

## PD series SMD type & Large capacitance



### Features

- ◆ SMD type & Large capacitance
- ◆ Ultra low ESR at high frequency range & Large permissible ripple current.
- ◆ Long life and high reliability(reliability: 0.1% / 1000Hrs).

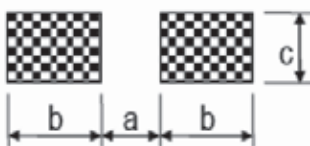
### Specifications

Item	Performance Characteristics	
Operating Temperature Range	-55°C~+105°C	
Rated Voltage Range	2.5~100V DC	
Capacitance Range	10 to 3300 μF	
Capacitance Tolerance	±20% ( 120Hz , +20°C )	
Leakage Current (+20°C,max.)	Not to exceed the values shown in Standard Ratings ( Rated voltage applied, after 2 minutes at 20°C )	
Dissipation Factor (tan δ , at 20°C , 120Hz)	Not to exceed the values shown in Standard Ratings	
ESR ( at 100KHz , 20°C )	Not to exceed the values shown in Standard Ratings	
Endurance 105°C , 2000h , at rated voltage	Capacitance Change	Within ±20% of the value before test
	Leakage current	Not to exceed the value specified
	ESR	Not to exceed 150% of the value specified
	Dissipation Factor	Not to exceed 150% of the value specified
Moisture Resistance Stored at 60°C , RH90~95% , 1000h	Capacitance Change	Within ±20% of the value before test
	Leakage current	Not to exceed the value specified
	ESR	Not to exceed 150% of the value specified
	Dissipation Factor	Not to exceed 150% of the value specified

### Frequency Coefficient for Ripple Current

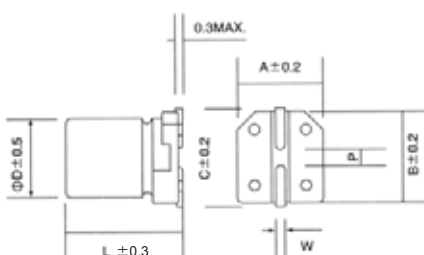
Frequency	120Hz ≤ freq. < 1KHz	1KHz ≤ freq. < 10KHz	10KHz ≤ freq. < 100KHz	100KHz ≤ freq. < 300KHz
Coefficient	0.05	0.3	0.7	1

### Recommended land pattern:(unit:mm)



φ DxL	a	b	c
8x11.7	2.8	4.2	1.9
10x12.4	4.3	4.4	1.9

### Diagram of Dimensions:(unit:mm)



φ DxL	A	B	C	W	P
8x11.7	8.3	8.3	9.0	0.7 to 1.1	3.1
10x12.4	10.3	10.3	11.0	0.7 to 1.1	4.5

## Standard Ratings

W.V. (V)	Cap(μF)	Size φ DxL(mm)	L.C. (μA,2min)	tg δ (120Hz,20°C)	ESR (mΩ),100KHz)	Maximum Permissible Ripple Current(mA,r.m.s)
2.5	560	8x11.7	280	0.08	9	5200
	680	8x11.7	340	0.08	9	5200
	820	8x11.7	410	0.08	9	5400
	1000	8x11.7	500	0.08	9	5400
	1500	8x11.7	750	0.08	9	5400
		10x12.4	750	0.08	9	5600
	2500	10x12.4	1250	0.08	9	5600
2700	10x12.4	1350	0.10	9	5600	
3300	10x12.4	1650	0.10	9	5600	
4	560	8x11.7	448	0.08	9	5200
	680	8x11.7	544	0.08	9	5200
	820	8x11.7	656	0.08	9	5200
	1000	8x11.7	800	0.10	9	5200
	1200	8x11.7	960	0.10	9	5200
		10x12.4	960	0.10	9	5600
	1500	8x11.7	1200	0.10	9	5200
		10x12.4	1200	0.10	9	5600
	1800	10x12.4	1440	0.10	9	5600
	2200	10x12.4	1760	0.10	9	5600
	2500	10x12.4	2000	0.10	9	5600
2700	10x12.4	2160	0.10	9	5600	
6.3	180	8x11.7	227	0.08	9	5200
	270	8x11.7	340	0.08	9	5200
	330	8x11.7	416	0.08	9	5200
	390	8x11.7	491	0.08	9	5200
	470	8x11.7	592	0.08	9	5200
	560	8x11.7	706	0.08	9	5200
	680	10x12.4	856	0.08	9	5500
		8x11.7	1033	0.10	9	5200
	820	10x12.4	1033	0.10	9	5500
		8x11.7	1260	0.10	9	5200
	1000	10x12.4	1260	0.10	9	5500
		1500	10x12.4	1890	0.10	9
	2000	10x12.4	2520	0.10	9	5500
2200	10x12.4	2772	0.10	9	5500	
10	180	8x11.7	360	0.08	9	5200
	220	8x11.7	440	0.08	9	5200
	270	8x11.7	540	0.08	9	5200
	330	8x11.7	660	0.08	9	5200
	390	8x11.7	780	0.08	9	5200
	470	8x11.7	940	0.08	9	5200
		10x12.4	940	0.08	9	5500
	560	8x11.7	1120	0.08	9	5200
		10x12.4	1120	0.08	9	5500
	680	8x11.7	1360	0.10	9	5200
		10x12.4	1360	0.10	9	5500
	820	10x12.4	1640	0.10	9	5500
	1000	10x12.4	2000	0.10	9	5500
	1200	10x12.4	2400	0.10	9	5500
	1500	10x12.4	3000	0.10	9	5500
16	180	8x11.7	576	0.08	15	4700
	220	8x11.7	704	0.08	15	4700
		10x12.4	704	0.08	15	5100
	270	8x11.7	864	0.08	15	4700
		10x12.4	864	0.08	15	5100
	330	8x11.7	1056	0.08	15	4700
		10x12.4	1056	0.08	15	5100
	390	8x11.7	1248	0.10	15	4700
	470	10x12.4	1504	0.10	15	5100
	560	8x11.7	1792	0.12	14	4950

Ripple Current(mA,rms)at 105°C,100KHz

W.V. (V)	Cap(μF)	Size φ DxL(mm)	L.C. (μA,2min)	tg δ (120Hz,20°C)	ESR (mΩ),100KHz)	Maximum Permissible Ripple Current(mA,r.m.s)
16	680	10x12.4	2176	0.10	15	5100
	820	10x12.4	2624	0.10	15	5100
	1000	10x12.4	3200	0.12	14	5400
20	39	8x11.7	156	0.08	20	4210
	68	8x11.7	272	0.08	20	4210
	82	8x11.7	328	0.08	20	4210
	100	8x11.7	400	0.08	20	4210
		10x12.4	400	0.08	20	4800
	150	10x12.4	600	0.10	20	4800
	180	10x12.4	720	0.10	20	4800
		8x11.7	880	0.10	22	4000
	220	10x12.4	880	0.10	20	4800
		8x11.7	1080	0.10	22	4000
	270	10x12.4	1080	0.10	20	4800
		10x12.4	1320	0.10	20	4800
	330	10x12.4	1320	0.10	20	4800
	390	8x11.7	1560	0.12	14	4950
	470	10x12.4	1880	0.12	20	4800
680	10x12.4	2720	0.12	16	5000	
25	33	8x11.7	165	0.08	25	3800
	47	8x11.7	235	0.08	20	4210
	56	10x12.4	280	0.08	28	3800
	82	8x11.7	410	0.08	20	4210
	100	8x11.7	500	0.10	20	4210
		10x12.4	500	0.10	20	4800
	180	8x11.7	900	0.10	25	3800
		10x12.4	900	0.10	20	4800
	220	8x11.7	1100	0.10	25	3800
		10x12.4	1100	0.10	20	4800
	270	10x12.4	1350	0.10	20	4800
	330	8x11.7	1650	0.12	20	4210
		10x12.4	1650	0.12	22	4200
	390	10x12.4	1950	0.12	22	4200
	470	10x12.4	2350	0.12	25	3800
35	39	8x11.7	273	0.12	32	2700
	68	8x11.7	476	0.12	28	3300
	82	8x11.7	574	0.12	28	3300
	100	10x12.4	700	0.12	25	3800
	120	8x11.7	840	0.12	25	3800
	150	8x11.7	1050	0.12	25	3800
		10x12.4	1050	0.12	25	3800
	180	10x12.4	1260	0.12	22	4100
	220	10x12.4	1540	0.12	22	4100
	270	10x12.4	1890	0.12	20	4400
	330	10x12.4	2310	0.12	20	4400
	50	10	8x11.7	100	0.12	40
22		8x11.7	220	0.12	40	1800
33		8x11.7	330	0.12	35	2000
39		8x11.7	390	0.12	30	2300
47		8x11.7	470	0.12	30	2300
56		8x11.7	560	0.12	30	2500
		10x12.4	560	0.12	25	3000
68		10x12.4	680	0.12	25	3000
100	10x12.4	1000	0.12	25	3000	
63	22	8x11.7	277	0.12	35	1800
	27	8x11.7	340	0.12	35	2200
	33	8x11.7	416	0.12	35	2200
		10x12.4	416	0.12	30	2500
	39	8x11.7	491	0.12	35	2200
	47	10x12.4	592	0.12	30	2500
	56	10x12.4	706	0.12	30	2500
68	10x12.4	856.8	0.12	30	2500	
80	12	8x11.7	192	0.12	40	1800
	22	10x12.4	352	0.12	38	2300
	47	10x12.4	752	0.12	40	1800
100	10	8x11.7	200	0.12	45	1700
	18	10x12.4	360	0.12	40	2100
	22	10x12.4	440	0.12	40	2100

Ripple Current(mA,rms)at 105°C,100KHz