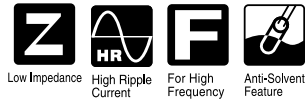
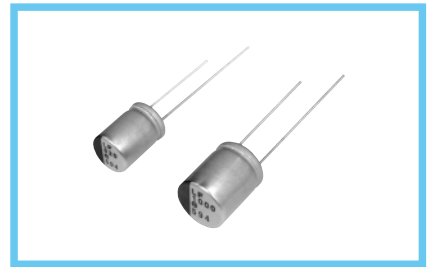


**LF** series Radial Lead Type, Standard



*Upgrade*



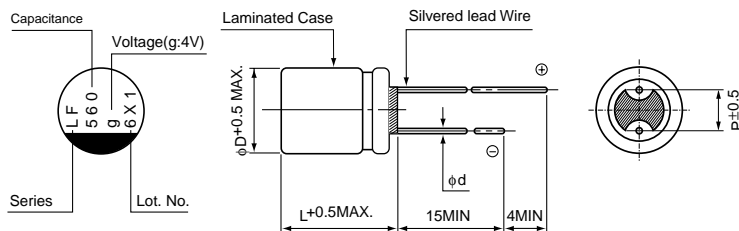
- Ultra Low ESR, High ripple current.
- Load life of 2000 hours at 105°C.
- Radial lead type :  
Lead free flow soldering condition correspondence.
- Adapted to the RoHS directive (2002/95/EC).

## Specifications

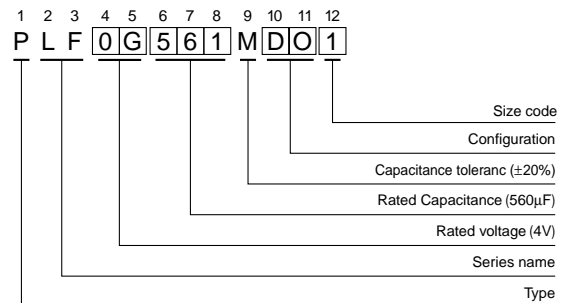
Item	Performance Characteristics		
Category Temperature Range	-55 to +105°C		
Rated Voltage Range	2.5 to 25V		
Rated Capacitance Range	6.8 to 1500μF		
Capacitance Tolerance	±20% at 120Hz, 20°C		
tan δ	Not more than value of Standard ratings at 120Hz, 20°C		
ESR (※ 1)	Not more than value of Standard ratings at 100kHz, 20°C		
Leakage Current (※ 2)	Not more than value of Standard ratings. After 2 minutes' application of rated voltage. 20°C		
Characteristics of Temperature Impedance Ratio	Z+105°C / Z+20°C ≤ 1.25 (100kHz) Z-55°C / Z+20°C ≤ 1.25		
Endurance	After 2000 hours' application of rated voltage at 105°C, capacitors meet the specified value for life characteristics listed at right.	Capacitance change	Within ± 20% of initial value (※ 3)
		tan δ	150% or less of the initial specified value
		ESR (※ 1)	150% or less of the initial specified value
		Leakage current (※ 2)	Initial specified value or less
Damp Heat	After 1000 hours' application of rated voltage at 60°C 90%RH, capacitors meet the specified value for life characteristics listed at right.	Capacitance change	Within ± 20% of initial value (※ 3)
		tan δ	150% or less of the initial specified value
		ESR (※ 1)	150% or less of the initial specified value
		Leakage current (※ 2)	Initial specified value or less
Resistance to Soldering Heat	To comply with recommended conditions for reflow soldering. Pre-heating shall be done at 150 to 200°C and for 60 to 180 sec. Peak temp. is 265°C, within 10 sec. Measurement for solder temperature profile shall be made at a point on the terminal nearest where the terminals protrude through the soldering side of PC board.	Capacitance change	Within ± 10% of initial value (※ 3)
		tan δ	130% or less of the initial specified value
		ESR (※ 1)	130% or less of the initial specified value
		Leakage current (※ 2)	Initial specified value or less
Marking	Navy blue print on the case top		

- ※ 1 ESR measurements should be made at a point on the terminal nearest the end seal of the capacitor.
- ※ 2 Conditioning : If there is doubt about the measured result, measurement should be made again after the rated voltage is applied for 120 minutes at the temperature of 105°C.
- ※ 3 Initial value : The value before test of examination of resistance to soldering.

## Dimensions



## Type numbering system (Example : 4V 560μF)



(mm)

Size	φ6.3 × 6L	φ6.3 × 10.5L	φ8 × 7L	φ8 × 9L	φ8 × 12L	φ10 × 8L	φ10 × 10L	φ10 × 13L
φD	6.3	6.3	8.0	8.0	8.0	10.0	10.0	10.0
L	5.5	10.0	6.5	8.5	11.5	7.5	9.5	12.5
P	2.5	2.5	3.5	3.5	3.5	3.5	5.0	5.0
φd	0.45	0.5	0.6	0.6	0.6	0.6	0.6	0.6

Voltage	2.5	4	6.3	10	16
V	2.5	4	6.3	10	16
Code	e	g	j	A	C

Please refer to page 20 about the end seal configuration.

● Dimension table in next page.

LF series

Standard ratings

Rated Voltage (V)(code)	Surge Voltage (V)	Rated Capacitance (μF)	Case Size φD × L (mm)	tan δ	Leakage Current (μA)	ESR (mΩ) (at 100kHz 20°C)	Rated ripple (mArms)	Part Number
2.5 (0E)	2.8	390	■ 6.3 × 10.5	0.08	195	20	3200	PLF0E391MDL4
		560	8 × 9	0.08	280	6	4800	PLF0E561MCO1
		680	8 × 12	0.08	340	6	5700	PLF0E681MDO1
		820	▲ 8 × 9	0.08	410	7	5200	PLF0E821MCO6
		820	8 × 12	0.08	410	6	6200	PLF0E821MDO1
		1000	10 × 13	0.08	500	6	6500	PLF0E102MDO1
		1200	10 × 13	0.08	600	8	5300	PLF0E122MDO1
		1500	10 × 13	0.08	750	8	5500	PLF0E152MDO1
4 (0G)	4.6	270	■ 6.3 × 10.5	0.08	216	20	3200	PLF0G271MDL4
		390	■ 6.3 × 10.5	0.08	312	24	3300	PLF0G391MDL4
		560	▲ 8 × 9	0.08	448	7	5200	PLF0G561MCO6
		560	8 × 12	0.08	448	7	5500	PLF0G561MDO1
		680	8 × 12	0.08	544	6	6200	PLF0G681MDO1
		820	10 × 13	0.08	656	6	6500	PLF0G821MDO1
		1000	10 × 13	0.08	800	6	6640	PLF0G102MDO1
		1200	10 × 13	0.08	960	8	5600	PLF0G122MDO1
6.3 (0J)	7.2	220	■ 6.3 × 10.5	0.08	277	20	3200	PLF0J221MDL4
		330	■ 6.3 × 10.5	0.08	416	24	3300	PLF0J331MDL4
		470	▲ 8 × 9	0.08	592	7	5200	PLF0J471MCO6
		470	8 × 12	0.08	592	7	5500	PLF0J471MDO1
		680	10 × 13	0.08	857	6	6300	PLF0J681MDO1
10 (1A)	11.5	47	■ 6.3 × 10.5	0.08	94	25	2900	PLF1A470MDL4
		68	■ 6.3 × 10.5	0.12	136	25	2500	PLF1A680MDL4
		100	■ 6.3 × 10.5	0.12	200	25	2900	PLF1A101MDL4
		150	■ 6.3 × 10.5	0.12	300	25	2900	PLF1A151MDL4
		270	8 × 12	0.08	540	8	4900	PLF1A271MDO1
		470	10 × 13	0.08	940	7	5700	PLF1A471MDO1
		560	10 × 13	0.08	1120	7	5900	PLF1A561MDO1
		680	10 × 13	0.08	1360	7	6100	PLF1A681MDO1
16 (1C)	18.4	100	■ 6.3 × 10.5	0.08	320	24	2900	PLF1C101MDL4
		270	8 × 12	0.08	864	9	4800	PLF1C271MDO1
		330	10 × 13	0.08	1056	9	4900	PLF1C331MDO1
		470	10 × 13	0.08	1504	9	5000	PLF1C471MDO1
20 (1D)	23	22	△ 6.3 × 6	0.12	88	50	1700	PLF1D220MCL2
		39	△ 8 × 7	0.12	156	45	2000	PLF1D390MCL2
		47	△ 8 × 7	0.12	188	45	2000	PLF1D470MCL2
		56	△ 10 × 8	0.12	224	40	2400	PLF1D560MCL2
		68	△ 10 × 8	0.12	272	40	2600	PLF1D680MCL2
		82	△ 10 × 8	0.12	328	40	2600	PLF1D820MCL2
		100	△ 8 × 12	0.12	400	22	3200	PLF1D101MDO2
		120	△ 10 × 10	0.12	480	35	2800	PLF1D121MCL2
		150	△ 10 × 13	0.08	600	20	4320	PLF1D151MDO2
25 (1E)	28.7	6.8	△ 6.3 × 6	0.12	85	80	1200	PLF1E6R8MCL2
		10	△ 6.3 × 6	0.08	125	60	1500	PLF1E100MCL2
		22	□ 8 × 7	0.12	275	50	1800	PLF1E220MCL7
		47	△ 10 × 13	0.08	587	30	3000	PLF1E470MDO2
		56	△ 10 × 13	0.12	700	28	3800	PLF1E560MDO2

Rated Ripple (mArms) at 105°C 100kHz

No marked, [1] will be put at 12th digit of type numbering system.  
 △ : In this case, [2] will be put at 12th digit of type numbering system.  
 ■ : In this case, [4] will be put at 12th digit of type numbering system.  
 ▲ : In this case, [6] will be put at 12th digit of type numbering system.  
 □ : In this case, [7] will be put at 12th digit of type numbering system.

- Taping specifications are given in page 21.
- Please refer to page 3 for the minimum order quantity.