

## *Data Sheet*

Customer: \_\_\_\_\_

Product: SMD Aluminum Electrolytic Capacitors – ELV Series \_\_\_\_\_

Size : 4x5.5mm ~ 18x21.5mm \_\_\_\_\_

Issued Date: 30-Apr.-2018 \_\_\_\_\_

Edition: Ver. 3 \_\_\_\_\_

### Record of change

Date	Ver.	Description	Page
15-May-2016	1		
04-May-2017	2	Change size of 330uF 63V	2
30-Apr-2018	3	Add item 4.7uF 400V	2

### **HITANO ENTERPRISE CORP.**

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Prepared by	Checked by	Approved by	Accepted by (customer)
15-May-2016	15-May-2016	15-May-2016	
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- SMD TYPE. Reflow Soldering is available.
- Life 2000 hours at 85°C
- Available For High Density Mounting

**Characteristics**

<b>Voltage Range</b>	6.3 to 450 VDC													
<b>Capacitance Range</b>	1 to 10000uF													
<b>Temperature Range</b>	-40 to +85°C													
<b>Capacitance Tolerance</b>	+20% -20% (at 20°C, 120Hz)													
<b>Leakage Current</b>	SIZE A~F: I≤0.01CV or 3uA, whichever is greater 2 minutes after Rated Voltage applied SIZE G~L(6.3V~100V): I≤0.03CV or 4uA, whichever is greater 2 minutes after Rated Voltage applied SIZE G~L(160V~450V): I≤0.04CV +100uA whichever is greater 5 minutes after Rated Voltage applied													
<b>Dissipation Factor (tanδ) Max</b> (at 20°C, 120Hz)	Voltage (V)	4	6.3	10	16	25	35	50	63	100	160~250	400~450		
	SIZE A~F	0.4	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	0.20	0.25		
When the capacitance exceeds 1,000uF, 0.02 shall be added every 1,000uF increase.														
<b>Stability at Low Temperature</b> (at 120Hz)	Voltage (V)		4	6.3	10	16	25	35	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		
<b>Load Life</b>	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						
<b>Shelf Life</b>	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	5.5±0.2	4.3	4.3	5.1	0.5~0.8	1.0
B	5	5.5±0.2	5.3	5.3	5.9	0.5~0.8	1.5
C	6.3	5.5±0.2	6.6	6.6	7.2	0.5~0.8	2.0
C8	6.3	7.7±0.3	6.6	6.6	7.2	0.5~0.8	2.0
D	8	6.5±0.3	8.4	8.4	9.0	0.5~0.8	2.3
E	8	10.5±0.3	8.4	8.4	9.0	0.7~1.1	3.1
F	10	10.5±0.3	10.4	10.4	11.0	0.7~1.3	4.5
G	12.5	14±0.3	13.5	13.5	15.0	1.1~1.4	4.5
H	12.5	16±0.3	13.0	13.0	15.0	1.1~1.4	4.5
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

Fig. 1

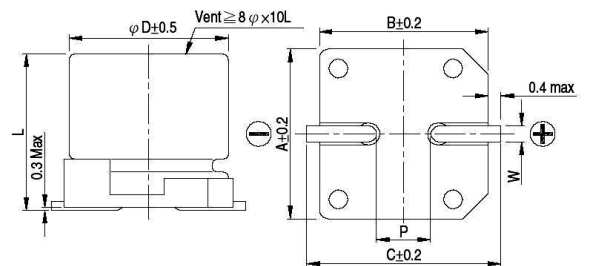
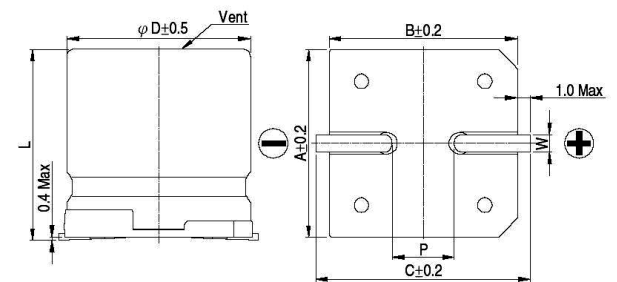


Fig. 2



Size A~F refer to Fig. 1,

Size G~L refer to 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	A	8										
2.2	A	12	C	18										
3.3	B	22	C	25										
4.7	B	25	C8, D	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