

## FEATURES

- Highly reliable capacitors that withstand high ripple current.
- Two or three dimensions with same rating.
- Terminal spacing fixed at 10mm for printed circuit board plug in.
- Aluminum case designed explosion-proof vent.
- Best for switching power supplies.
- For detailed specifications, please refer to Engineering Bulletin No. E107.

## PART NUMBERING

Part Number Example: LCE-050/100M30X42F							
LCE	-	050	/	100	M	30X42	F
Type		Rated DC Voltage		Capacitance Code (μF)*	Tolerance Code	Size	RoHs Compliant

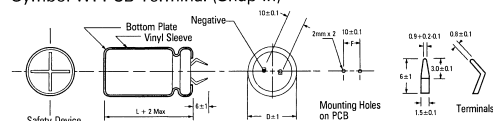
\* Capacitance Code: First two digits represent significant figures, third digit represents multiplier (number of zeros).

## SPECIFICATIONS

Performance Characteristics							
Operating Temperature Range	-40°C ~ +105°C.      -25°C ~ +105°C.						
Temperature Characteristics (120Hz)	Impedance Ratio						
	Rated Voltage (WVDC)						
	Z (-25°C) / Z (+20°C)						
	Z (-40°C) / Z (+20°C)						
Voltage Range	10VDC ~ 100VDC.      160VDC ~ 450VDC.						
Capacitance Range	330μF ~ 68000μF.      33μF ~ 2200μF.						
Capacitance Tolerance (20°C, 120Hz)	±20%.						
Maximum Dissipation Factor % (20°C, 120Hz)	Less than the value under table.						
	μF	Rated Voltage (WVDC)					
		10 ~ 16	25 ~ 35	50 ~ 63	80 ~ 100	160 ~ 250	315 ~ 450
	33 ~ 470				15	15	20
	560 ~ 3900	25	20	20	20	15	20
	4700 ~ 8200	35	30	30	25		
	10000 ~ 22000	40	35	30			
27000 ~ 47000	45	40	35				
56000 ~ 68000	50	45					
Maximum Leakage Current (20°C) (after 5 minutes)	0.02CV.						
Load Life Test	Test Conditions						
	Duration Time	2000 hours.					
	Ambient Temperature	85°C.					
	Applied Voltage	Rate DC working voltage.					
	After test requirements @ 20°C						
	Capacitance Change	Within ±20% of the initial measured value.					
	Dissipation Factor	200% of the initial specified value.					
	Leakage Current	The initial specified value.					
Shelf Life	Test Conditions						
	Duration Time	500 hours.					
	Ambient Temperature	85°C.					
	Applied Voltage	None.					
	After test requirements @ 20°C: Same limits as load life.						
	Pre-treatment for measurements shall be conducted after applications of DC working voltage for 30 minutes.						

## DIAGRAM OF DIMENSIONS (CASE VENT) (UNIT: mm)

Symbol W: PCB Terminal (Snap-In)



Ambient Temperature	Multiplying Factor
45°C & under	2.55
65°C	2.25
85°C	1.80
105°C	1.00

Frequency	Multiplying Factor		
	10 ~ 50	63 ~ 100	160 ~ 250
60Hz	0.90	0.85	0.80
120Hz	1.00	1.00	1.00
300Hz	1.03	1.07	1.15
1KHz	1.05	1.13	1.25
10KHz	1.10	1.19	1.35

WVDC	Capacitance (uF)	Case Size dØ x L (mm)	Ripple Current (A) rms max (120Hz/105 °C)
10	4700	22 x 26	1.24
	6800	22 x 26	1.56
		25 x 26	
	8200	22 x 26	2.04
	10000	22 x 31	2.20
		25 x 26	
		30 x 26	
	12000	22 x 36	2.43
	15000	22 x 36	2.76
		25 x 31	
		30 x 26	
	18000	22 x 36	2.94
		25 x 31	
	22000	22 x 41	3.12
		25 x 36	
		30 x 31	
		35 x 27	
	27000	22 x 46	3.48
		25 x 36	
		30 x 31	
35 x 27			
33000	25 x 46	3.72	
	30 x 36		
	35 x 32		
39000	25 x 51	4.10	
	30 x 41		
	35 x 32		
47000	30 x 46	4.38	
	35 x 37		
56000	30 x 51	4.64	
	35 x 42		
68000	35 x 52	4.80	
16	3300	22 x 26	1.17
	4700	22 x 31	1.53
		25 x 26	
	6800	22 x 31	2.02
		25 x 26	
		30 x 26	
	8200	22 x 31	2.20
	10000	22 x 36	2.79
		25 x 31	
		30 x 26	
	12000	22 x 36	3.06
		25 x 31	
		30 x 26	
	15000	22 x 51	3.24
25 x 41			
30 x 36			

WVDC	Capacitance (uF)	Case Size dØ x L (mm)	Ripple Current (A) rms max (120Hz/105 °C)
16	15000	35 x 32	3.24
	18000	22 x 51	3.51
		25 x 46	
		30 x 36	
		35 x 32	
	22000	25 x 51	4.08
		30 x 46	
		35 x 32	
	27000	25 x 51	4.30
		30 x 41	
		35 x 37	
	33000	30 x 46	4.83
		35 x 37	
	39000	30 x 51	5.78
		35 x 42	
47000	35 x 47	6.32	
56000	35 x 52	7.05	
25	2200	22 x 26	1.03
	3300	22 x 26	1.48
		25 x 26	
	4700	22 x 31	1.92
		25 x 26	
		30 x 36	
	5600	22 x 31	2.25
	6800	22 x 31	2.60
		25 x 26	
		30 x 26	
	8200	22 x 36	3.04
		25 x 31	
	10000	30 x 26	3.50
		22 x 41	
		25 x 36	
12000	30 x 31	4.02	
	35 x 27		
	22 x 46		
15000	25 x 41	4.58	
	30 x 31		
	35 x 27		
18000	25 x 46	4.82	
	30 x 36		
	35 x 32		
22000	25 x 51	5.12	
	30 x 41		
	35 x 37		
27000	30 x 46	5.47	
33000	35 x 47	6.09	

WVDC	Capacitance (uF)	Case Size dØ x L (mm)	Ripple Current (A) rms max (120Hz/105 °C)
35	1500	22 x 26	1.26
	2200	22 x 31	1.35
		25 x 26	
	3300	22 x 31	1.84
		25 x 26	
		30 x 26	
	3900	22 x 31	2.23
	4700	22 x 36	2.42
		25 x 31	
		30 x 26	
	5600	22 x 36	2.89
		25 x 31	
		30 x 26	
	6800	22 x 41	3.24
		25 x 36	
		30 x 31	
		35 x 27	
	8200	22 x 51	3.57
		25 x 41	
		30 x 31	
35 x 27			
10000	25 x 46	3.96	
	30 x 36		
	35 x 32		
12000	25 x 51	4.21	
	30 x 41		
	35 x 32		
15000	30 x 46	4.69	
	35 x 37		
18000	25 x 42	5.07	
22000	35 x 52	5.50	
50	1000	22 x 26	0.84
	1500	22 x 31	1.10
		25 x 26	
	1800	22 x 31	1.54
	2200	22 x 31	1.65
		25 x 26	
		30 x 26	
	2700	22 x 36	1.94
		25 x 31	
	3300	22 x 36	2.24
		25 x 31	
		30 x 26	
3900	22 x 41	2.54	
	25 x 36		
	30 x 31		
4700	22 x 46	2.95	
	25 x 41		

WVDC	Capacitance (uF)	Case Size dØ x L (mm)	Ripple Current (A) rms max (120Hz/105 °C)
50	4700	30 x 31	2.95
		35 x 27	
	5600	22 x 51	3.10
		25 x 46	
		30 x 41	
		35 x 32	
	6800	25 x 51	3.26
		30 x 41	
		35 x 32	
	8200	30 x 46	3.58
		35 x 37	
	10000	30 x 51	4.11
		35 x 42	
	12000	35 x 47	4.62
	15000	35 x 52	5.05
63	680	22 x 26	0.70
	1000	22 x 26	0.85
		25 x 26	
	1200	22 x 26	0.98
	1500	22 x 31	1.10
		25 x 26	
	1800	22 x 31	1.40
		25 x 26	
	2200	22 x 36	1.65
		25 x 31	
		30 x 26	
	2700	22 x 41	2.07
		25 x 36	
		30 x 26	
	3300	22 x 51	2.48
25 x 41			
30 x 31			
35 x 27			
3900	25 x 46	3.05	
	30 x 36		
	35 x 32		
4700	25 x 51	3.43	
	30 x 41		
	35 x 32		
5600	30 x 46	3.86	
	35 x 37		
6800	30 x 51	4.64	
	35 x 42		
8200	35 x 47	5.05	
10000	35 x 52	5.75	
80	470	22 x 26	0.63
	680	22 x 31	0.84

WVDC	Capacitance (uF)	Case Size dØ x L (mm)	Ripple Current (A) rms max (120Hz/105 °C)
80	680	25 x 26	0.84
	820	22 x 31	1.02
	1000	22 x 36	1.16
		25 x 31	
	1200	30 x 26	1.46
		22 x 36	
	1500	25 x 31	1.74
		22 x 41	
		25 x 36	
	1800	30 x 31	1.95
		22 x 46	
		25 x 41	
	2200	30 x 31	2.25
		22 x 51	
		25 x 46	
		30 x 36	
	2700	35 x 32	2.68
		25 x 51	
		30 x 41	
	3300	35 x 37	3.30
25 x 56			
30 x 51			
3900	35 x 42	3.85	
	30 x 51		
4700	35 x 42	4.29	
	30 x 51		
5600	35 x 47	5.10	
6800	35 x 52	5.66	
100	330	22 x 26	0.54
	470	22 x 31	0.79
		25 x 26	
	560	25 x 26	0.96
		22 x 31	
	680	25 x 26	1.02
		30 x 26	
	820	22 x 31	1.24
		25 x 26	
	1000	22 x 41	1.38
		25 x 31	
		30 x 26	
	1200	22 x 46	1.65
		25 x 36	
		30 x 31	
	1500	22 x 46	1.83
25 x 41			
30 x 31			
35 x 27			

WVDC	Capacitance (uF)	Case Size dØ x L (mm)	Ripple Current (A) rms max (120Hz/105 °C)
100	1800	25 x 41	2.52
		30 x 36	
		35 x 32	
	2200	25 x 51	3.03
		30 x 41	
		35 x 32	
	2700	30 x 46	4.10
		35 x 37	
	3300	30 x 56	4.59
		35 x 47	
3900	35 x 47	4.98	
4700	35 x 52	5.43	
160	220	22 x 26	0.65
	270	22 x 22	0.74
	330	22 x 31	0.90
		25 x 26	
		30 x 26	
	390	22 x 36	1.00
		25 x 31	
	470	22 x 36	1.18
		25 x 31	
	560	22 x 41	1.32
25 x 36			
30 x 31			
680	22 x 46	1.58	
	25 x 41		
	30 x 36		
	35 x 32		
820	25 x 46	1.75	
	30 x 36		
	35 x 32		
1000	25 x 51	2.08	
	30 x 41		
1200	25 x 56	2.30	
	30 x 46		
1500	30 x 51	2.68	
	35 x 42		
1800	30 x 51	3.00	
	35 x 42		
2200	35 x 52	3.39	
200	100	22 x 26	0.38
	150	22 x 26	0.54
		25 x 26	
	220	22 x 31	0.73
		25 x 26	
	270	22 x 31	0.94

WVDC	Capacitance (uF)	Case Size dØ x L (mm)	Ripple Current (A) rms max (120Hz/105 °C)
200	270	25 x 26	1.03
	330	22 x 36	1.21
		25 x 31	
		30 x 26	
	390	22 x 41	1.39
		25 x 36	
		30 x 31	
	470	22 x 46	1.62
		25 x 41	
		30 x 31	
		35 x 26	
	560	22 x 51	1.85
		25 x 41	
	680	30 x 36	2.04
		22 x 56	
	820	25 x 51	12.34
		30 x 36	
		25 x 56	
1000	30 x 41	2.70	
	35 x 37		
	30 x 51		
1200	35 x 42	3.00	
	30 x 51		
1500	35 x 52	3.43	
250	68	22 x 26	0.27
	100	22 x 31	0.44
		25 x 26	
	150	22 x 31	0.60
		25 x 26	
	180	30 x 26	0.69
		22 x 31	
	220	25 x 26	1.00
		22 x 36	
		25 x 31	
	270	30 x 26	1.16
		22 x 41	
		25 x 36	
	330	30 x 31	1.28
		22 x 46	
		25 x 36	
		35 x 26	
	390	30 x 31	1.48
		22 x 46	
		25 x 36	
	470	30 x 31	1.76
		25 x 46	
	30 x 36		

WVDC	Capacitance (uF)	Case Size dØ x L (mm)	Ripple Current (A) rms max (120Hz/105 °C)
250	470	35 x 32	1.76
	560	25 x 51	1.93
		30 x 41	
		35 x 32	
	680	30 x 46	2.22
		35 x 37	
	820	30 x 51	2.48
		35 x 42	
	1000	35 x 47	2.80
	1200	35 x 52	3.17
400	33	22 x 26	0.39
	47	22 x 26	0.56
		25 x 26	
	100	22 x 36	0.82
		25 x 31	
		30 x 26	
	220	25 x 51	1.21
		30 x 40	
		35 x 32	
	330	30 x 51	1.57
35 x 42			
470	35 x 52	1.98	
560	35 x 52	2.23	
450	33	22 x 26	0.24
	47	22 x 31	0.35
		25 x 26	
	56	22 x 31	0.41
		25 x 26	
	68	22 x 36	0.55
		25 x 31	
		30 x 26	
	82	22 x 36	0.64
		25 x 31	
30 x 36			
100	22 x 41	0.74	
	25 x 31		
	30 x 31		
120	22 x 46	0.82	
	25 x 31		
	30 x 26		
150	22 x 46	0.96	
	25 x 41		
	30 x 36		
180	25 x 51	1.14	
	30 x 41		
	35 x 36		
220	30 x 46	1.24	
	35 x 37		
270	30 x 51	1.48	
	35 x 42		
330	35 x 47	1.64	
390	35 x 52	1.86	