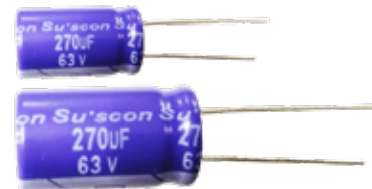


# SDN series

- 105°C 2000 hours. Anhydrous product.
- Low impedance at High frequency range, high ripple current resistance.
- Suitable for return-circuit of switching power source.
- RoHS Compliance
- 105°C 2000小時.無水系產品
- 高頻低阻抗、耐高紋波
- 適用於開關電源迴路



## SPECIFICATIONS

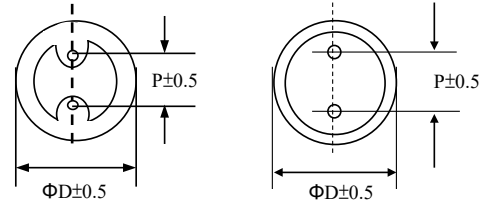
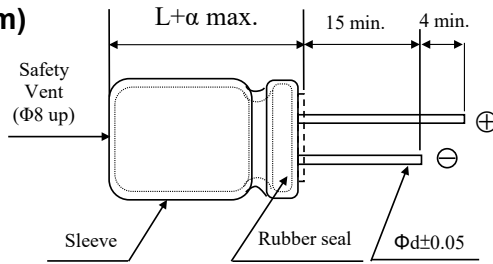
Items 項目	Characteristics 特性												
Capacitance Tolerance 靜電容量誤差	± 20%(120Hz,20°C)												
Operating Temperature Range 適用溫度範圍	-55 ~ +105°C						-40 ~ +105°C						
Rated Voltage Range 額定電壓範圍	6.3 ~ 100VDC						160 ~ 400VDC						
Leakage Current 洩漏電流	$V \leq 100V$ $I \leq 0.01CV$ or 3 ( $\mu A$ ) ( After 2 minutes application of DC rated voltage, at 20 °C ) $V > 100V$ $I \leq 0.03CV + 20$ ( $\mu A$ ) ( After 5 minutes application of DC rated voltage, at 20 °C )												
Dissipation Factor 散逸因素( $\tan \delta$ )	Measurement Frequency: 120Hz. Temperature: 20°C												
	Rated Voltage(V)	6.3	10	16	25	35	50	63	80	100	160~250	400	
	$\tan \delta$ (Max)	0.22	0.19	0.16	0.14	0.12	0.10	0.08	0.08	0.07	0.20	0.24	
When nominal capacitance over 1000 $\mu F$ , $\tan \delta$ shall be added 0.02 to the listed value with increase of every 1000 $\mu F$ .													
Low Temperature Stability 低溫特性 Impedance Ratio(Max) 阻抗比率(最大值)	Measurement Frequency: 120Hz.												
	Rated Voltage(V)	6.3	10	16	25	35	50	63	100	160~250	400		
	Z(-25°C)/Z(20°C)	4	3	2	2	2	2	2	2	3	6		
	Z(-40°C)/Z(20°C)	-	-	-	-	-	-	3	3	6	12		
Z(-55°C)/Z(20°C)	8	6	4	3	3	3	-	-	-	-			
Load Life 負荷壽命	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 2,000 hours at 105°C.												
	Capacitance Change	Within ± 20% of Initial Value											
	$\tan \delta$	200% or less of Initial Specified Value											
	Leakage Current	Initial Specified Value or less											
Shelf Life 放置壽命	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4.												
	Capacitance Change	Within ± 20% of Initial Value											
	$\tan \delta$	200% or less of Initial Specified Value											
	Leakage Current	Initial Specified Value or less											
Standards 參照標準	AEC-Q200、IEC 60384-4(JIS C5101-4)												

## Frequency Coefficient of Permissible Ripple Current

Rated Voltage (V)	Capacitance ( $\mu F$ )	Frequency (Hz)				
		50	120	1K	10K	100K
6.3 ~ 100	47 ~ 100	0.45	0.55	0.75	0.90	1.00
	220 ~ 1000	0.60	0.70	0.85	0.95	1.00
	1500 ~ 15000	0.70	0.80	0.95	0.98	1.00
160 ~ 400	2.2 ~ 330	0.55	0.65	0.80	0.90	1.00

# SDN series

**DIMENSIONS(mm)**



ΦD	5	6.3	8	10	12.5	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8

$\alpha$	(L < 20) 1.5
	(L ≥ 20) 2.0

**STANDARD RATINGS**

DxL(mm) ; R.C.(mA rms) at 105°C 100 KHz ; IMP(Ω max) at 20°C,100KHz.

Cap (μF)	V	6.3			10			16			25		
		Item	D x L	R.C.	IMP	D x L	R.C.	IMP	D x L	R.C.	IMP	D x L	R.C.
4.7											5x11	50	1.820
10											5x11	80	1.820
22											5x11	110	0.970
47					5x11	140	0.860	5x11	170	0.790	5x11	170	0.790
68					5x11	160	0.860	5x11	210	0.670	6.3x11	210	0.670
100					5x11	180	0.860	6.3x11	270	0.360	6.3x11	270	0.360
220		6.3x11	270	0.430	6.3x11	270	0.400	8x11.5	440	0.240	8x11.5	440	0.240
330		6.3x11	320	0.410	8x11.5	440	0.260	8x11.5	440	0.240	10x12.5	650	0.120
470		8x11.5	440	0.290	8x11.5	440	0.260	10x12.5	650	0.120	10x16	800	0.091
680		8x11.5	440	0.290	10x12.5	650	0.130	10x16	800	0.091	10x20	1,050	0.070
1000		10x12.5	650	0.140	10x16	800	0.098	10x20	1,050	0.070	12.5x20	1,350	0.067
1500		10x16	800	0.100	10x20	1,050	0.077	12.5x20	1,350	0.067	12.5x25	1,650	0.048
2200		10x25	1,350	0.079	12.5x20	1,350	0.073	12.5x25	1,650	0.052	16x26	2,050	0.036
3300		12.5x20	1,350	0.079	12.5x25	1,650	0.065	16x26	2,050	0.036	16x31.5	2,550	0.033
4700		12.5x25	1,650	0.051	12.5x35	2,050	0.040	16x31.5	2,550	0.033	18x35.5	2,950	0.031
6800		16x26	2,050	0.043	16x31.5	2,550	0.036	18x35.5	2,950	0.031	18x40	3,300	0.028
10000		16x31.5	2,550	0.039	18x35.5	2,950	0.034	18x40	3,300	0.028			
15000		16x35.5	2,950	0.036	18x40	3,300	0.030						

Cap (μF)	V	35			50			63			100		
		Item	D x L	R.C.	IMP	D x L	R.C.	IMP	D x L	R.C.	IMP	D x L	R.C.
0.47					5x11	25	10.73				5x11	20	30.30
1					5x11	40	7.580				5x11	30	28.60
2.2					5x11	55	6.440				5x11	44	14.00
3.3					5x11	65	5.580				5x11	58	9.400
4.7		5x11	85	2.640	5x11	90	3.290	5x11	65	9.880	5x11	74	6.600
10		5x11	100	1.580	5x11	110	2.000	5x11	110	5.450	6.3x11	130	2.600
22		5x11	120	1.320	5x11	140	1.720	6.3x11	200	1.890	8x11.5	230	2.000
33		5x11	210	0.568	6.3x11	240	0.690	6.3x11	250	1.770	10x12.5	320	0.700
47		6.3x11	270	0.550	6.3x11	240	0.690	8x11.5	320	0.800	10x16	390	0.500
68		8x11.5	360	0.396	8x11.5	300	0.430	10x12.5	380	0.760	10x20	420	0.400
100		8x11.5	440	0.246	8x11.5	400	0.360	10x12.5	450	0.670	12.5x20	580	0.300
220		10x12.5	650	0.132	10x16	600	0.240	10x20	780	0.340	16x26	880	0.100
330		10x16	800	0.100	10x20	800	0.220	12.5x20	950	0.210	16x31.5	930	0.100
470		10x20	1,050	0.077	12.5x20	1,050	0.130	12.5x25	1,430	0.170	16x36	1,230	0.100
680		12.5x20	1,350	0.073	12.5x25	1,150	0.100	16x26	1,780	0.130	18x35.5	1,410	0.091
1000		12.5x25	1,650	0.056	16x26	1,550	0.069	16x31.5	1,900	0.100	18x40	1,520	0.065
1500		16x26	2,050	0.040	16x31.5	1,950	0.061	18x35.5	2,150	0.079			
2200		16x31.5	2,550	0.036	18x35.5	2,250	0.057	18x40	2,350	0.077			
3300		18x35.5	2,950	0.034									
4700		18x40	3,300	0.030									

SDN

## SDN series

## STANDARD RATINGS

DxL(mm), R.C : (mA rms) at 105°C 100kHz

Cap ( $\mu$ F)	V Item	160		200		250		400	
		D x L	R.C.	D x L	R.C.	D x L	R.C.	D x L	R.C.
2.2							105	8x11.5	80
3.3			104	8x11.5	113	8x11.5	122	10x12.5	110
4.7			112	8x11.5	126	10x12.5	140	10x16	160
10		10x12.5	180	10x12.5	210	10x16	300	10x20	195
22		10x16	250	10x20	465	12.5x20	485	12.5x25	350
33		10x20	570	10x25	600	12.5x20	620	12.5x25	580
47		12.5x20	730	12.5x20	730	12.5x25	810	16x26	720
68		12.5x25	850	12.5x25	985	16x26	1,010	16x31.5	820
100		16x26	1,285	16x26	1,285	16x31.5	1,405	18x35.5	950
150		16x31.5	1,310	16x31.5	1,310	18x31.5	1,455		
220		16x36	1,450	18x31.5	1,510	18x40	1,490		
330		18x35.5	1,850						