ALUMINUM ELECTROLYTIC CAPACITORS



Low Impedance, High Reliability









Smaller PW



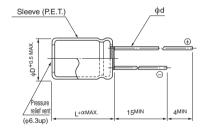
• High reliability withstanding 5000 hour load life at +105°C (3000/2000 hours for smaller case sizes as specified below). • Capacitance ranges available based on the numerical values in E12 series under JIS.

Compliant to the RoHS directive (2011/65/EU).

■Specifications

- opeomodiene														
Item					Р	erformano	e Characte	ristics						
Category Temperature Range	-55 to +105°C (6.3	to 100V), -4	0 to +10	°C (160	to 400V)	, -25 to +	105°C (450	V)						
Rated Voltage Range	6.3 to 450V													
Rated Capacitance Range	0.47 to 15000μF													
Capacitance Tolerance	±20% at 120Hz, 20	°C												
	Rated Voltage (V)				6.3 to 10	00						160 to 45	0	
Leakage Current	Leakage current	After 1 minute not more than				-		current is				CV+40 (μΑ) ICV+100 (μ		
	For capacitance of I	more than 100	0μF, add	0.02 for	every inc	crease of 1	000μF. !	/leasure	ment fre	quency	: 120Hz	at 20°C		
Tangent of loss angle (tan δ)	Rated Voltage (V)													
	tan δ (MAX.)	tan δ (MAX.) 0.22 0.19 0.16 0.14 0.12 0.10 0.08 0.20 0.25												
					_		_	_				_		ı
	Rated v	oltage (V)		5.3 · 10	16	25 · 3		0 160 -	200	250	315 · 3		450	120Hz
Stability at Low Temperature	Impedance	Z-25°C / Z-						+ -	-		<u> </u>		15	
	ratio (MAX.)	Z-40°C / Z-		_				4		6	8	10		
		Z-55°C / Z-	+20°C	4	3	3	2		-		_			
	The specifications li	sted at right sh	nall be m	et when	the									
	capacitors are resto	red to 20°C af	ter D.C.	bias plus	rated	Сар	acitance ch	ange V	Vithin ±2	0% of t	he initial	capacitanc	e value	
Endurance	ripple current is app	lied for 5000 h	ours (20	00 hours	s for φD=5	5 tan	6	2	00% or I	ess tha	ın the init	tial specified	d value	
	and 6.3, 3000 hours	for φD=8) at	105°C, th	e peak v	oltage/	Lea	age curren	t L	ess than	or equ	al to the	initial spec	fied value	
	shall not exceed the	rated voltage												
	After storing the capacitors under no load at 105°C Capacitance change Within ±20% of the initial capacitance value										1			
Shelf Life	for 1000 hours and					tan								
Gileii Eile	on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the													
		acteristic requirements listed at right.												J
Marking	Printed with white	color letter on	dark br	own slee	eve.									

■Radial Lead Type





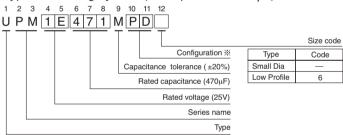
~	(φD < 10)	1.5	
a	(₀ D ≥ 10)	2.0	

							(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
ψŲ	0.5	0.5	0.6	0.6	0.6*	0.8	0.8

% In case L > 25 for the $\varphi12.5$ dia. unit, lead dia. φ d = 0.8mm.

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

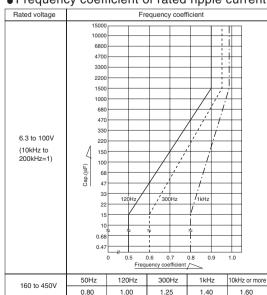
Type numbering system (Example: 25V 470µF)



Configuration

φD	Pb-free leadwire Pb-free PET sleeve
5	DD
6.3	ED
8 · 10	PD
12.5 to 18	HD

• Frequency coefficient of rated ripple current



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

Dimension table in next page.

CAT.8100D



	V(Code)	6.3	(0J)	10	10 (1A)		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									
15000	153	18 × 40		1							

V(Code)		50 (1H)		63 (1J)		80 (1K)	100 (2A)	
Cap.(µF)	Size code	_	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							
2200	222	18 × 40							



	V(Code)					6.3	5.3 (OJ)						
	Size code			_					6				
	Item	Case size	Impedance	e (Ω) MAX.	Rated rippl	e (mArms)	Case size	Impedance	e (Ω) MAX.	Rated rippl	e (mArms)		
Cap.(µF)	Fode	φD × L (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to	105°C / 120Hz	φD×L (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to	105°C / 120Hz		
100	101	5 × 11	0.85	1.70	150	99	,						
120	121	5 × 11	0.65	1.30	175	115							
150	151	6.3 × 11	0.49	0.98	225	155							
180	181	6.3 × 11	0.39	0.78	250	175							
220	221	6.3 × 11	0.30	0.60	285	205							
270	271	6.3 × 15	0.24	0.48	370	275							
330	331	6.3 × 15	0.20	0.40	405	310							
390	391	8 × 11.5	0.17	0.34	445	345							
470	471	8 × 15	0.14	0.28	550	435	10 × 12.5	0.14	0.28	635	455		
560	561	8 × 15	0.12	0.24	595	480	10 × 12.5	0.13	0.26	670	485		
680	681	8 × 20	0.10	0.20	730	605	10 × 15	0.11	0.22	825	580		
820	821	8 × 20	0.085	0.17	795	670	10 × 15	0.095	0.19	840	635		
1000	102	10 × 20	0.075	0.15	950	820	12.5 × 15	0.085	0.17	890	765		
1200	122	10 × 20	0.065	0.13	1060	895	12.5 × 15	0.075	0.15	950	835		
1500	152	10 × 25	0.055	0.11	1260	1090	12.5 × 15	0.065	0.13	1020	915		
1800	182	10 × 31.5	0.050	0.10	1370	1230	16 × 15	0.055	0.11	1270	1140		
2200	222	10 × 31.5	0.043	0.086	1470	1320	16 × 15	0.049	0.098	1340	1200		
2700	272	12.5 × 25	0.038	0.076	1700	1430	18 × 15	0.044	0.088	1500	1350		
3300	332	12.5 × 25	0.034	0.068	1710	1530	18 × 15	0.039	0.078	1600	1440		
3900	392	12.5 × 31.5	0.031	0.062	1980	1710	16 × 20	0.036	0.072	1770	1540		
4700	472	12.5 × 35.5	0.028	0.056	2230	1890	18 × 20	0.032	0.064	1920	1720		
5600	562	12.5 × 40	0.026	0.052	2460	2040	18 × 20	0.030	0.060	1980	1780		
6800	682	16 × 31.5	0.024	0.048	2510	2130	18 × 25	0.027	0.054	2350	1980		
8200	822	16 × 35.5	0.022	0.044	2770	2290	18 × 31.5	0.025	0.050	2600	2150		
10000	103	16 × 40	0.020	0.040	3110	2470	18 × 31.5	0.023	0.046	2720	2240		
12000	123	18 × 35.5	0.019	0.038	3050	2530							
15000	153	18 × 40	0.018	0.036	3300	2660							

	V(Code)					10 ((1A)				
	Size code			_					6		
	Item	Case size	Impedance	e (Ω)MAX.	Rated rippl	e (mArms)	Case size	Impedance	e (Ω) MAX.	Rated rippl	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
68	680	5 × 11	0.80	1.60	155	97	(******)				
82	820	5 × 11	0.65	1.30	175	110					
100	101	6.3 × 11	0.55	1.10	210	135					
120	121	6.3 × 11	0.44	0.88	235	160					
150	151	6.3 × 11	0.35	0.70	265	185					
180	181	6.3 × 11	0.29	0.58	290	205					
220	221	6.3 × 15	0.24	0.48	370	270					
270	271	6.3 × 15	0.20	0.40	405	300					
330	331	8 × 11.5	0.16	0.32	460	350					
390	391	8 × 15	0.14	0.28	550	430	10 × 12.5	0.15	0.30	635	430
470	471	8 × 15	0.12	0.24	595	475	10 × 12.5	0.13	0.26	670	475
560	561	8 × 20	0.10	0.20	730	590	10 × 15	0.11	0.22	700	565
680	681	8 × 20	0.085	0.17	795	660	10 × 15	0.090	0.18	825	635
820	821	10 × 20	0.070	0.14	985	835	12.5 × 15	0.080	0.16	920	780
1000	102	10 × 20	0.060	0.12	1060	915	12.5 × 15	0.065	0.13	1040	895
1200	122	10 × 25	0.050	0.10	1260	1120	12.5 × 15	0.060	0.12	1060	930
1500	152	10 × 31.5	0.045	0.090	1450	1290	16 × 15	0.050	0.10	1330	1190
1800	182	12.5 × 20	0.039	0.078	1470	1320	16 × 15	0.044	0.088	1420	1270
2200	222	12.5 × 25	0.034	0.068	1710	1530	18 × 15	0.039	0.078	1600	1440
2700	272	12.5 × 31.5	0.030	0.060	1980	1740	16 × 20	0.035	0.070	1740	1560
3300	332	12.5 × 35.5	0.026	0.052	2230	1960	16 × 20	0.031	0.062	1850	1660
3900	392	12.5 × 40	0.024	0.048	2460	2120	18 × 20	0.028	0.056	2050	1840
4700	472	16 × 31.5	0.023	0.046	2420	2170	18 × 25	0.026	0.052	2350	2020
5600	562	16 × 35.5	0.021	0.042	2610	2340	18 × 25	0.024	0.048	2440	2100
6800	682	16 × 35.5	0.020	0.040	2770	2410	18 × 31.5	0.022	0.044	2720	2280
8200	822	16 × 40	0.019	0.038	3110	2530	18 × 35.5	0.021	0.042	3050	2420
10000	103	18 × 40	0.017	0.034	3300	2730					

※ In case of low profile type, ⑥ will be put at 12th digit of type numbering system.



	V(Code)		16 (1C)											
	Size Code			_					6					
	Item	Case size	Impedance	e (Ω) MAX.	Rated rippl	e (mArms)	Case size	Impedance	e (Ω) MAX.	Rated rippl	e (mArms)			
Cap.(µF)	ode	$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz	φ D × L (mm)	20°C / 100kHz	-10°C / 100kHz	105°C /10kHz to 200kHz	105°C / 120Hz			
47	470	5 × 11	0.80	1.60	155	92								
56	560	5 × 11	0.65	1.30	175	105								
68	680	6.3 × 11	0.50	1.00	220	135								
82	820	6.3 × 11	0.42	0.84	240	155								
100	101	6.3 × 11	0.35	0.70	265	175								
120	121	6.3 × 11	0.29	0.58	290	195								
150	151	6.3 × 15	0.23	0.46	375	260								
180	181	6.3 × 15	0.20	0.40	405	285								
220	221	8 × 11.5	0.16	0.32	460	335								
270	271	8 × 15	0.14	0.28	550	410	10 × 12.5	0.14	0.28	635	430			
330	331	8 × 15	0.12	0.24	595	455	10 × 12.5	0.12	0.24	670	480			
390	391	8 × 20	0.10	0.20	730	570	10 × 15	0.10	0.20	730	570			
470	471	8 × 20	0.090	0.18	770	615	10 × 15	0.090	0.18	825	615			
560	561	10 × 20	0.075	0.15	950	770	12.5 × 15	0.080	0.16	920	745			
680	681	10 × 20	0.065	0.13	1060	845	12.5 × 15	0.070	0.14	985	815			
820	821	10 × 25	0.055	0.11	1260	1030	12.5 × 15	0.060	0.12	1060	895			
1000	102	10 × 31.5	0.047	0.094	1410	1210	16 × 15	0.055	0.11	1270	1090			
1200	122	12.5 × 20	0.041	0.082	1430	1250	16 × 15	0.046	0.092	1390	1220			
1500	152	12.5 × 25	0.036	0.072	1700	1490	18 × 15	0.041	0.082	1560	1400			
1800	182	12.5 × 31.5	0.032	0.064	1880	1690	16 × 20	0.037	0.074	1700	1530			
2200	222	12.5 × 31.5	0.028	0.056	2010	1800	16 × 20	0.033	0.066	1800	1620			
2700	272	12.5×35.5	0.025	0.050	2230	1990	16 × 25	0.030	0.060	2190	1800			
3300	332	12.5 × 40	0.023	0.046	2460	2160	18 × 20	0.027	0.054	2090	1880			
3900	392	16 × 31.5	0.022	0.044	2510	2220	18 × 25	0.025	0.050	2350	2060			
4700	472	16 × 35.5	0.020	0.040	2770	2410	18 × 31.5	0.023	0.046	2720	2240			
5600	562	16 × 40	0.019	0.038	3110	2530	18 × 35.5	0.022	0.044	2620	2350			
6800	682	18 × 35.5	0.018	0.036	3050	2610								
8200	822	18 × 40	0.017	0.034	3300	2730								

	V(Code)					25 ((1E)					
	Size Code			_					6			
	Item	Case size	Impedance	e (Ω) MAX.	Rated rippl	e (mArms)	Case size	Impedance	e (Ω) MAX.	Rated rippl	e (mArms)	
Cap.(µF)	ode	$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz	φ D × L (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz	
33	330	5 × 11	0.80	1.60	155	88						
39	390	5 × 11	0.65	1.30	175	100						
47	470	6.3 × 11	0.55	1.10	210	125						
56	560	6.3 × 11	0.44	0.88	235	140						
68	680	6.3 × 11	0.36	0.72	260	160						
82	820	6.3 × 11	0.30	0.60	285	180						
100	101	6.3 × 15	0.24	0.48	370	245						
120	121	6.3 × 15	0.20	0.40	405	275						
150	151	8 × 11.5	0.16	0.32	460	320						
180	181	8 × 15	0.14	0.28	550	390	10 × 12.5	0.15	0.30	635	395	
220	221	8 × 15	0.11	0.22	625	455	10 × 12.5	0.13	0.26	670	435	
270	271	8 × 20	0.095	0.19	750	560	10 × 15	0.11	0.22	700	525	
330	331	8 × 20	0.085	0.17	795	610	10 × 15	0.095	0.19	825	575	
390	391	10 × 20	0.070	0.14	985	770	12.5 × 15	0.080	0.16	920	720	
470	471	10 × 20	0.065	0.13	1060	810	12.5 × 15	0.070	0.14	985	785	
560	561	10 × 25	0.055	0.11	1260	990	12.5 × 15	0.060	0.12	1060	860	
680	681	10 × 31.5	0.046	0.092	1420	1180	16 × 15	0.055	0.11	1270	1050	
820	821	12.5 × 20	0.041	0.082	1440	1210	16 × 15	0.049	0.098	1340	1130	
1000	102	12.5 × 25	0.036	0.072	1700	1430	18 × 15	0.043	0.086	1520	1310	
1200	122	12.5 × 25	0.032	0.064	1760	1550	18 × 15	0.039	0.078	1600	1400	
1500	152	12.5 × 31.5	0.029	0.058	1980	1780	16 × 20	0.034	0.068	1770	1590	
1800	182	12.5 × 35.5	0.026	0.052	2230	1960	16 × 25	0.031	0.062	2190	1780	
2200	222	12.5 × 40	0.024	0.048	2460	2120	18 × 20	0.028	0.056	2050	1840	
2700	272	16 × 31.5	0.022	0.044	2510	2220	18 × 25	0.025	0.050	2350	2060	
3300	332	16 × 35.5	0.020	0.040	2770	2410	18 × 31.5	0.023	0.046	2720	2240	
3900	392	16 × 40	0.019	0.038	3110	2530	18 × 35.5	0.021	0.042	3050	2420	
4700	472	18 × 40	0.018	0.036	3300	2660						

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



	V(Code)					35 (1V)							
	Size code			_					6				
	Item	Case size	Impedance	e (Ω) MAX.	Rated rippl	e (mArms)	Case size	Impedance	e (Ω) MAX.	Rated rippl	e (mArms)		
Cap.(µF)	76 ISIII	$\phi D \times L$ (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	105°C / 120Hz		
22	220	5 × 11	0.75	1.50	160	85	, ,						
27	270	5 × 11	0.60	1.20	180	99							
33	330	6.3 × 11	0.49	0.98	225	125							
39	390	6.3 × 11	0.41	0.82	245	140							
47	470	6.3 × 11	0.34	0.68	270	160							
56	560	6.3 × 11	0.28	0.56	295	180							
68	680	6.3 × 15	0.24	0.48	370	230							
82	820	6.3 × 15	0.19	0.38	415	265							
100	101	8 × 11.5	0.16	0.32	460	305							
120	121	8 × 15	0.14	0.28	550	370	10 × 12.5	0.15	0.30	635	375		
150	151	8 × 15	0.12	0.24	595	415	10 × 12.5	0.12	0.24	680	435		
180	181	8 × 20	0.10	0.20	730	520	10 × 15	0.11	0.22	700	500		
220	221	8 × 20	0.085	0.17	795	580	10 × 15	0.090	0.18	825	560		
270	271	10 × 20	0.070	0.14	985	735	12.5 × 15	0.080	0.16	920	690		
330	331	10 × 20	0.060	0.12	1060	810	12.5 × 15	0.065	0.13	1020	780		
390	391	10 × 25	0.055	0.11	1260	955	12.5 × 15	0.060	0.12	1060	825		
470	471	10 × 31.5	0.046	0.092	1450	1130	16 × 15	0.055	0.11	1270	1010		
560	561	12.5 × 20	0.041	0.082	1430	1160	16 × 15	0.048	0.096	1360	1100		
680	681	12.5 × 25	0.036	0.072	1700	1370	18 × 15	0.042	0.084	1540	1270		
820	821	12.5 × 25	0.032	0.064	1760	1490	18 × 15	0.038	0.076	1620	1370		
1000	102	12.5 × 31.5	0.029	0.058	1980	1710	16 × 20	0.034	0.068	1770	1530		
1200	122	12.5×35.5	0.026	0.052	2230	1920	16 × 25	0.031	0.062	2190	1740		
1500	152	12.5 × 40	0.024	0.048	2460	2120	18 × 20	0.028	0.056	2050	1840		
1800	182	16 × 31.5	0.022	0.044	2510	2220	18 × 25	0.025	0.050	2350	2060		
2200	222	16 × 35.5	0.020	0.040	2770	2410	18 × 31.5	0.023	0.046	2720	2240		
2700	272	16 × 40	0.018	0.036	3110	2610	18 × 35.5	0.021	0.042	3050	2420		
3300	332	18 × 40	0.017	0.034	3300	2730							

	V(Code)					50 (1H)							
	Size code			_					6				
	Itam	Case size	Impedance	e (Ω) MAX.	Rated rippl	e (mArms)	Case size	Impedance	e (Ω) MAX.	Rated ripple	e (mArms)		
Cap.(µF)	%	$\phi D \times L$ (mm)	20°C / 100kHz	-10°C / 100kHz	105°C /10kHz to	105°C / 120Hz	φD × L (mm)	20°C / 100kHz	-10°C / 100kHz	105°C /10kHz to	105°C / 120Hz		
0.47	R47	5 × 11	23.0	46.0	22	11	(11111)			7200KH2			
0.68	R68	5 × 11	16.0	32.0	28	14							
1	010	5 × 11	11.0	22.0	36	18							
1.5	1R5	5 × 11	7.50	15.0	45	22							
2.2	2R2	5 × 11	5.00	10.0	54	27							
3.3	3R3	5 × 11	3.30	6.60	66	33							
4.7	4R7	5 × 11	2.20	4.40	81	40							
6.8	6R8	5 × 11	1.80	3.60	91	45							
10	100	5 × 11	1.40	2.80	115	57							
12	120	5 × 11	1.20	2.40	125	62							
15	150	5 × 11	0.93	1.86	145	72							
18	180	5 × 11	0.80	1.60	165	79							
22	220	6.3 × 11	0.65	1.30	195	100							
27	270	6.3 × 11	0.53	1.06	215	115							
33	330	6.3 × 11	0.43	0.86	240	135							
39	390	6.3 × 11	0.36	0.72	260	150							
47	470	6.3 × 15	0.30	0.60	330	195							
56	560	6.3 × 15	0.25	0.50	360	220							
68	680	8 × 11.5	0.20	0.40	415	255							
82	820	8 × 15	0.17	0.34	505	320	10 × 12.5	0.18	0.36	530	330		
100	101	8 × 20	0.14	0.28	620	410	10 × 15	0.16	0.32	580	385		
120	121	8 × 20	0.12	0.24	755	455	10 × 15	0.13	0.26	755	435		
150	151	10 × 20	0.10	0.20	820	570	12.5 × 15	0.11	0.22	785	545		
180	181	10 × 20	0.085	0.17	945	635	12.5 × 15	0.095	0.19	845	605		
220 270	221	10 × 25	0.075	0.15	1150	760	12.5 × 15	0.080	0.16	920	670		
330	271 331	10 × 31.5	0.065	0.13	1200	900	16 × 15	0.070	0.14 0.12	1120 1210	840 925		
390	391	10 × 31.5	0.055 0.048	0.11	1300	995	16 × 15	0.060	0.12	1210	925		
470	471	12.5 × 25 12.5 × 25	0.048	0.096 0.088	1440 1500	1120	16 × 15	0.055	0.11	1470	1170		
560	561	12.5 × 25 12.5 × 31.5	0.044	0.088	1720	1190 1360	18 × 15 16 × 20	0.046 0.044	0.092	1550	1260		
680	681	12.5 × 31.5	0.040	0.080	1900	1530	16 × 20	0.044	0.080	1630	1350		
820	821	12.5 × 35.5	0.036	0.072	2120	1700	16 × 20 18 × 20	0.040	0.080	1810	1530		
1000	102	16 × 31.5	0.033	0.060	2150	1830	18 × 25	0.036	0.072	2020	1730		
1200	122	16 × 35.5	0.030	0.056	2320	1990	18 × 31.5	0.033	0.062	2140	1880		
1500	152	16 × 40	0.026	0.052	2650	2170	18 × 31.5	0.031	0.058	2340	1990		
1800	182	18 × 35.5	0.025	0.052	2620	2210	10 × 01.5	0.023	0.000	2010	1000		
2200	222	18 × 40	0.024	0.048	2790	2300							
			put at 19th digi			2000			1	1			



	V(Code)	63 (1J)													
	Size code			_			6								
	Item	Case size	Impedance	e (Ω) MAX.	Rated ripp	Rated ripple (mArms)		Impedance	e (Ω) MAX.	Rated ripple (mArms)					
Cap.(µF)	Code	φ D × L (mm)	20°C / 100kHz -10°C / 100kHz		105°C / 10kHz to 200kHz 105°C / 120Hz		$\phi D \times L$ (mm)	20°C / 100kHz		105°C / 10kHz to 200kHz	105°C / 120Hz				
10	100	5 × 11	1.06	2.12	135	67									
12	120	5 × 11	0.93	1.86	145	72									
15	150	6.3 × 11	0.73	1.46	185	92									
18	180	6.3 × 11	0.63	1.26	195	100									
22	220	6.3 × 11	0.52	1.04	215	110									
27	270	6.3 × 11	0.43	0.86	240	130									
33	330	6.3 × 15	0.35	0.70	305	170									
39	390	6.3 × 15	0.30	0.60	330	190									
47	470	8 × 11.5	0.25	0.50	365	215									
56	560	8×15	0.21	0.42	450	275	10 × 12.5	0.23	0.46	450	275				
68	680	8×15	0.17	0.34	500	315	10 × 12.5	0.19	0.38	495	310				
82	820	8×20	0.15	0.30	600	385	10 × 15	0.16	0.32	580	375				
100	101	10×20	0.12	0.24	750	495	12.5 × 15	0.14	0.28	695	460				
120	121	10×20	0.10	0.20	820	555	12.5 × 15	0.12	0.24	750	510				
150	151	10×25	0.090	0.18	950	665	12.5 × 15	0.095	0.19	845	590				
180	181	10×31.5	0.075	0.15	1110	790	16×15	0.080	0.16	1050	750				
220	221	12.5 × 20	0.065	0.13	1140	835	16×15	0.070	0.14	1120	820				
270	271	12.5 × 25	0.055	0.11	1340	1000	18 × 15	0.060	0.12	1290	965				
330	331	12.5 × 25	0.049	0.098	1420	1090	18×15	0.050	0.10	1410	1080				
390	391	12.5 × 31.5	0.043	0.086	1620	1260	16×20	0.047	0.094	1500	1170				
470	471	12.5 × 35.5	0.039	0.078	1780	1420	16×25	0.042	0.084	1700	1350				
560	561	12.5 × 40	0.035	0.070	1950	1580	18×20	0.039	0.078	1730	1400				
680	681	16×31.5	0.032	0.064	2050	1700	18×25	0.035	0.070	1940	1610				
820	821	16 × 35.5	0.029	0.058	2220	1880	18 × 31.5	0.032	0.064	2110	1780				
1000	102	16×40	0.027	0.054	2370	2050	18 × 35.5	0.029	0.058	2280	1970				
1200	122	18×40	0.025	0.050	2510	2210									

	V(Code)					80 ((1K)								
	Size code			_					6						
	Item	Case size	Impedance	e (Ω) MAX.	Rated rippl	e (mArms)	Case size	Impedance	e (Ω) MAX.	Rated ripple (mArms)					
Cap.(μF)	Pale	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				
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	150	58									
22	220	6.3 × 15	0.77	2.10	180	71									
27	270	6.3 × 15	0.63	1.70	220	80									
33	330	8 × 11.5	0.53	1.40	275	132									
39	390	8 × 15	0.46	1.20	300	156	10 × 12.5	0.49	1.30	380	155				
47	470	8 × 15	0.39	1.10	360	175	10 × 12.5	0.42	1.10	410	174				
56	560	8 × 20	0.34	0.92	490	208	10 × 15	0.36	0.97	500	202				
68	680	10 × 20	0.28	0.76	570	264	12.5 × 15	0.31	0.84	520	249				
82	820	10 × 20	0.25	0.68	620	284	12.5 × 15	0.27	0.73	560	273				
100	101	10 × 25	0.21	0.57	795	347	12.5 × 15	0.23	0.62	605	308				
120	121	10 × 31.5	0.18	0.49	870	406	16 × 15	0.20	0.54	663	444				
150	151	10 × 31.5	0.15	0.41	955	459	16 × 15	0.18	0.47	699	484				
180	181	12.5 × 25	0.13	0.35	1040	520	16 × 15	0.15	0.41	766	543				
220	221	12.5 × 31.5	0.12	0.32	1160	595	18 × 15	0.13	0.35	881	643				
270	271	12.5 × 31.5	0.10	0.27	1270	667	16 × 20	0.11	0.30	1240	742				
330	331	12.5 × 35.5	0.088	0.24	1450	767	16 × 25	0.099	0.27	1440	874				
390	391	12.5 × 40	0.078	0.21	1610	822	18 × 20	0.089	0.24	1450	908				
470	471	16 × 31.5	0.069	0.19	1790	1150	18 × 25	0.080	0.22	1650	1060				
560	561	16 × 35.5	0.062	0.17	2000	1300	18 × 31.5	0.072	0.19	1750	1210				
680	681	16 × 40	0.055	0.15	2200	1470	18 × 31.5	0.065	0.18	1850	1300				
820	821	18 × 35.5	0.049	0.13	2250	1590									
1000	102	18 × 40	0.044	0.12	2370	1790									

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



	V(Code)			(2A)										
	Size code			_			6							
	Item	Case size	Impedance	e (Ω) MAX.	Rated rippl	e (mArms)	Case size	Impedance	e (Ω) MAX.	Rated ripple (mArms)				
Cap.(μF)		$\phi D \times L$ (mm)	20°C / 100kHz	20°C / 100kHz		105°C / 120Hz	φD × L (mm)	20°C / 100kHz	-10°C / 100kHz	105°C / 10kHz to 200kHz	105°C / 120Hz			
0.47	R47	5 × 11	43.0			8								
0.68	R68	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	6.3 × 11	2.80	7.60	68	34								
6.8	6R8	6.3 × 11	1.90	5.10	83	41								
10	100	6.3 × 11 1.20		3.20	104	52								
12	120	6.3 × 11 1.00		2.70	150	57								
15	150	6.3 × 15	6.3 × 15 0.81		180 65									
18	180	6.3 × 15	0.67 1.80		220 73									
22	220	8 × 11.5	0.55	1.50	275	122								
27	270	8 × 15	0.47	1.30	300	146	10 × 12.5	0.50	1.40	380	145			
33	330	8 × 15	0.38	1.00	360	169	10 × 12.5	0.42	1.10	410	166			
39	390	8 × 20	0.33	0.89	490	202	10 × 15	0.36	0.97	500	193			
47	470	10 × 20	0.28	0.76	570	252	12.5 × 15	0.31	0.84	520	239			
56	560	10 × 20	0.24	0.65	620	274	12.5 × 15	0.27	0.73	560	258			
68	680	10 × 25	0.21	0.57	795	326	12.5 × 15	0.23	0.62	605	289			
82	820	10 × 31.5	0.18	0.49	870	386	16 × 15	0.19	0.51	681	433			
100	101	10 × 31.5	0.15	0.41	955	438	16 × 15	0.17	0.46	719	475			
120	121	12.5 × 25	0.13	0.35	1040	519	16 × 15	0.14	0.38	793	531			
150	151	12.5 × 25	0.11	0.30	1120	553	18 × 15	0.12	0.32	917	635			
180	181	12.5 × 31.5	0.098	0.26	1270	641	16 × 20	0.11	0.30	1240	706			
220	221	12.5 × 35.5	0.087	0.23	1450	730	16 × 25	0.093	0.25	1440	854			
270	271	12.5 × 40	0.072	0.19	1610	843	18 × 20	0.080	0.22	1450	918			
330	331	16 × 31.5	0.062	0.17	1790	1160	18 × 25	0.070	0.19	1650	1080			
390	391	16 × 35.5	0.053	0.14	2000	1340	18 × 31.5	0.062	0.17	1850	1240			
470	471	16 × 40	0.047	0.13	2200	1530	18 × 35.5	0.056	0.15	1970	1410			
560	561	18 × 35.5	0.041	0.11	2250	1680								
680	681	18 × 40	0.036	0.097	2300	1910								

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

		V(Code)	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		 	Case size	*
100		101	16 × 35.5	330	18 × 40	345	18 × 40	345				i		i	φD×L (mm)	<u> </u>

※ Rated ripple current (mArms) at 105°C 120Hz