

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

Higher Capacitance per Case Size



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

- More capacitance per case
- Compares to the 381L

Specifications

Temperature Range	-40 °C to + 105 °C ≤ 315 Vdc -25 °C to + 105 °C ≥ 350 Vdc																																	
Rated Voltage Range	10 Vdc to 450 Vdc																																	
Capacitance Range	100 µF to 100,000 µF																																	
Capacitance Tolerance	± 20%																																	
Leakage Current	≤ 3 \sqrt{CV} µA, 4 mA max, 5 minutes																																	
Ripple Current Multipliers	Ambient Temperature <table border="1"> <thead> <tr> <th></th> <th>45 °C</th> <th>60 °C</th> <th>70 °C</th> <th>85 °C</th> <th>105 °C</th> </tr> </thead> <tbody> <tr> <td></td> <td>2.35</td> <td>2.20</td> <td>2.00</td> <td>1.70</td> <td>1.00</td> </tr> </tbody> </table> Frequency <table border="1"> <thead> <tr> <th rowspan="2">Voltage</th> <th>50 Hz</th> <th>60 Hz</th> <th>120 Hz</th> <th>500 kHz</th> <th>1 kHz</th> <th>10 kHz & Up</th> </tr> </thead> <tbody> <tr> <td>10 - 100 WVV</td> <td>0.93</td> <td>0.95</td> <td>1.00</td> <td>1.05</td> <td>1.08</td> <td>1.15</td> </tr> <tr> <td>160 - 450 WVV</td> <td>0.75</td> <td>0.80</td> <td>1.00</td> <td>1.20</td> <td>1.25</td> <td>1.40</td> </tr> </tbody> </table>		45 °C	60 °C	70 °C	85 °C	105 °C		2.35	2.20	2.00	1.70	1.00	Voltage	50 Hz	60 Hz	120 Hz	500 kHz	1 kHz	10 kHz & Up	10 - 100 WVV	0.93	0.95	1.00	1.05	1.08	1.15	160 - 450 WVV	0.75	0.80	1.00	1.20	1.25	1.40
	45 °C	60 °C	70 °C	85 °C	105 °C																													
	2.35	2.20	2.00	1.70	1.00																													
Voltage	50 Hz	60 Hz	120 Hz	500 kHz	1 kHz	10 kHz & Up																												
	10 - 100 WVV	0.93	0.95	1.00	1.05	1.08	1.15																											
160 - 450 WVV	0.75	0.80	1.00	1.20	1.25	1.40																												
Low Temperature Characteristics	Impedance ratio: $Z_{-20°C}/Z_{+25°C}$ ≤ 10 (10 Vdc) ≤ 8 (16–50 Vdc) ≤ 4 (63–100 Vdc) ≤ 3 (150–450 Vdc)																																	
Endurance Life Test	2000 h at full load at 105 °C Δ Capacitance ±20% ESR 200% of limit DCL 100% of limit																																	
Shelf Life Test	1000 h at 105 °C Δ Capacitance ±20% ESR 200% of limit DCL 100% of limit																																	
Vibration	10 to 55 Hz, 0.06" and 10 g max, 2 h each plane																																	
RoHS Compliant																																		

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Part Numbering System

381LQ	821	M	400	A05	2	A	+D
Type	Cap	Tolerance	Voltage	Case Code	Insulating Sleeve	Pin Style	Blank = no end disk if <250 V D = end disk, any voltage
381LQ	471 = 470 μF 332 = 3300 μF 103 = 10,000 μF	M = ±20%	160 = 160 Vdc 450 = 450 Vdc		2 = PVC	Blank = 2 pins snap-in 6.3 mm L A = 2 pins snap-in 4.0 mm L	

Outline Drawing



Note that for 200 volts and under the insulating end disc is optional - If one is needed add a (+D) to the end of the part numbering system.

Insulated Case Dimensions

Case	DIAMETER		LENGTH		Typical
Code	mm	inches	mm	inches	Weight (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	mm	inches	mm	inches	Weight (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

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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)	
250 Vdc (300 Vdc Surge)						
270	381LQ271M250H012	0.614	0.276	1.10	1.54	22 x 25
330	381LQ331M250H022	0.502	0.226	1.20	1.68	22 x 30
330	381LQ331M250J012	0.502	0.226	1.20	1.68	25 x 25
390	381LQ391M250H022	0.425	0.191	1.20	1.70	22 x 30
390	381LQ391M250H032	0.425	0.191	1.30	1.82	22 x 35
390	381LQ391M250J012	0.425	0.191	1.30	1.82	25 x 25
470	381LQ471M250H032	0.353	0.159	1.30	1.82	22 x 35
470	381LQ471M250H042	0.353	0.159	1.40	1.96	22 x 40
470	381LQ471M250J022	0.353	0.159	1.40	1.96	25 x 30
470	381LQ471M250K012	0.353	0.159	1.40	1.96	30 x 25
560	381LQ561M250H042	0.296	0.133	1.40	1.96	22 x 40
560	381LQ561M250H452	0.296	0.133	1.50	2.10	22 x 45
560	381LQ561M250J032	0.296	0.133	1.50	2.10	25 x 35
560	381LQ561M250K012	0.296	0.133	1.50	2.10	30 x 25
680	381LQ681M250H452	0.244	0.110	1.50	2.10	22 x 45
680	381LQ681M250H052	0.244	0.110	1.70	2.38	22 x 50
680	381LQ681M250J042	0.244	0.110	1.70	2.38	25 x 40
680	381LQ681M250K022	0.244	0.110	1.70	2.38	30 x 30
680	381LQ681M250A012	0.244	0.110	1.70	2.38	35 x 25
820	381LQ821M250J452	0.202	0.091	2.00	2.80	25 x 45
820	381LQ821M250K032	0.202	0.091	2.00	2.80	30 x 35
820	381LQ821M250A022	0.202	0.091	2.00	2.80	35 x 30
1000	381LQ102M250J052	0.166	0.075	2.20	3.08	25 x 50
1000	381LQ102M250K042	0.166	0.075	2.20	3.08	30 x 40
1000	381LQ102M250A022	0.166	0.075	2.20	3.08	35 x 30
1200	381LQ122M250K452	0.138	0.062	2.30	3.22	30 x 45
1200	381LQ122M250A032	0.138	0.062	2.30	3.22	35 x 35
1500	381LQ152M250A452	0.110	0.050	2.50	3.50	35 x 45
1800	381LQ182M250A452	0.092	0.041	2.50	3.50	35 x 45
1800	381LQ182M250A052	0.092	0.041	2.70	3.78	35 x 50
315 Vdc (365 Vdc Surge)						
150	381LQ151M315H012	1.105	0.497	0.82	1.15	22 x 25
180	381LQ181M315H022	0.921	0.414	0.90	1.26	22 x 30
220	381LQ221M315H022	0.754	0.339	1.00	1.40	22 x 30
270	381LQ271M315J022	0.614	0.276	1.10	1.54	25 x 30
330	381LQ331M315H452	0.502	0.226	1.20	1.68	22 x 45
330	381LQ331M315J032	0.502	0.226	1.20	1.68	25 x 35
330	381LQ331M315K012	0.502	0.226	1.20	1.68	30 x 25
390	381LQ391M315J042	0.425	0.191	1.30	1.82	25 x 40
390	381LQ391M315K022	0.425	0.191	1.30	1.82	30 x 30
390	381LQ391M315A012	0.425	0.191	1.30	1.82	35 x 25
470	381LQ471M315J452	0.353	0.159	1.40	1.96	25 x 45
470	381LQ471M315K032	0.353	0.159	1.40	1.96	30 x 35
350 Vdc (400 Vdc Surge)						
120	381LQ121M350H012	1.382	0.622	0.75	1.05	22 x 25
150	381LQ151M350H022	1.105	0.497	0.82	1.15	22 x 30
180	381LQ181M350H022	0.921	0.414	0.90	1.26	22 x 30
180	381LQ181M350J012	0.921	0.414	0.90	1.26	25 x 25
220	381LQ221M350H032	0.754	0.339	1.00	1.40	22 x 35
220	381LQ221M350J022	0.754	0.339	1.00	1.40	25 x 30
270	381LQ271M350J032	0.614	0.276	1.10	1.54	25 x 35
270	381LQ271M350K012	0.614	0.276	1.10	1.54	30 x 25
330	381LQ331M350J042	0.502	0.226	1.20	1.68	25 x 40
330	381LQ331M350K022	0.502	0.226	1.20	1.68	30 x 30
390	381LQ391M350J452	0.425	0.191	1.30	1.82	25 x 45
390	381LQ391M350K032	0.425	0.191	1.30	1.82	30 x 35
470	381LQ471M350J052	0.353	0.159	1.40	1.96	25 x 50
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	381LQ221M400H042	0.829	0.373	1.00	1.40	22 x 45
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	381LQ271M400H452	0.675	0.304	1.10	1.54	22 x 45
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

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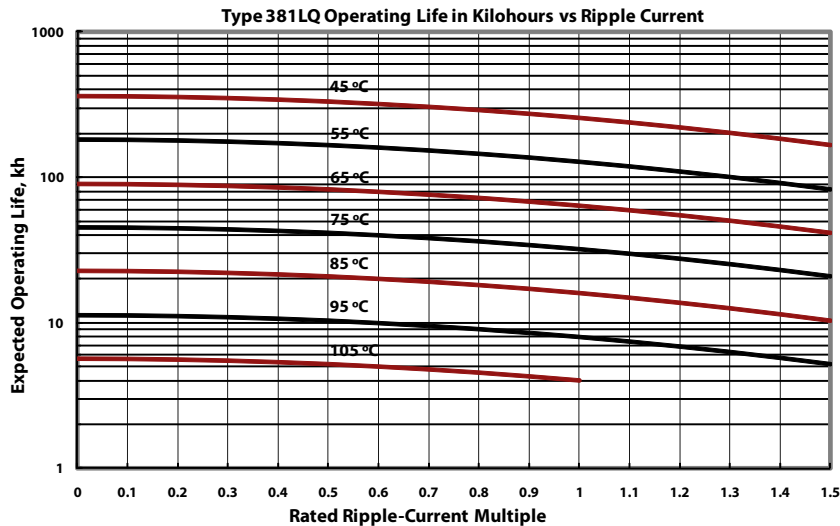
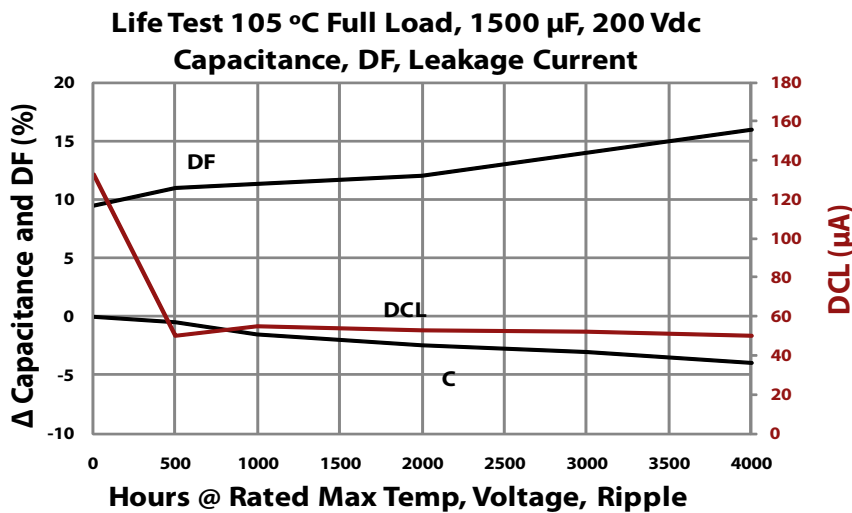
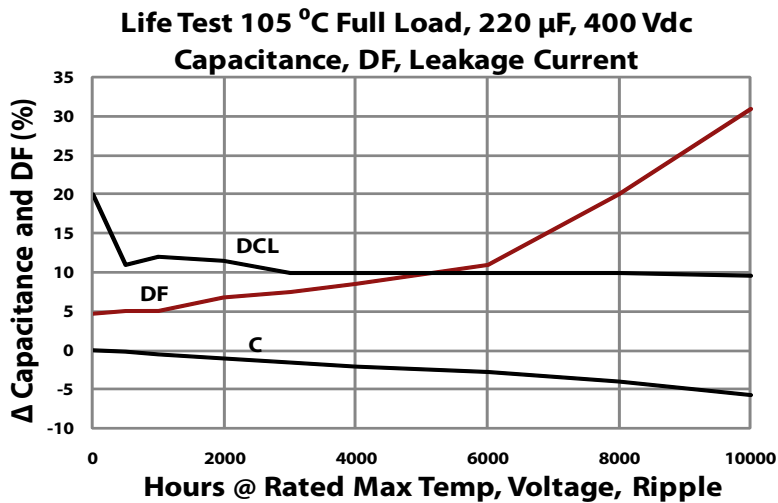
Higher Capacitance per Case Size

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)	
400 Vdc (450 Vdc Surge)						
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	381LQ391M400K032	0.468	0.210	1.40	1.95	30 x 35
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
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
820	381LQ821M400A052	0.200	0.090	2.30	3.20	35 x 50
420 Vdc (470 Vdc Surge)						
120	381LQ121M420H022	1.520	0.684	0.75	1.05	22 x 30
120	381LQ121M420J012	1.520	0.684	0.75	1.05	25 x 25
150	381LQ151M420H032	1.220	0.550	0.85	1.20	22 x 35
180	381LQ181M420H042	1.100	0.460	0.90	1.30	22 x 40
180	381LQ181M420J022	1.100	0.460	0.90	1.30	25 x 30
220	381LQ221M420H452	0.830	0.370	1.05	1.50	22 x 45
220	381LQ221M420J032	0.830	0.370	1.05	1.50	25 x 35
220	381LQ221M420K012	0.830	0.370	1.05	1.50	30 x 25
270	381LQ271M420H052	0.675	0.305	1.20	1.70	22 x 50
270	381LQ271M420J042	0.675	0.305	1.20	1.70	25 x 40
270	381LQ271M420K022	0.675	0.305	1.20	1.70	30 x 30
270	381LQ271M420A012	0.675	0.305	1.20	1.70	35 x 25
330	381LQ331M420J052	0.550	0.250	1.40	2.00	25 x 50
330	381LQ331M420K032	0.550	0.250	1.40	2.00	30 x 35
330	381LQ331M420A032	0.550	0.250	1.40	2.00	35 x 35
390	381LQ391M420K042	0.470	0.210	1.55	2.15	30 x 40
390	381LQ391M420A032	0.470	0.210	1.55	2.15	35 x 35
470	381LQ471M420K452	0.390	0.175	1.70	2.40	30 x 45
470	381LQ471M420A032	0.390	0.175	1.70	2.40	35 x 35
560	381LQ561M420K052	0.330	0.150	1.90	2.65	30 x 50
420 Vdc (470 Vdc Surge)						
560	381LQ561M420A452	0.330	0.150	1.90	2.65	35 x 45
680	381LQ681M420A052	0.270	0.120	2.10	2.95	35 x 50
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	381LQ181M450J032	1.013	0.456	0.80	1.10	25 x 35
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	381LQ221M450H052	0.829	0.373	0.90	1.25	22 x 50
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	381LQ271M450K032	0.675	0.304	1.10	1.50	30 x 35
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	381LQ331M450K042	0.553	0.249	1.25	1.75	30 x 40
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	381LQ391M450K452	0.468	0.210	1.40	1.95	30 x 45
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

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Typical Performance Curves



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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