

PFD Series

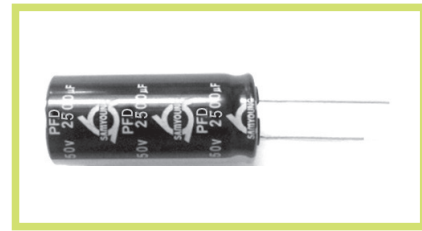
• 135°C 2,000Hrs, 125°C 5,000Hrs assured.

- Low ESR.
- Wide Temperature range.
- Suitable to fit for automotive equipment.
- RoHS compliant.
- Halogen-free capacitors are also available.

PFA

PFD

High ripple, Downsized



SPECIFICATIONS

Item	Characteristics						
Rated Voltage Range	50 ~ 80 V _{DC}						
Operating Temperature Range	-40 ~ +135°C						
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)						
Leakage Current	I = 0.03CV (μA) or 4μA, whichever is greater. Where, I:Max. Leakage current(μA), C:Nominal capacitance(μF), V:Rated voltage(V _{DC}) (at 20°C, 1 minute)						
Dissipation Factor(Tan δ)	<table border="1"> <tr> <td>Rated Voltage(V_{DC})</td><td>50~80</td></tr> <tr> <td>Tan δ(Max.)</td><td>0.10</td></tr> </table> When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase. (at 20°C, 120Hz)	Rated Voltage(V _{DC})	50~80	Tan δ(Max.)	0.10		
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Temperature Characteristics (Max. Impedance ratio)	<table border="1"> <tr> <td>Rated Voltage(VDC)</td><td>50~80</td></tr> <tr> <td>Z(-25°C)/Z(+20°C)</td><td>3</td></tr> <tr> <td>Z(-40°C)/Z(+20°C)</td><td>6</td></tr> </table> (at 120Hz)	Rated Voltage(VDC)	50~80	Z(-25°C)/Z(+20°C)	3	Z(-40°C)/Z(+20°C)	6
Rated Voltage(VDC)	50~80						
Z(-25°C)/Z(+20°C)	3						
Z(-40°C)/Z(+20°C)	6						
Load Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 2,000 hours at 135°C, 5,000 hours at 125°C. Capacitance change ≤ ±30% of the initial value Tan δ ≤ 300% of the initial specified value Leakage Current ≤ The initial specified value						
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing for 1,000 hours at 135°C, 125°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements. Capacitance change ≤ ±30% of the initial value Tan δ ≤ 300% of the initial specified value Leakage current ≤ The initial specified value						
Others	Satisfied characteristics KS C IEC 60384-4						

DIMENSIONS OF PFD Series

Unit(mm)

04/2021

Side view technical drawing of a capacitor. The drawing shows a rectangular body with a dashed line indicating the internal structure. A "Safety vent" is labeled on the top left corner. A "Sleeve" is labeled on the top right corner. The overall length is labeled L' . The diameter of the body is labeled $\varnothing D'$. The diameter of the sleeve is labeled $\varnothing d \pm 0.05$. The distance from the end of the body to the start of the sleeve is labeled "15min.". The distance from the end of the sleeve to the end of the body is labeled "4min.". The drawing includes a cross-section symbol (a circle with a cross) and a section line (a circle with a cross).

End view technical drawing of a capacitor. The drawing shows a circular cross-section with a central hole. The diameter of the outer circle is labeled $F \pm 0.5$. The drawing includes a cross-section symbol (a circle with a cross) and a section line (a circle with a cross).

Marking : BLACK SLEEVE, WHITE INK

$\varnothing D$	16	18
$\varnothing d$	0.8	0.8
F	7.5	7.5
$\varnothing D'$	$\varnothing D + 0.5 \text{ max.}$	
L'	$L + 2.0 \text{ max.}$	



RATINGS OF PFD Series

V _{DC}	Capacitance (μ F)	ø D × L(mm)	ESR (Ω max./100kHz)		Rated Ripple Current (mA _{rms} /125°C,100%)	Rated Ripple Current (mA _{rms} /135°C,100%)
			20°C	-40°C		
50	1000	16 x 20	0.050	0.550	2960	1870
	1300	16 x 25	0.042	0.440	4040	2500
		18 x 20	0.042	0.440	3130	2110
	1600	16 x 31.5	0.035	0.360	5130	2960
	1800	18 x 25	0.033	0.320	4230	2530
	2200	16 x 35.5	0.029	0.270	5480	3160
	2400	18 x 31.5	0.028	0.250	5240	3020
	2500	16 x 40	0.025	0.220	5930	3420
	3000	18 x 35.5	0.024	0.200	5870	3390
3600	18 x 40	0.023	0.160	6420	3700	
63	680	16 x 20	0.053	0.340	2140	1910
	820	16 x 25	0.038	0.230	2940	2680
	910	18 x 20	0.044	0.260	2350	2100
	1200	16 x 31.5	0.034	0.200	3860	3050
		18 x 25	0.033	0.190	3080	2810
	1400	16 x 35.5	0.027	0.150	4590	3420
	1600	16 x 40	0.025	0.140	5190	3670
		18 x 31.5	0.028	0.150	4080	3220
	2000	18 x 35.5	0.022	0.120	5220	3690
2300	18 x 40	0.021	0.110	5660	3820	
80	470	16 x 20	0.053	0.340	2140	1910
	620	18 x 20	0.044	0.260	2350	2100
	680	16 x 25	0.038	0.230	2940	2680
	820	16 x 31.5	0.034	0.200	3860	3050
		18 x 25	0.033	0.190	3080	2810
	1000	16 x 35.5	0.027	0.150	4590	3420
	1200	18 x 31.5	0.028	0.150	4080	3220
	1300	16 x 40	0.025	0.140	5190	3670
		18 x 35.5	0.022	0.120	5220	3690
1600	18 x 40	0.021	0.110	5660	3820	

RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Freq.(Hz) Cap.(μ F)	120	1k	10k	50k	100k
470~910	0.50	0.85	0.94	0.96	1.00
1,000~2,000	0.60	0.87	0.95	0.97	1.00
2200~4,300	0.75	0.90	0.95	0.97	1.00
4700~12,000	0.85	0.95	0.98	0.99	1.00