

# Screw Terminal Aluminum Electrolytic Capacitors

## SWN Series



### FEATURES

- Endurance: 2000 hours
- Operating Temperature: -25/+105 °C
- High capacity per case size
- RoHS Compliance and Halogen-free



### APPLICATIONS

- Frequency converters
- Power supplies
- Smoothing and filtering

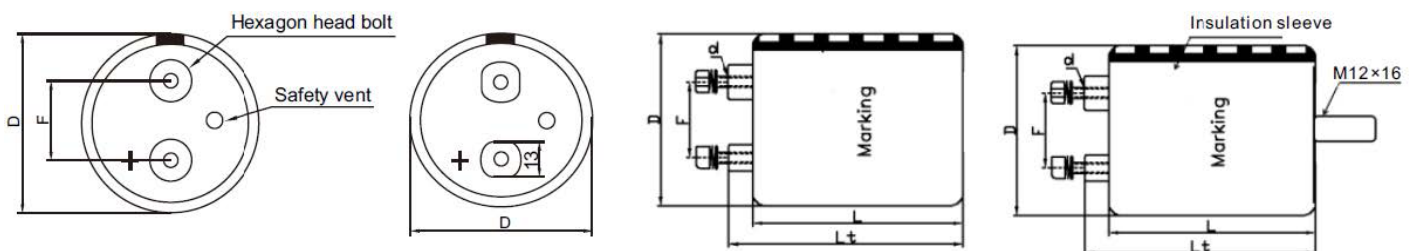
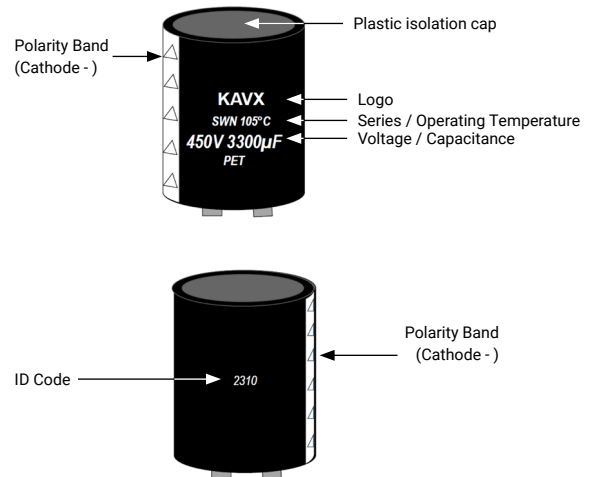
### HOW TO ORDER

<b>SW</b>	<b>N</b>	<b>B080</b>	<b>102</b>	<b>M</b>	<b>350</b>	<b>B</b>	<b>-</b>
<b>Product Type</b> Aluminum Screw Terminal	<b>Series Type</b> Aluminum Screw Terminal	<b>Case Size</b> See table below	<b>Capacitance Code</b> µF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	<b>Tolerance</b> M = ±20%	<b>Rated DC Voltage</b> 350 = 350Vdc 400 = 400Vdc 450 = 450Vdc	<b>Packaging</b> B = Box	<b>Special</b> Empty = Standard

### CASE DIMENSIONS millimeters (inches)

1st Character	D	F	d	2nd, 3rd, & 4th Character	L+3.00(0.118) Max.	Lt Max.
B	51.60 (2.031)	22.20 (0.874)	M5	080	80.00 (3.150)	87.50 (3.445)
C	64.30 (2.531)	28.20 (1.110)	M5	096	96.00 (3.780)	103.50 (4.075)
D	76.90 (3.028)	31.70 (1.248)	MS or M6	100	100.00 (3.937)	107.50 (4.232)
E	91.00 (3.583)	31.70 (1.248)	M5 or M6	105	105.00 (4.134)	112.50 (4.429)
				115	115.00 (4.528)	122.50 (4.823)
				130	130.00 (5.118)	137.50 (5.413)
				143	143.00 (5.630)	150.50 (5.925)
				155	155.00 (6.102)	162.50 (6.398)
				157	157.00 (6.181)	164.50 (6.476)
				168	168.00 (6.614)	175.50 (6.909)
				196	196.00 (7.717)	203.50 (8.012)
				220	220.00 (8.661)	227.50 (8.957)

### MARKING



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### TECHNICAL SPECIFICATIONS

<b>Category Temperature Range:</b>	-25°C to +105°C	
<b>Capacitance Range</b>	at 25°C, 120Hz	1000µF to 15,000µF
<b>Capacitance Tolerance:</b>	at 25°C, 120Hz	±20%
<b>Dissipation Factor (%)</b>	Measurement Frequency: 120Hz at 25°C	Please see the Ratings and Part Number Reference Table below
<b>Leakage Current:</b>	After 5 minutes at rated working voltage at 25°C	I <sub>s</sub> ≤ 0.02CV (µA) or 5mA, whichever is smaller

### CAPACITANCE AND RATED VOLTAGE RANGE (FIGURES DENOTES CASE SIZE)

Capacitance		Rated Voltage DC (V <sub>R</sub> )		
µF	Code	350V	400V	450V
1000	102	B080	B080	B105
1500	152	B080	B096	B115
2200	222	B096	C105	C115
3300	332	C105	C115 C130	D100
3900	392	C115	C130 D115	D115
4700	472	C143	D115 D130	D130
5600	562	D130	D130 D143	D143
6800	682	D143	D155 D168	D155
8200	822	D168	D155	E157
10,000	103	D196	D220 E157	E220
12,000	123	D220	E157 E196	
15,000	153	E196		

Released ratings

### RATINGS & PART NUMBER REFERENCE

Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DF Max. (%)	ESR Max. @120Hz (mΩ)	120Hz RMS Current (A)/105°C	MSL
<b>350V</b>							
SWNB080102M350B	B080	1000	350	20	157	2.60	1
SWNB080152M350B	B080	1500	350	20	116	3.20	1
SWNB096222M350B	B096	2200	350	20	81	4.20	1
SWNC105332M350B	C105	3300	350	20	59	5.10	1
SWNC115392M350B	C115	3900	350	20	54	6.70	1
SWNC143472M350B	C143	4700	350	20	48	7.20	1
SWND130562M350B	D130	5600	350	20	40	8.50	1
SWND143682M350B	D143	6800	350	20	36	10.00	1
SWND168822M350B	D168	8200	350	20	31	11.70	1
SWND196103M350B	D196	10000	350	20	28	14.30	1
SWND220123M350B	D220	12000	350	20	25	16.80	1
SWNE196153M350B	E196	15000	350	20	24	18.30	1
<b>400V</b>							
SWNB080102M400B	B080	1000	450	20	158	3.00	1
SWNB096152M400B	B096	1500	450	20	107	3.70	1
SWNC105222M400B	C105	2200	450	20	76	4.60	1
SWNC115332M400B	C115	3300	450	20	54	6.00	1
SWNC130332M400B	C130	3300	450	20	53	6.40	1
SWNC130392M400B	C130	3900	450	20	47	7.50	1
SWND115392M400B	D115	3900	450	20	46	7.90	1
SWND115472M400B	D115	4700	450	20	41	8.00	1
SWND130472M400B	D130	4700	450	20	40	8.50	1
SWND130562M400B	D130	5600	450	20	37	9.50	1
SWND143562M400B	D143	5600	450	20	36	9.80	1
SWND155682M400B	D155	6800	450	20	32	10.20	1

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Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	DF Max. (%)	ESR Max. @120Hz (mΩ)	120Hz RMS Current (A)/105°C	MSL
SWND168682M400B	D168	6800	450	20	31	10.50	1
SWND155822M400B	D155	8200	450	20	30	13.30	1
SWND220103M400B	D220	10000	450	20	25	17.50	1
SWNE157103M400B	E157	10000	450	20	25	17.50	1
SWNE157123M400B	E157	12000	400	20	23	21.00	1
SWNE196123M400B	E196	12000	450	20	23	21.30	1
<b>450V</b>							
SWNB105102M450B	B105	1000	450	20	153	4.30	1
SWNB115152M450B	B115	1500	450	20	102	5.80	1
SWNC115222M450B	C115	2200	450	20	75	7.30	1
SWND100332M450B	D100	3300	450	20	51	10.10	1
SWND115392M450B	D115	3900	450	20	45	10.90	1
SWND130472M450B	D130	4700	450	20	40	12.70	1
SWND143562M450B	D143	5600	450	20	36	15.90	1
SWND155682M450B	D155	6800	450	20	32	16.40	1
SWNE157822M450B	E157	8200	450	20	24	17.00	1
SWNE220103M450B	E220	10000	450	20	21	18.80	1

### FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

Rated Voltage (Vdc)	Frequency (Hz)				
	50Hz	120Hz	300Hz	1kHz	3kHz
350 - 450	0.80	1.00	1.10	1.30	1.40

### QUALIFICATION TABLE

Test	SWN Series (Temperature range -25°C to +105°C)	
	Condition	Characteristics
Low Temperature Characteristics (Capacitance Ratio at 120Hz)	C(-25°C) / C(+20°C) ≥ 0.7	
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after DC voltage plus the rated ripple current is applied for 2000 hours at 105°C.	ΔC/C ≤ ±20% of the initial limit
		DF ≤ 200% of the initial specified limit
		DCL ≤ initial specified limit
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours at 105°C without voltage applied.	ΔC/C ≤ ±20% of the initial limit
		DF ≤ 150% of the initial specified limit
		DCL ≤ 200% of the initial specified limit

### STORAGE

- It is recommended to keep capacitors between the ambient temperatures of 5°C to 35°C (if between 35°C to 85°C, it should be less than three months) and the relative humidity of 75% or below.
- Confirm that the environment does not have any of the following conditions:
  - Damp conditions such as water, saltwater spray, oil spray or fumes. High humidity or humidity condensation situations.
  - In an atmosphere filled with toxic gasses (such as hydrogen sulfide, sulfurous acid, nitrous acid, chlorine, ammonia, etc.).
  - Being exposed to direct sunlight, ozone, ultraviolet ray, or radiation.
  - Being exposed to acidic or alkaline solutions.
  - Under severe conditions where vibration and / or mechanical shock exceed the applicable ranges of the specification.
- Shelf life

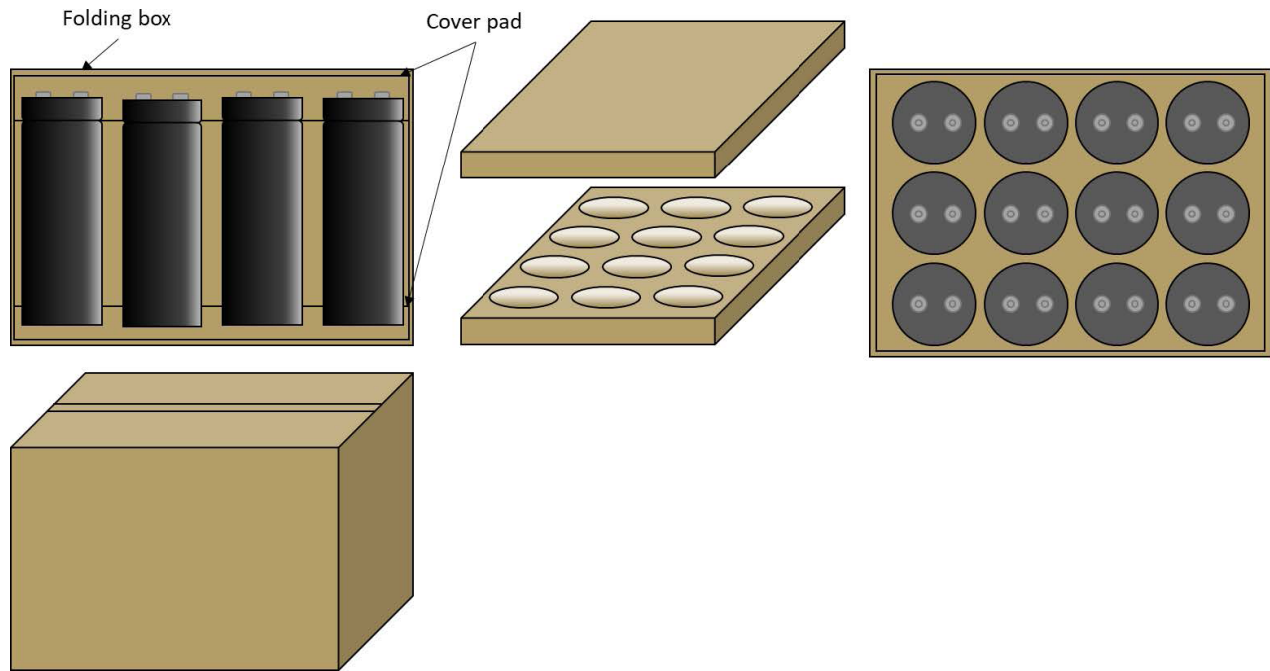
Years	
0-1	>1
Ok	Performance check

- Years from manufacturing date code.
- KYOCERA AVX does not guarantee or assume responsibility for product behavior after 3 years of storage.
- Ageing procedure should be performed as follows:
  - Connect the capacitor in series to a 1kΩ resistor, and apply half rated voltage for 2 hours.
  - After half rated voltage for 2 hours applied, increase and apply rated voltage for another 2 hours.

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### PACKAGE TAPE DIMENSIONS



Case Size	Dim. $\phi$	Quantity	Carton Size (LxWxH)
B	51.60	20	400 x 300 x 120 - 185
C	64.30	15	400 x 300 x 120 - 230
D	76.90	12	400 x 300 x 120 - 260
E	91.00	8	400 x 300 x 120 - 285