

## PD series

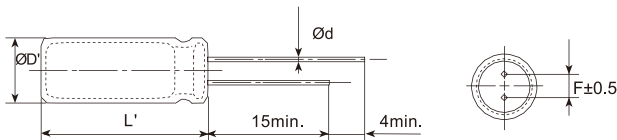
- Endurance: +105°C 2,000 hours
- Low ESR, Small Size
- Recommended Applications: High order main board, Industrial computer
- RoHS Compliant and lead-free



### SPECIFICATIONS

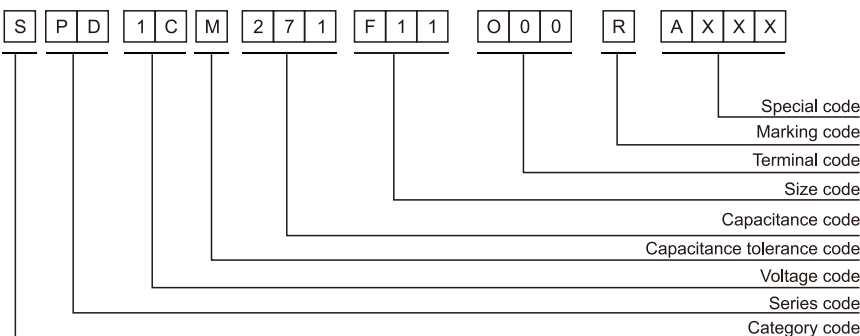
Items	Characteristics	
Category Temperature Range	-55~+105°C	
Rated Working Voltage Range	6.3~35 V <sub>dc</sub>	
Nominal Capacitance Range	4.7~4700μF	
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)	
DC Leakage Current	I ≤ 0.2CV or 500μA, whichever is greater. Where, I: Max. leakage current (μA), C: Nominal capacitance (μF), V: Rated voltage (V) (at 20°C after 2 minutes)	
Dissipation Factor (tanδ)	Rated Voltage (V <sub>dc</sub> )	6.3 6.8 7.5 10 16 20 35
	tanδ (max.)	0.08 0.12 (at 20°C, 120Hz)
ESR(100k~300kHz, 20°C)	Value in characteristics table	
Temperature Characteristic (Impedance Ratio at 100kHz)	Z(+105°C)/Z(+20°C) ≤ 1.25 Z(-55°C)/Z(+20°C) ≤ 1.25	
Endurance	After applying rated voltage for 2,000 hours at 105°C, the capacitors shall meet the following requirements.	
	Appearance	No significant damage
	Capacitance Change	≤ ±20% of the initial value
	D.F. (tanδ)	≤ 150% of the initial specified value
	ESR	≤ 150% of the initial specified value
Leakage Current	≤ The initial specified value	
Humidity Test	After subjecting to 90%~95% RH for 2,000 hours at 60°C without voltage applied, the capacitors shall meet the specified values for the endurance characteristics listed above.	
Surge Test	After subjecting to 1,000 cycles each consisting of charge with the surge voltage specified at normal temperature for 30 seconds through a protective resistor and discharge for 5 minutes 30 seconds, the capacitors shall meet the following requirements.	
	Appearance	No significant damage
	Capacitance Change	≤ ±20% of the initial value
	D.F. (tanδ)	≤ 150% of the initial specified value
	ESR	≤ 150% of the initial specified value
Leakage Current	≤ The initial specified value	

### DIMENSIONS [mm]



ØD	5	5.5	6.3	6.8	8	10	13
Ød	0.5	0.5	0.5	0.5	0.6	0.6	0.6
F	2.0	2.5	2.5	2.5	3.5	5.0	5.0
ØD'	ØD+0.5max.						
L'	L+1.0max.			L-0.5~+1		L-0.5~+2	

### PART NUMBERING SYSTEM



# PD series

■ STANDARD RATINGS

VDC (SV)	Cap (μF)	Size ΦDxL(mm)	ESR (mΩ,20°C,100kHz)(max.)	Rated ripple current (mA <sub>rms</sub> /105°C,100kHz)	Leakage Current (μA)(max.)
6.3 (7.2)	47	6.3*5	40	1100	500
	82	6.3*5	40	1100	500
		4*7	30	1500	500
	100	5*7	30	1800	500
		6.3*6	40	1900	500
		4*7	30	2100	500
	150	5*7	30	2600	500
		5*7	20	3500	500
	220	6.3*7	20	3550	500
		6.3*8	15	3600	500
	270	5*7	20	3800	500
		5*6	20	3200	500
	330	5*8	20	4000	500
		6.3*5	25	3160	500
		6.3*8	15	4000	500
	390	5*9	20	4100	500
		5*10	20	4300	592
		5.5*9	20	4100	592
	470	6.3*7	20	3900	592
		6.3*8	15	4400	592
	500	5*9	20	4100	630
		6.3*7	20	4200	706
	560	6.3*8	20	4800	706
		5.5*9	20	4300	706
	680	6.3*9	20	5080	857
		5.5*9	20	4800	857
		8*9	20	4600	857
		5.5*10	20	4800	1033
	820	6.3*9	20	5080	1033
		8*9	15	4700	1033
		6.3*10	10	5150	1260
	1000	8*9	12	4800	1260
	8*11	10	5200	1260	
1200	6.3*11	10	5200	1512	
	8*11	10	5300	1512	
1500	8*11	10	5400	1890	
	10*12	10	5500	1890	
1800	10*10	10	5560	2268	
2200	8*14	10	5700	2772	
	10*12	10	5800	2772	
3300	10*14	10	5900	4158	
4700	10*17	10	6100	5000	
6.8 (7.8)	47	6.3*5	40	1100	500
	82	6.3*5	40	1100	500
		4*7	30	1500	500
	100	5*7	30	1800	500
		6.3*6	40	1900	500
	150	4*7	30	2100	500
		5*7	30	2600	500
	220	5*7	20	3500	500
		6.3*7	20	3550	500
		6.3*8	15	3600	500
	270	5*7	20	3800	500
		5*6	20	3200	500
	330	5*8	20	4000	500
		6.3*5	25	3160	500
		6.3*8	15	4000	500
	390	5*9	20	4100	530
		5*10	20	4300	639
		5.5*9	20	4100	639
	470	6.3*7	20	3900	639
		6.3*8	15	4400	639
	500	5*9	20	4100	680
		6.3*7	20	4200	762
	560	6.3*8	20	4800	762
		5.5*9	20	4300	762
	680	6.3*9	20	5080	925
		5.5*9	20	4800	925
		8*9	20	4600	925
		5.5*10	20	4800	1115
	820	6.3*9	20	5080	1115
		8*9	15	4700	1115
		6.3*10	10	5150	1360
	1000	8*9	12	4800	1360
	8*11	10	5200	1360	
1200	6.3*11	10	5200	1632	
	8*11	10	5300	1632	
1500	8*11	10	5400	2040	
	10*12	10	5500	2040	
1800	10*10	10	5560	2448	

Conductive Polymer Radial Type

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■ STANDARD RATINGS

VDC (SV)	Cap (μF)	Size ΦDxL(mm)	ESR (mΩ,20°C,100kHz)(max.)	Rated ripple current (mArms/105°C,100kHz)	Leakage Current (μA)(max.)	
6.8 (7.8)	2200	8*14	10	5700	2992	
	3300	10*12	10	5800	2992	
	4700	10*14	10	5900	4488	
		10*17	10	6100	5000	
7 (8)	150	5*6	30	1500	500	
	220	5*7	20	3200	500	
	270	5*8	20	3400	500	
	330	5*9	20	3600	500	
	470	6.3*8	20	3800	658	
		5.5*9	20	3600	658	
	560	6.3*8	20	4000	784	
	680	6.3*8	12	4200	952	
	820	6.3*10	12	4500	1148	
7.5 (8.6)	220	5*7	20	3100	500	
	270	5*8	20	3300	500	
	330	5*9	20	3500	500	
	390	5*9	20	3500	585	
	470		6.3*7	25	3200	705
			5.5*9	20	3550	705
			5*9	20	3550	705
			5.5*8	25	3100	705
	500	5.5*9	20	3600	750	
	560	6.3*8	20	3900	840	
	680	6.3*9	12	4100	1020	
		6.8*8	20	4000	1020	
	820	6.3*10	12	4400	1230	
	1000		8*9	12	4550	1230
			8*11	12	4700	1500
			6.3*11	12	4500	1500
		1200	8*11	12	4800	1800
			6.8*11	12	4600	1800
		1500	8*11	12	4900	2250
			7*13	12	4800	2250
1800		8*14	12	5100	2700	
2200		10*12	12	5700	3300	
10 (11.5)		47	5*7	35	2200	500
	56	5*7	35	2250	500	
	68	5*7	35	2300	500	
	82	5*7	35	2350	500	
	100		5*7	35	2400	500
			6.3*5	30	2300	500
			5*5	30	2000	500
	120	5*7	20	2450	500	
	150	5*7	20	2500	500	
	180		6.3*7	20	2800	500
			5*8	20	2700	500
			5*9	20	2820	500
	220		6.3*5	25	2800	500
			6.3*8	15	3160	500
			6.3*8	20	3100	540
	270		6.3*8	20	3300	660
			8*9	15	3400	660
			6.3*10	12	3500	660
	330		6.3*8	20	3400	780
			5.5*9	20	3400	940
			6.3*8	20	3500	940
	390		8*9	15	3550	940
			8*11	12	5650	940
			6.3*10	13	3600	1120
	470		8*9	15	3600	1120
			6.3*11	15	3800	1360
			8*11	12	3900	1360
	560		8*8	20	3300	1360
			8*11	12	4000	1640
			8*11	12	4200	2000
	680		10*12	10	5300	2000
			8*12	10	4500	2400
			10*12	10	5450	2400
	820		10*12	10	5500	3000
			8*14	10	4800	3000
			10*13	10	5800	3600
1000		10*15	10	6100	5000	
		10*18	10	6200	5000	
12 (13.8)	47	5*7	35	2200	500	
	56	5*7	35	2250	500	
	68	5*7	35	2300	500	
	82	5*7	35	2350	500	
	100		5*7	35	2400	500
			6.3*5	30	2300	500
			5*5	30	2000	500
	120	5*7	20	2450	500	

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VDC (SV)	Cap (μF)	Size ΦDxL(mm)	ESR (mΩ,20°C,100kHz)(max.)	Rated ripple current (mArms/105°C,100kHz)	Leakage Current (μA)(max.)
12 (13.8)	150	5*7	20	2500	500
	180	6.3*7	20	2800	500
		5*8	20	2700	500
	220	5*9	20	2820	528
		6.3*5	25	2800	528
	270	6.3*8	15	3160	528
		6.3*8	20	3100	648
	330	6.3*8	20	3300	792
		8*9	15	3400	792
	390	6.3*10	12	3500	792
		6.3*8	20	3400	936
	470	5.5*9	20	3400	1128
		6.3*8	20	3500	1128
		8*9	15	3550	1128
	560	8*11	12	5650	1128
		6.3*10	13	3600	1344
		8*9	15	3600	1344
	680	6.3*11	15	3800	1632
		8*11	12	3900	1632
	820	8*8	20	3300	1632
8*11		12	4000	1968	
1000	8*11	12	4200	2400	
	10*12	10	5300	2400	
1200	8*12	10	4500	2880	
	10*12	10	5450	2880	
1500	10*12	10	5500	3600	
	8*14	10	4800	3600	
1800	10*13	10	5800	4320	
2200	10*15	10	6100	5000	
3300	10*18	10	6200	5000	
16 (18.4)	47	5*7	35	2200	500
	56	5*7	35	2250	500
	68	5*7	35	2300	500
	82	5*7	35	2350	500
	100	5*7	35	2400	500
		6.3*5	30	2300	500
	120	5*5	30	2000	500
		5*7	20	2450	500
	150	5*7	20	2500	500
	180	6.3*7	20	2800	576
		5*8	20	2700	576
	220	5*9	20	2820	704
		6.3*5	25	2800	704
		6.3*8	15	3160	704
	270	6.3*8	20	3100	864
		6.3*8	20	3300	1056
	330	8*9	15	3400	1056
		6.3*10	12	3500	1056
	390	6.3*8	20	3400	1248
		5.5*9	20	3400	1504
	470	6.3*8	20	3500	1504
		8*9	15	3550	1504
		8*11	12	5650	1504
	560	6.3*10	13	3600	1792
		8*9	15	3600	1792
	680	6.3*11	15	3800	2176
		8*11	12	3900	2176
820	8*8	20	3300	2176	
	8*11	12	4000	2624	
1000	8*11	12	4200	3200	
	10*12	10	5300	3200	
1200	8*12	10	4500	3840	
	10*12	10	5450	3840	
1500	10*12	10	5500	4800	
	8*14	10	4800	4800	
1800	10*13	10	5800	5000	
2200	10*15	10	6100	5000	
3300	10*18	10	6200	5000	
20 (23)	33	5*8	40	1900	500
	39	5*8	40	1950	500
	47	5*8	40	2200	500
	56	5*9	40	2100	500
	68	6.3*8	30	2100	500
	82	6.3*8	30	2150	500
	100	6.3*8	30	2200	500
	120	6.3*8	30	2300	500
	150	6.3*10	20	2350	600
	180	8*9	30	2450	720
220	8*11	20	2550	880	
270	8*11	20	2700	1080	

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VDC (SV)	Cap (μF)	Size ΦDxL(mm)	ESR (mΩ,20°C,100kHz)(max.)	Rated ripple current (mArms/105°C,100kHz)	Leakage Current (μA)(max.)	
20 (23)	330	8*11	20	2800	1320	
		6.3*11	20	2100	1320	
		10*12	20	2900	1880	
	470	8*16	20	3000	1880	
		8*11	20	2400	1880	
		10*12	20	3100	1880	
		8*16	20	3200	1880	
	680	10*15	20	3300	2720	
		8*14	20	2700	2720	
		820	10*18	20	3400	3280
1000	10*18	20	3900	4000		
25 (29)	6.8	6.3*6	100	1100	500	
	10	5*8	70	1800	500	
	22	5*9	60	1810	500	
	33	5*9	50	1850	500	
	39	5*8	40	1900	500	
	47	5*9	40	1950	500	
	56	5*9	40	2050	500	
	68	6.3*7	30	2100	500	
	82	6.3*7	30	2150	500	
	100	6.3*8	30	2200	500	
		6.3*10	20	2300	500	
		8*11	20	2450	500	
		120	6.3*8	30	2300	600
	150	6.3*10	20	2350	750	
	180	6.3*10	20	2350	900	
	220	8*9	30	2450	900	
		8*11	20	2550	1100	
		10*12	20	2900	1100	
		5.5*10	20	1900	1100	
		270	8*11	20	2700	1350
		330	8*11	20	2800	1650
			10*12	20	3100	1650
			10*10	25	2800	1650
			10*12	20	2800	2350
		470	8*16	20	2700	2350
	8*11		20	2300	2350	
	10*10		25	2300	2350	
	560	10*12	20	3000	2800	
		8*11	20	2400	2800	
	680	10*15	20	3200	3400	
		10*12	20	2800	3400	
		8*14	20	2500	3400	
	820	10*18	20	3300	4100	
		10*12	20	2600	4100	
		8*16	20	2600	4100	
	1000	10*18	20	3800	5000	
	35 (41)	4.7	5*8	60	1700	500
		10	5*8	60	1800	500
		15	5*8	60	1850	500
		22	5*9	100	1950	500
		33	5*9	50	2000	500
39		5*9	50	2050	500	
47		6.3*7	50	2100	500	
56		6.3*7	50	2150	500	
68		6.3*7	50	2200	500	
82		6.3*7	50	2250	574	
100		6.3*8	50	2350	700	
		6.3*10	40	2400	700	
		8*11	40	2600	700	
		120	6.3*10	40	2500	840
150		6.3*10	40	2550	1050	
180		6.3*11	40	2600	1260	
220		8*11	40	2800	1540	
		10*12	30	2900	1540	
		6.3*11	30	2700	1540	
		270	10*12	30	3000	1890
		330	10*12	30	3100	2310
470		10*13	20	3200	3290	
		10*14	20	3300	3290	
680		10*16	20	3400	4760	
820		10*18	20	3500	5000	
1000		10*18	20	3700	5000	

※ Specifications subject to change without notice.