0.35	785	545	
180	181	10 × 20	0.11	0.28	890	635	12.5 × 15	0.12	0.31	845	605	
220	221	10 × 25	0.098	0.25	1040	760	12.5 × 15	0.10	0.25	920	670	
270	271	10 × 31.5	0.085	0.21	1200	900	16×15	0.091	0.23	1120	840	
330	331	10 × 31.5	0.072	0.18	1300	995	16×15	0.078	0.20	1210	925	
390	391	12.5×25	0.053	0.13	1440	1120	16×15	0.072	0.18	1270	990	
470	471	12.5×25	0.048	0.12	1500	1190	18×15	0.060	0.15	1470	1170	
560	561	12.5×31.5	0.040	0.10	1680	1360	16×20	0.053	0.13	1550	1260	
680	681	12.5×35.5	0.036	0.090	1850	1530	16×20	0.048	0.12	1630	1350	
820	821	12.5×40	0.033	0.083	2010	1700	18×20	0.043	0.11	1810	1530	
1000	102	16 × 31.5	0.030	0.075	2120	1830	18×25	0.036	0.090	2000	1730	
1200	122	16×35.5	0.028	0.070	2260	1990	18×31.5	0.031	0.078	2140	1880	
1500	152	16 × 40	0.026	0.065	2410	2170	18×31.5	0.029	0.073	2220	1990	
1800	182	18 × 35.5	0.025	0.063	2460	2210						
2200	222	18 × 40	0.024	0.060	2560	2300						



	V (Code					63	(1J)				
	Size code			_					6		
	Item	Case size	Impedance	(Ω) MAX.	Rated ripple	e (mArms)	Case size	Impedance	(Ω) MAX.	Rated ripple	e (mArms)
Cap. (µF)	Code	φD×L (mm)	20°C / 100kHz	-10°C / 100kHz	105°C /10kHz to 200kHz	105°C / 120Hz	φD×L (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz
10	100	5 × 11	1.60	4.00	135	67					
12	120	5 × 11	1.40	3.50	145	72					
15	150	6.3 × 11	1.10	2.80	185	92					
18	180	6.3 × 11	0.95	2.40	195	100					
22	220	6.3 × 11	0.78	2.00	215	110					
27	270	6.3 × 11	0.64	1.60	240	130					
33	330	6.3 × 15	0.52	1.30	305	170					
39	390	6.3 × 15	0.45	1.10	330	190					
47	470	8 × 11.5	0.37	0.93	365	215					
56	560	8 × 15	0.31	0.78	450	275	10 × 12.5	0.34	0.85	450	275
68	680	8 × 15	0.26	0.65	500	315	10 × 12.5	0.28	0.70	495	310
82	820	8 × 20	0.22	0.55	600	385	10 × 15	0.24	0.60	580	375
100	101	10 × 20	0.18	0.45	750	495	12.5 × 15	0.20	0.50	695	460
120	121	10 × 20	0.15	0.38	820	555	12.5 × 15	0.18	0.45	750	510
150	151	10 × 25	0.13	0.33	950	665	12.5 × 15	0.14	0.35	845	590
180	181	10 × 31.5	0.11	0.28	1110	790	16 × 15	0.12	0.30	1050	750
220	221	12.5 × 20	0.094	0.24	1140	835	16 × 15	0.10	0.25	1120	820
270	271	12.5 × 25	0.081	0.20	1340	1000	18 × 15	0.088	0.22	1290	965
330	331	12.5 × 25	0.072	0.18	1420	1090	18 × 15	0.078	0.20	1410	1080
390	391	12.5 × 31.5	0.059	0.15	1620	1260	16 × 20	0.070	0.18	1500	1170
470	471	12.5 × 35.5	0.052	0.13	1780	1420	16 × 25	0.063	0.16	1700	1350
560	561	12.5 × 40	0.047	0.12	1950	1580	18 × 20	0.058	0.15	1730	1400
680	681	16 × 31.5	0.043	0.11	2050	1700	18 × 25	0.051	0.13	1940	1610
820	821	16 × 35.5	0.040	0.10	2220	1880	18 × 31.5	0.043	0.12	2110	1780
1000	102	16 × 40	0.037	0.093	2370	2050	18 × 35.5	0.040	0.10	2280	1970
1200	122	18 × 40	0.034	0.085	2510	2210					

	V (Code)	80 (1K)												
	Size code			_			6							
	Item	Case size	Impedance	(Ω) MAX.	Rated ripple	e (mArms)	Case size	Impedance	(Ω) MAX.	Rated ripple (mArms)				
Cap. (μF)		$\phi D \times L$ (mm)	20°C / 100kHz		105°C / 10kHz to 200kHz 105°C / 120Hz		φD×L (mm)	20°C / 100kHz		105°C /10kHz to 200kHz	105°C / 120Hz			
4.7	4R7	5 × 11	4.20	11.00	53	26								
6.8	6R8	5 × 11	2.60	7.00	68	34								
10	100	6.3 × 11	1.70	4.60	87	43								
12	120	6.3 × 11	1.40	3.80	96	48								
15	150	6.3 × 11	1.20	3.20	104	52								
18	180	6.3 × 11	1.00	2.70	114	58								
22	220	6.3 × 15	0.77	2.10	135	71								
27	270	6.3 × 15	0.63	1.70	149	80								
33	330	8 × 11.5	0.53	1.40	234	132								
39	390	8 × 15	0.46	1.20	1.20 272		10 × 12.5	0.49	1.30	271	155			
47	470	8 × 15	0.39	1.10	295	175	10 × 12.5	0.42	1.10	293	174			
56	560	8 × 20	0.34	0.92	347	208	10 × 15	0.36	0.97	337	202			
68	680	10 × 20	0.28	0.76	426	264	12.5 × 15	0.31	0.84	402	249			
82	820	10 × 20	0.25	0.68	447	284	12.5 × 15	0.27	0.73	430	273			
100	101	10 × 25	0.21	0.57	526	347	12.5 × 15	0.23	0.62	466	308			
120	121	10 × 31.5	0.18	0.49	606	406	16 × 15	0.20	0.54	663	444			
150	151	10 × 31.5	0.15	0.41	663	459	16 × 15	0.18	0.47	699	484			
180	181	12.5 × 25	0.13	0.35	734	520	16 × 15	0.15	0.41	766	543			
220	221	12.5 × 31.5	0.12	0.32	816	595	18 × 15	0.13	0.35	881	643			
270	271	12.5 × 31.5	0.10	0.27	894	667	16 × 20	0.11	0.30	995	742			
330	331	12.5 × 35.5	0.088	0.24	1000	767	16 × 25	0.099	0.27	1140	874			
390	391	12.5 × 40	0.078	0.21	1060	822	18 × 20	0.089	0.24	1170	908			
470	471	16 × 31.5	0.069	0.19	1450	1150	18 × 25	0.080	0.22	1330	1060			
560	561	16 × 35.5	0.062	0.17	1600	1300	18 × 31.5	0.072	0.19	1490	1210			
680	681	16 × 40	0.055	0.15	1770	1470	18 × 31.5	0.065	0.18	1560	1300			
820	821	18 × 35.5	0.049	0.13	1890	1590								
1000	102	18 × 40	0.044	0.12	2080	1790								

orall In case of low profile type, $\boxed{6}$ will be put at 12th digit of type numbering system.



Standard Na	V (Code)	100 (2A)													
Size code				_			6								
	Item	Case size	Impedance	(O) MAX	Rated ripple	e (mArms)	Case size	Impedance	(Ω) MAX.	Rated ripple (mArms)					
Cap. (µF)	,\	$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	10kU= to	105°C / 120Hz	φD×L	•	-10°C / 100kHz						
0.47	0.47 R47		43.0	116.0	17	8	(mm)			200kHZ	1000712012				
0.68	R68	5 × 11 5 × 11	23.0	62.0	23	11									
1	010	5 × 11	17.0	46.0	27	13									
1.5	1R5	5 × 11	10.0	27.0	35	17									
2.2	2R2	5 × 11	6.60	18.0	43	21									
3.3	3R3	5 × 11	4.10	11.0	54	27									
4.7	4R7					34									
		6.3 × 11	2.80	7.60	68										
6.8 10	6R8	6.3 × 11	1.90	5.10	83	41									
	100	6.3 × 11	1.20	3.20	104	52									
12	120	6.3 × 11	1.00	2.70	114	57									
15	150	6.3 × 15	0.81	2.20	131	65									
18	180	6.3 × 15	0.67	1.80	155	80									
22	220	8 × 11.5	0.55	1.50	230	122									
27	270	8 × 15	0.47	1.30	269	146	10 × 12.5	0.50 1.40		268	145				
33	330	8 × 15	0.38	1.00	299	169	10 × 12.5	0.42	1.10	293	166				
39	390	8 × 20	0.33	0.89	352	202	10 × 15	0.36	0.97	337	193				
47	470	10 × 20	0.28	0.76	423	252	12.5 × 15	0.31	0.84	402	239				
56	560	10 × 20	0.24	0.65	456	274	12.5 × 15	0.27	0.73	430	258				
68	680	10 × 25	0.21	0.57	526	326	12.5 × 15	0.23	0.62	466	289				
82	820	10×31.5	0.18	0.49	606	386	16 × 15	0.19	0.51	681	433				
100	101	10×31.5	0.15	0.41	663	438	16 × 15	0.17	0.46	719	475				
120	121	12.5×25	0.13	0.35	774	519	16 × 15	0.14	0.38	793	531				
150	151	12.5×25	0.11	0.30	798	553	18 × 15	0.12	0.32	917	635				
180	181	12.5 × 31.5	0.098	0.26	904	641	16 × 20	0.11	0.30	995	706				
220	221	12.5 × 35.5	0.087	0.23	1000	730	16 × 25	0.093	0.25	1170	854				
270	271	12.5 × 40	0.072	0.19	1130	843	18 × 20	0.080	0.22	1230	918				
330	331	16 × 31.5	0.062	0.17	1520	1160	18 × 25	0.070	0.19	1420	1080				
390	391	16 × 35.5	0.053	0.14	1730	1340	18 × 31.5	0.062	0.17	1600	1240				
470	471	16 × 40	0.047	0.13	1920	1530	18 × 35.5	0.056	0.15	1770	1410				
560	561	18 × 35.5	0.041	0.11	2070	1680									
680	681	18 × 40	0.036	0.097	2300	1910									

 $\frak{\%}$ In case of low profile type, $\frak{6}$ will be put at 12th digit of type numbering system.

V		160		200		250		315		350		400		450	
Cap. (µF) Code		2C		2D		2E		2F		2V		2G		2W	
1	010	8 × 11.5	19	8 × 11.5	19	8 × 11.5	19	8 × 11.5	19	10 × 12.5	21	10×12.5	17	10 × 15	17
2.2	2R2	8 × 11.5	30	8 × 11.5	30	10 × 12.5	32	10 × 12.5	32	10 × 15	34	10 × 15	28	10 × 20	28
3.3	3R3	10 × 12.5	50	10×12.5	50	10 × 15	52	10 × 15	52	10 × 20	54	10 × 20	47	12.5 × 20	48
4.7	4R7	10 × 12.5	57	10 × 15	60	10 × 15	60	10 × 20	65	10 × 20	65	12.5×20	55	12.5 × 25	55
10	100	10 × 15	90	10 × 20	95	12.5 × 20	98	12.5 × 20	98	12.5 × 25	100	12.5×25	85	16 × 25	90
22	220	12.5 × 20	140	12.5×25	145	16 × 25	150	16 × 25	150	16 × 25	150	16 × 31.5	130	16 × 35.5	135
33	330	12.5 × 25	175	16 × 25	180	16 × 25	180	16 × 31.5	185	16 × 35.5	190	18 × 35.5	170	18 × 40	170
47	470	16 × 25	220	16 × 25	220	16 × 31.5	225	18 × 35.5	235	18 × 40	240				
100	101	16 × 35.5	330	18 × 40	345	18 × 40	345							Case size	※1

 $\%\,1$ Rated ripple current (mArms) at 105 $^{\circ}\text{C}$ 120Hz