LL Series

+105℃, Low Leakage(低漏电品）

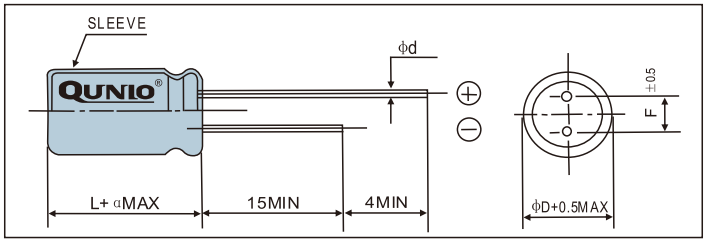
◆ FEATURES

- Extremely low and stable leakage current characteristics.
- Close capacitance tolerance ±20%(±10%)

◆ SPECIFICATIONS

Items	Characteristics
Category Temperature Range	-40~+105℃
Rated Voltage Range	6.3~100V,DC
Nominal Capacitance Range	0.1~6800 μF
Capacitance Tolerance	±20%(120Hz,+20℃)
Leakage Current(MAX)	I=0.002CV or 0.3(uA) after 2 minutes whichever is greater measured with rated working voltage at 20℃
Dissipation Factor(MAX) Tan δ (+20℃,120Hz)	Rated Voltage(V): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 Tan δ: 0.28 / 0.24 / 0.20 / 0.16 / 0.14 / 0.12 / 0.10 / 0.08 When nominal capacitance is over 1000 μF, tan δ shall be added 0.02 to the listed value with Increase of every 1000 μF
Load Life	After applying rated voltage with max ripple current for 1000hrs at 105℃, the capacitors shall meet the following requirements Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 200% of the specified value Leakage Current: Not more than the specified value
Shelf Life	After leaving capacitors under no load at 85℃ for 1000hrs,they meet the characteristic requirements listed at right Capacitance Change: Within ±20% of the initial value Tan δ: ≤ 200% of initial specified value Leakage Current: ≤ 200% of initial specified value
Low Temperature Stability Impedance Rate(MAX)	Rated Voltage(V): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 Z-25℃/Z+20℃: 5 / 4 / 3 / 2 / 2 / 2 / 2 / 2 Z-40℃/Z+20℃: 10 / 8 / 6 / 4 / 3 / 3 / 3 / 3
Other	JISC-5141 EIAJ RC-2372

◆ CASE SIZE TABLE



φD	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φd	0.5			0.6		0.8	
α	L ≤16: α =1.5			L ≥20: α =2.0			

◆ RIPPLE CURRENT MULTIPLIER

Cap(μF)	Frequency(Hz)				
	50	120	300	1K	10K~
≤47	0.75	1.0	1.35	1.57	2.0
56~4700	0.8	1.0	1.23	1.34	1.5
≥5600	0.85	1.0	1.10	1.13	1.15

LL Series

◆ STANDARD RATINGS

size:ΦD×L(mm)

Cap(μF) \ Voltage	Code	6.3V		10V		16V		25V	
		0J		1A		1C		1E	
4.7	4R7							5×11	45
10	100					5×11	55	5×11	70
22	220					5×11	85	5×11	100
33	330					5×11	100	5×11	105
47	470			5×11	110	5×11	115	5×11	120
100	101			5×11	130	6.3×11	150	6.3×11	165
220	221			6.3×11	207	8×12	270	8×12	288
330	331			8×12	297	8×12	324	8×14	345
470	471	8×12	324	8×12	351	8×14	386	10×13	435
680	681	8×12	389	8×14	395	10×16	486	10×20	576
1000	102	10×13	513	10×16	567	10×20	710	13×21	855
2200	222	10×20	765	10×20	790	13×21	920	13×25	985
3300	332	13×21	1025	13×21	1165	13×25	1270	16×30	1460
4700	472	13×21	1140	13×25	1280	16×30	1570		
6800	682	13×25	1420	16×25	1450				

Maximum Allowable Ripple Current(mA rms) at 105℃ 120Hz

◆ STANDARD RATINGS

Cap(μF) \ Voltage	Code	35V		50V		63V		100V	
		1V		1H		1J		2A	
0.1	0R1			5×11	1.1				
0.22	R22			5×11	2.3				
0.33	R33			5×11	3.5				
0.47	R47			5×11	5.0				
0.68	R68			5×11	7.3				
1.0	010			5×11	10.7			5×11	19
2.2	2R2			5×11	23			5×11	28
3.3	3R3			5×11	40			5×11	45
4.7	4R7	5×11	45	5×11	45			5×11	50
10	100	5×11	70	5×11	70	5×11	83	6.3×11	67
22	220	5×11	105	5×11	105	6.3×11	115	8×12	117
33	330	5×11	110	6.3×11	113	6.3×11	140	8×14	130
47	470	6.3×11	126	6.3×11	135	8×12	171	10×13	185
100	101	8×12	107	8×12	225	10×13	236	10×20	370
220	221	8×14	356	10×16	396	10×20	420	13×25	510
330	331	10×13	410	10×20	597	10×20	615	16×25	670
470	471	10×20	576	13×21	684	13×21	792	16×30	780
680	681	13×21	684	13×21	765	13×21	865		
1000	102	13×21	945	16×25	1210	16×25	1025		
2200	222	16×30	1360						

Maximum Allowable Ripple Current(mA rms) at 105℃ 120Hz