

- SMD TYPE. Reflow Soldering is available.
- 85°C, 2000 hours assured
- Available For High Density Mounting

Characteristics

Voltage Range	6.3 to 450 VDC												
Capacitance Range	1 to 10000uF												
Temperature Range	-40 to +85°C												
Capacitance Tolerance	+20% -20% (at 120Hz, 20°C)												
Leakage Current	SIZE A~F: $I \leq 0.01CV$ or $3\mu A$, whichever is greater 2 minutes after Rated Voltage applied SIZE G~L(6.3V~100V): $I \leq 0.03CV$ or $4\mu A$, whichever is greater 2 minutes after Rated Voltage applied SIZE G~L(160V~450V): $I \leq 0.04CV + 100\mu A$ whichever is greater 5 minutes after Rated Voltage applied												
Dissipation Factor (tanδ) Max (at 120Hz, 20°C)	Voltage (V)	6.3	10	16	25	35	50	63	100	160~250	400~450		
	SIZE A~F	0.26	0.22	0.18	0.16	0.12	0.10	0.10	0.10				
	SIZE G~L	0.38	0.34	0.30	0.26	0.22	0.18	0.14	0.10				
When the capacitance exceeds 1,000uF, 0.02 shall be added every 1,000uF increase.													
Stability at Low Temperature (at 120Hz)	Voltage (V)	4	6.3	10	16	25	25	50	63	100	160~250	400~450	
	Z -25°C	SIZE A~F	7	4	4	3	2	2	2	2	2	-	-
	/Z +20°C	SIZE G~L		5	5	4	2	2	2	2	2	3	6
	Z -40°C	SIZE A~F	15	8	5	4	3	3	3	3	3	-	-
/Z 20°C	SIZE G~L		14	12	10	5	4	3	3	3	6	10	
Load Life	After the rated voltage has been applied for 2000 hours at 85°C		Capacitance change				Within ±25% of initial value						
			D.F. tanδ				200% or less of initial specified value						
			Leakage current				Less than Initial specified value						
Shelf Life	After storage for 1000 hours at 85°C, with no voltage applied and being stabilized at +20°C, Capacitor shall meet the limit specified in load life.												

Diagram of dimensions

SIZE	Dφ	L	A	B	C	W	P±0.2
A	4	5.7±0.3	4.3	4.3	5.1	0.5~0.8	1.0
B	5	5.7±0.3	5.3	5.3	6.1	0.5~0.8	1.3
C	6.3	5.7±0.3	6.6	6.6	7.3	0.5~0.8	2.2
C8	6.3	7.7±0.3	6.6	6.6	7.3	0.5~0.8	2.2
D	8	6.5±0.5	8.3	8.3	9.2	0.7~1.2	3.2
E	8	10.5±0.5	8.3	8.3	9.2	0.7~1.2	3.2
F	10	10.5±0.5	10.3	10.3	11.2	0.7~1.2	4.4
G	12.5	13.5±0.5	13.0	13.0	14.0	1.0~1.4	4.4
H	12.5	16±0.5	13.0	13.0	14.0	1.0~1.4	4.4
I	16	17±0.5	17.0	17.0	18.0	1.1~1.4	6.6
J	16	21.5±0.5	17.0	17.0	18.0	1.1~1.4	6.4
K	18	16.5±0.5	19.0	19.0	20.0	1.1~1.4	6.4
L	18	21.5±0.5	19.0	19.0	20.0	1.1~1.4	6.4

Size A~H refer to Fig. 1

Size I~L refer to Fig. 2

Fig. 1

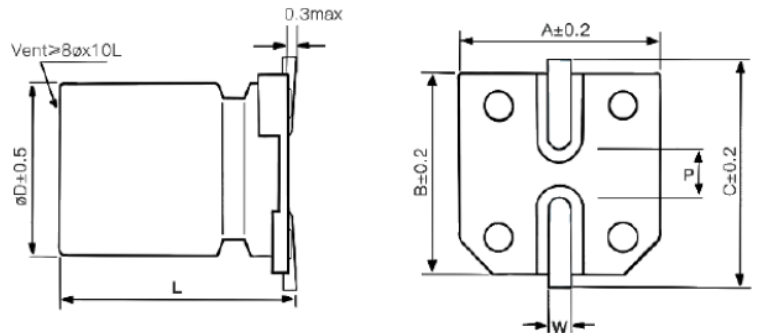
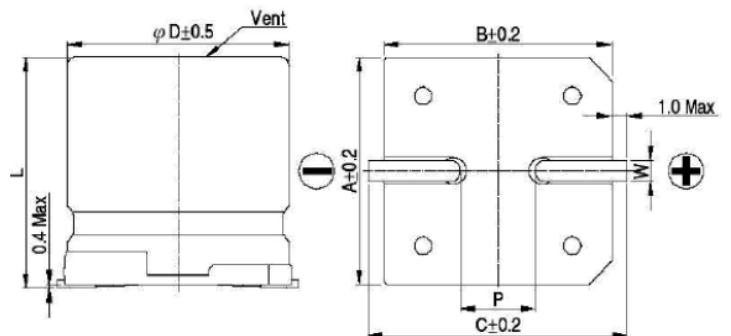


Fig. 2



Multiplier for Ripple Current vs Frequency

CAP(uF)\Freq(Hz)	60(50)	120	500	1K	≥10K
0.1 ≤ CAP ≤ 100	0.8	1.0	1.20	1.30	1.50
100 < CAP	0.8	1.0	1.10	1.15	1.20

Case size & Maximum Ripple Current (mA rms 85°C 120Hz)

Cap. ^{WV}	6.3		10		16		25		35		50	
uF	Size	RC	Size	RC	Size	RC	Size	RC	Size	RC	Size	RC
1											A	10
2.2											A	14
3.3											A	17
4.7									A	26	A	20
10					A	26	A	27	A/B	29/44	B/C	30/35
22					A/B	33/44	B/C	40/59	B/C	47/59	C/C8/D	50/65/80
33			A/B	31/55	B	55	B/C	55/67	C	67	C8/D	75/155
47	A/B	34/55	B	52	B/C	55/60	C	60	C/D	65/115	C8/D	85/200
100	B	70	B/C	60/76	C	100	C8/D	109/160	C8/D	120/160	E/F	190/320
220	C/C8	89/124	C8/D	124/175	C8/D	124/190	E	270	E/F	270/370	F	320
330	C8/D	124/190	E	290	E	290	E/F	290/400	F	400	G	600
470	E	290	E	290	E/F	290/400	F	400	G	750	H	740
1000	E/F	290/430	F	430	G	750	G	750	I	1100	J/K	1400/1350
2200	G	890	G	890	I	1100	I	1100	J/K	1500/1450		
3300	H	1000	I	1300	I	1300	J/K	1500/1450	L	1750		
4700	I	1400	I	1400	J/K	1650/1600	L	1750				
6800	J/K	1750/1700	J/K	1750/1700	L	2000						
10000	L	2000	L	2000								

Cap. ^{WV}	63		100		160		200		250		400		450	
uF	Size	RC	Size	RC	Size	RC	Size	RC	Size	RC	Size	RC	Size	RC
1	A	8												
2.2	A	12												
3.3	B	22												
4.7	C	25	C/C8	38							G	120	G	120
10	C	40	C8/E	50/90					G	150	G	120	G/H	120/130
22	D/E	75/139	E	90			G	240	G	150	I	140	I	140
33	E	139	F	120	G	240	H	310	H	240	I	140	K	180
47	F	200	F/G	120/330	H	370	I	340	I	340	K	280	L	250
68	F	226	G	380	I	500	I	340	J/K	450/440	L	350		
100	F	226	G	440	J/K	690/650	J/K	590/550	L	490				
220	G	500	I	600										
330	I	600	J/K	850/780										
470	I	850												

Part Numbering System

ELV □ □ □ M □ □ R □
Series Capacitance Tolerance Rated Voltage Package Case Size