

Type 381LQ 105 °C Compact, High-Ripple Snap-in

23% Smaller for Same Capacitance



Type 381LQ is on average 23% smaller and more than 5 mm shorter than Type 381LX. This is achieved with a new can closure method that permits installing capacitor elements into smaller cans. Approaching the robust capability of the 381L the new 381LQ enables you to shrink equipment size and retain the original performance.

Highlights

- New, more capacitance per case
- Compare to Type 381L

Specifications

Operating Temperature:

–40 °C to +105 °C, ≤315 Vdc
–25 °C to +105 °C, ≥350 Vdc

Rated Voltage:

10 to 450 Vdc

Capacitance:

100 µF to 100,000 µF ±20%

Leakage Current:

≤3 $\sqrt{CV}$ µA, 5 minutes

Ripple Current Multipliers:

Ambient Temperature

45 °C	60 °C	70 °C	85 °C	105 °C
2.35	2.20	2.00	1.70	1.00

Frequency

	50 Hz	60 Hz	120 Hz	500 Hz	1 kHz	10 kHz & up
10-100 Vdc	0.93	0.95	1.00	1.05	1.08	1.15
160-450 Vdc	0.75	0.80	1.00	1.20	1.25	1.40

Load Life:

2000 h at full load at 105 °C

ΔCapacitance ±20%

ESR 200% of limit

DCL 100% of limit

EIA Ripple Life:

8000 h at 85 °C per EIA IS-749 with 105 °C ripple current.

ΔCapacitance ±20%

ESR 200% of limit

CL 100% of limit

Shelf Life:

1000 h at 105 °C,

ΔCapacitance ± 20%

ESR 200% of limit

DCL 100% of limit

Vibration:

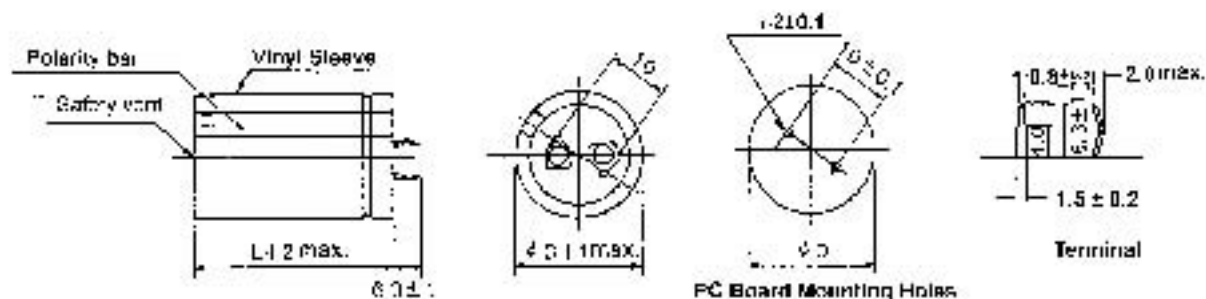
10 to 55 Hz, 0.06" and 10 g max, 2 h each plane



Complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

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Outline Drawing



Insulated Case Dimensions

Case	DIAMETER		LENGTH		Typical
Code	D		L		Weight
	mm	inches	mm	inches	(grams)
H01	22	0.87	25	0.98	16
H02	22	0.87	30	1.18	19
H03	22	0.87	35	1.38	22
H04	22	0.87	40	1.57	24
H45	22	0.87	45	1.77	28
H05	22	0.87	50	1.97	31
J01	25	0.98	25	0.98	20
J02	25	0.98	30	1.18	24
J03	25	0.98	35	1.38	27
J04	25	0.98	40	1.57	31
J45	25	0.98	45	1.77	35
J05	25	0.98	50	1.97	38

Case	DIAMETER		LENGTH		Typical
Code	D		L		Weight
	mm	inches	mm	inches	(grams)
K01	30	1.18	25	0.98	30
K02	30	1.18	30	1.18	35
K03	30	1.18	35	1.38	40
K04	30	1.18	40	1.57	44
K45	30	1.18	45	1.77	49
K05	30	1.18	50	1.97	53
A01	35	1.38	25	0.98	42
A02	35	1.38	30	1.18	48
A03	35	1.38	35	1.38	54
A04	35	1.38	40	1.57	60
A45	35	1.38	45	1.77	67
A05	35	1.38	50	1.97	74

Part Numbering System

381LQ

Type

471

Capacitance

471 = 470 μF
332 = 3300 μF

M

Tolerance

M = $\pm 20\%$

160

Rated Voltage

160 = 160 V
450 = 450 V

HO1

Case Code

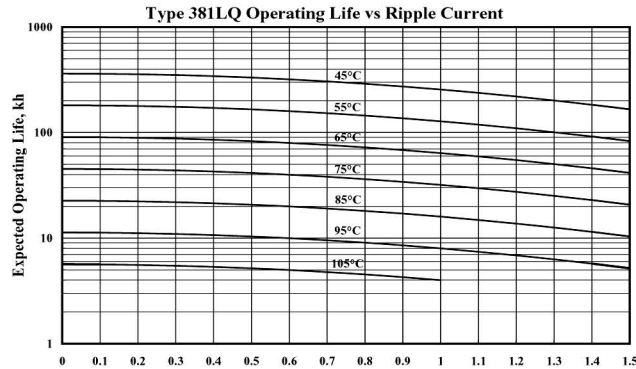
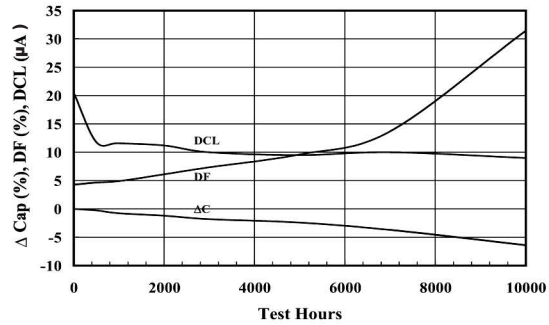
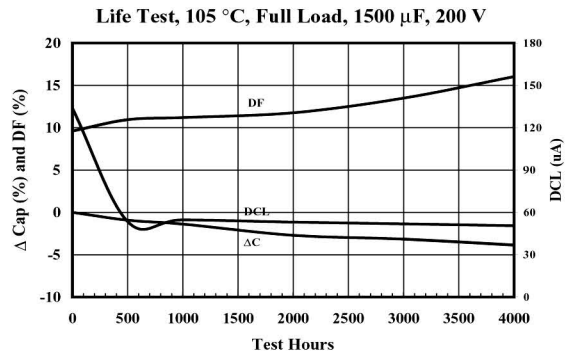
2

Insulation

2 = PVC

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Typical Performance Curves



Ratings

Cap. (μ F)	Catalog Part Number	ESR Max @ 25 °C		Ripple Amps @ 105 °C		Nominal Size D x L (mm)
		120 Hz (Ω)	20 kHz (Ω)	120 Hz (A)	20 kHz (A)	
10 Vdc (13 Vdc Surge)						
12000	381LQ123M010H012	0.076	0.065	2.20	2.53	22 x 25
18000	381LQ183M010H022	0.051	0.043	2.40	2.76	22 x 30
18000	381LQ183M010H012	0.051	0.043	2.40	2.76	25 x 25
22000	381LQ223M010H032	0.041	0.035	2.60	2.99	22 x 35
22000	381LQ223M010J022	0.041	0.035	2.60	2.99	25 x 30
27000	381LQ273M010H042	0.034	0.029	3.10	3.57	22 x 40
27000	381LQ273M010J032	0.034	0.029	3.10	3.57	25 x 35
27000	381LQ273M010K012	0.034	0.029	3.10	3.57	30 x 25
33000	381LQ333M010H452	0.028	0.023	3.40	3.91	22 x 45
33000	381LQ333M010J042	0.028	0.023	3.40	3.91	25 x 40
39000	381LQ393M010J452	0.026	0.022	3.70	4.26	25 x 45
39000	381LQ393M010K022	0.026	0.023	3.70	4.26	30 x 30
39000	381LQ393M010A012	0.026	0.022	3.70	4.26	35 x 25
47000	381LQ473M010J052	0.024	0.021	4.20	4.83	25 x 50
47000	381LQ473M010K032	0.024	0.022	4.20	4.83	30 x 35
47000	381LQ473M010A022	0.024	0.021	4.20	4.83	35 x 30
56000	381LQ563M010K042	0.023	0.021	5.00	5.75	30 x 40
56000	381LQ563M010A032	0.023	0.020	5.00	5.75	35 x 35
68000	381LQ683M010K452	0.022	0.020	5.40	6.21	30 x 45
68000	381LQ683M010A042	0.022	0.019	5.40	6.21	35 x 40
82000	381LQ823M010A452	0.021	0.019	6.10	7.02	35 x 45
100000	381LQ104M010A052	0.020	0.019	6.90	7.94	35 x 50

Cap. (μ F)	Catalog Part Number	ESR Max @ 25 °C		Ripple Amps @ 105 °C		Nominal Size D x L (mm)
		120 Hz (Ω)	20 kHz (Ω)	120 Hz (A)	20 kHz (A)	
16 Vdc (20 Vdc Surge)						
10000	381LQ103M016H012	0.075	0.063	2.60	2.99	22 x 25
12000	381LQ123M016H022	0.062	0.053	2.90	3.34	22 x 30
12000	381LQ123M016J012	0.062	0.053	2.90	3.34	25 x 25
15000	381LQ153M016H032	0.050	0.042	3.20	3.68	22 x 35
18000	381LQ183M016H042	0.041	0.035	3.50	4.03	22 x 40
18000	381LQ183M016J022	0.041	0.035	3.50	4.03	25 x 30
22000	381LQ223M016H452	0.034	0.029	3.80	4.37	22 x 45
22000	381LQ223M016J032	0.034	0.029	3.80	4.37	25 x 35
22000	381LQ223M016H012	0.034	0.029	3.80	4.37	30 x 25
27000	381LQ273M016H052	0.028	0.023	4.20	4.83	22 x 50
27000	381LQ273M016J042	0.028	0.023	4.20	4.83	25 x 40
27000	381LQ273M016K022	0.028	0.023	4.20	4.83	30 x 30
27000	381LQ273M016A012	0.028	0.023	4.20	4.83	35 x 25
33000	381LQ333M016J452	0.023	0.019	4.70	5.41	25 x 45
33000	381LQ333M016K032	0.023	0.019	4.70	5.41	30 x 35
33000	381LQ333M016A022	0.023	0.020	4.70	5.41	35 x 30
39000	381LQ393M016K042	0.022	0.018	5.10	5.87	30 x 40
39000	381LQ393M016A032	0.022	0.020	5.10	5.87	35 x 35
47000	381LQ473M016K452	0.016	0.014	5.50	6.33	30 x 45
47000	381LQ473M016A042	0.021	0.019	5.50	6.33	35 x 40
56000	381LQ563M016K052	0.020	0.018	6.00	6.90	30 x 50
56000	381LQ563M016A452	0.020	0.018	6.00	6.90	35 x 45

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Cap. (μF)	Catalog Part Number	ESR Max @ 25 °C		Ripple Amps @ 105 °C		Nominal Size D x L (mm)
		120 Hz (Ω)	20 kHz (Ω)	120 Hz (A)	20 kHz (A)	
470	381LQ471M350A022	0.353	0.159	1.40	1.96	35 x 30
560	381LQ561M350K452	0.296	0.133	1.50	2.10	30 x 45
560	381LQ561M350A032	0.296	0.133	1.50	2.10	35 x 35
680	381LQ681M350K052	0.244	0.110	1.70	2.38	30 x 50
680	381LQ681M350A042	0.244	0.110	1.70	2.38	35 x 40
820	381LQ821M350A452	0.202	0.091	1.90	2.66	35 x 45
400 Vdc (450 Vdc Surge)						
100	381LQ101M400H012	1.824	0.821	0.70	0.98	22 x 25
120	381LQ121M400H022	1.520	0.684	0.75	1.05	22 x 30
150	381LQ151M400H022	1.216	0.547	0.88	1.23	22 x 30
180	381LQ181M400H032	1.013	0.458	0.95	1.33	22 x 35
180	381LQ181M400J022	1.013	0.458	0.95	1.33	25 x 30
220	381LQ221M400H452	0.829	0.373	1.10	1.54	22 x 45
220	381LQ221M400J032	0.829	0.373	1.10	1.54	25 x 35
220	381LQ221M400K012	0.829	0.373	1.10	1.54	30 x 25
270	381LQ271M400H052	0.675	0.304	1.22	1.71	22 x 50
270	381LQ271M400J042	0.675	0.304	1.22	1.71	25 x 40
270	381LQ271M400K022	0.675	0.304	1.22	1.71	30 x 30
270	381LQ271M400A012	0.675	0.304	1.22	1.71	35 x 25
330	381LQ331M400J452	0.553	0.249	1.44	2.02	25 x 45
330	381LQ331M400K032	0.553	0.249	1.44	2.02	30 x 35
330	381LQ331M400A022	0.553	0.249	1.44	2.02	35 x 30
390	381LQ391M400J052	0.468	0.210	1.55	2.17	25 x 50
390	381LQ391M400K042	0.468	0.210	1.55	2.17	30 x 40
390	381LQ391M400A022	0.468	0.210	1.55	2.17	35 x 30
470	381LQ471M400K452	0.388	0.175	1.68	2.35	30 x 45
470	381LQ471M400A032	0.388	0.175	1.68	2.35	35 x 35
560	381LQ561M400K052	0.326	0.147	1.90	2.66	30 x 50

Cap. (μF)	Catalog Part Number	ESR Max @ 25 °C		Ripple Amps @ 105 °C		Nominal Size D x L (mm)
		120 Hz (Ω)	20 kHz (Ω)	120 Hz (A)	20 kHz (A)	
560	381LQ561M400A042	0.326	0.147	1.90	2.66	35 x 40
680	381LQ681M400A452	0.268	0.121	2.12	2.97	35 x 45
450 Vdc (500 Vdc Surge)						
100	381LQ101M450H022	1.824	0.821	0.64	0.90	22 x 30
100	381LQ101M450J012	1.824	0.821	0.64	0.90	25 x 25
120	381LQ121M450H032	1.520	0.684	0.72	1.01	22 x 35
120	381LQ121M450J022	1.520	0.684	0.72	1.01	25 x 30
150	381LQ151M450H042	1.216	0.547	0.79	1.11	22 x 40
150	381LQ151M450J022	1.216	0.547	0.79	1.11	25 x 30
150	381LQ151M450K012	1.216	0.547	0.79	1.11	30 x 25
180	381LQ181M450H452	1.013	0.456	0.87	1.22	22 x 45
180	381LQ181M450J042	1.013	0.456	0.87	1.22	25 x 40
180	381LQ181M450K022	1.013	0.456	0.87	1.22	30 x 30
220	381LQ221M450J452	0.829	0.373	1.00	1.40	25 x 45
220	381LQ221M450K022	0.829	0.373	1.00	1.40	30 x 30
220	381LQ221M450A012	0.829	0.373	1.00	1.40	35 x 25
270	381LQ271M450J052	0.675	0.304	1.19	1.67	25 x 50
270	381LQ271M450K042	0.675	0.304	1.19	1.67	30 x 40
270	381LQ271M450A022	0.675	0.304	1.19	1.67	35 x 30
330	381LQ331M450K452	0.553	0.249	1.38	1.93	30 x 45
330	381LQ331M450A032	0.553	0.249	1.38	1.93	35 x 35
390	381LQ391M450A042	0.468	0.210	1.55	2.17	35 x 40
470	381LQ471M450A452	0.388	0.175	1.74	2.44	35 x 45
560	381LQ561M450A052	0.326	0.147	1.90	2.66	35 x 50
390	381LQ391M450K052	0.680	0.210	1.55	2.17	30 x 50
390	381LQ391M450A042	0.468	0.210	1.55	2.17	35 x 40
470	381LQ471M450A452	0.388	0.175	1.74	2.44	35 x 45
560	381LQ561M450A052	0.326	0.147	1.90	2.66	35 x 50

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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