



CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

FSV Series

- Hybrid electrolyte standard
- High reliability and high voltage are realized by hybrid electrolyte
- -55℃~+105℃
- Endurance 105℃, 5,000~10,000hrs
- AEC-Q200 compliant : Please contact us for more details, test data, information.



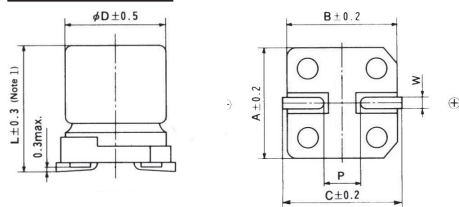
SPECIFICATIONS

Item	Characteristics								
Category temperature range	-55 to +105℃								
Rated voltage range	16 to 80Vdc								
Surge voltage	Rated Voltage(WV)		16	25	35	50	63	80	
	Surge Voltage(SV)		18,4	29,0	40,0	57,5	72,5	92,0	
Capacitance tolerance	±20% (M) (at 20℃, 120Hz)								
Tangent of loss angle	Shall not exceed the value in Ratings of FSV series, (at 20℃, 120Hz)								
Leakage Current ※ 1	Shall not exceed the value in Ratings of FSV series, (at 20℃, 2minutes)								
ESR	Shall not exceed the value in Ratings of FSV series, (at 20℃, 100kHz)								
Impedance Ratio Characteristics at low temp.	Impedance		Ratio						
	Z(-25℃) / Z(+20℃)		< 1,5						
	Z(-55℃) / Z(+20℃)		< 2,0 (at 100kHz)						
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 10,000 hours (F61:5,000 hours) at 105℃, Capacitance change ≤ ±30% of the initial value Tanδ ≤ ±200% of the initial specified value ESR ≤ ±200% of the initial specified value Leakage current ≤ The initial specified value							CASE CODE	Time(Hrs)
								F61	5,000
								F80	10,000
								H10	
								J10	
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied, The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at lest 24hours and not more than 48 hours and not more than 48 hours before the measurements, Capacitance change ≤ ±30% of the initial value Tanδ ≤ ±200% of the initial specified value ESR ≤ ±200% of the initial specified value Leakage current ≤ The initial specified value								
Bias Humidity	The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjecting them to the DC rated voltage at 85℃, 85% RH for 2000hours Capacitance change ≤ ±30% of the initial value Tanδ ≤ ±200% of the initial specified value ESR ≤ ±200% of the initial specified value Leakage current ≤ The initial specified value								

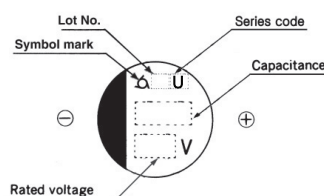
※ 1, if any doubt arises, measure the leakage current after following voltage treatment.
(Voltage treatment : Applying rated voltage for 120minutes at 105℃)

※ 2, Reflow Condition : Refer to 46 Page

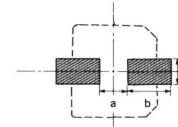
DIMENSIONS



MARKING



Recommended solder land on PC board



■ : Solder land on PC board

Note 1 : L±0.7 for 10×10(J10)

Unit(mm)

Case code	Ø D	L	A	B	C	W	P	a	b	c
F61	6.3	5.8	6.6	6.6	7.2	0.5-0.8	1.9	1.9	3.5	1.6
F80	6.3	7.7	6.6	6.6	7.2	0.5-0.8	1.9	1.9	3.5	1.6
H10	8.0	10.0	8.3	8.3	9.0	0.7-1.1	3.1	3.1	4.2	2.2
J10	10.0	10.0	10.3	10.3	11.0	0.7-1.1	4.5	4.5	4.4	2.2

RATED RIPPLE CURRENT MULTIPLIERS

Freq.(Hz)	120	1k	5k	10k	20k	30k	100k ~500k
Cap.(µF)							
~ 10	0.03	0.30	0.50	0.60	0.70	0.75	1.00
15 ~ 33	0.07	0.30	0.50	0.60	0.70	0.75	1.00
47 ~ 180	0.10	0.40	0.60	0.70	0.80	0.80	1.00
220 ~ 560	0.13	0.45	0.65	0.75	0.85	0.85	1.00

RATINGS OF FSV Series

Case Code	Rated Voltage (V)	Rated Capacitance(μF)	ESR(mΩ) (at 100kHz)	Rated Ripple Current(mArms/ 105℃, 100KHz)	Tangent of loss angle	Leakage Current (μA)
F61	16	82	45	1,600	0.16	13
	16	100	45	1,600	0.16	16
	25	47	50	1,300	0.14	12
	25	56	50	1,300	0.14	14
	35	27	60	1,300	0.12	9
	35	47	60	1,300	0.12	16
	50	10	80	1,100	0.10	5
	50	22	80	1,100	0.10	11
	63	6.8	120	1,000	0.08	4
	63	10	120	1,000	0.08	6
F80	16	150	27	2,200	0.16	24
	16	180	27	2,200	0.16	29
	25	68	30	2,000	0.14	17
	25	100	30	2,000	0.14	25
	35	47	35	2,000	0.12	16
	35	68	35	2,000	0.12	24
	50	15	40	1,600	0.10	8
	50	33	40	1,600	0.1	17
	63	10	80	1,500	0.08	6
	63	22	80	1,500	0.08	14
H10	16	270	22	2,500	0.16	43
	16	330	22	2,500	0.16	53
	25	150	27	2,300	0.14	38
	25	220	27	2,300	0.14	55
	35	100	27	2,300	0.12	35
	35	150	27	2,300	0.12	53
	50	33	30	1,800	0.10	17
	50	47	30	1,800	0.10	24
	50	68	30	1,800	0.10	34
	50	82	30	1,800	0.10	41
	63	22	40	1,600	0.08	14
	63	33	40	1,600	0.08	21
	63	47	40	1,600	0.08	30
	80	27	45	1,600	0.08	22
J10	16	470	18	2,600	0.16	75
	16	560	18	2,600	0.16	90
	25	270	20	2,500	0.14	68
	25	330	20	2,500	0.14	83
	25	390	20	2,500	0.14	98
	35	150	20	2,500	0.12	53
	35	270	20	2,500	0.12	95
	50	56	25	2,400	0.10	28
	50	100	25	2,400	0.10	50
	50	120	25	2,400	0.10	60
	63	33	30	2,400	0.08	21
	63	56	30	2,400	0.08	35
	63	82	30	2,400	0.08	52
	63	100	30	2,400	0.08	63
	80	56	33	2,400	0.08	45