

# SPECIFICATION

**DESCRIPTION:** Aluminium Electrolytic Capacitors

**SERIES:** KN Series

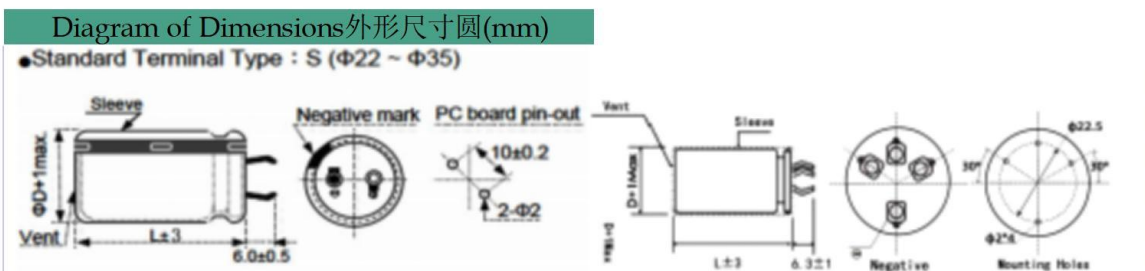
**ITEM:**

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<b>KN series</b>																												
<ul style="list-style-type: none"> <li>◆ Load life 2000 Hrs at 105°C</li> <li>◆ RoHS Compliant</li> </ul>																												
Specifications 规格表																												
Item 项目	Performance Characteristics 特性参数																											
Operating Temperature	-40 to +105°C                      -25 to +105°C																											
Rated Voltage Range 额定电压范围	16 to 100 VDC                      160 to 500 VDC																											
Capacitance Range 容量范围	68 to 56000 μF																											
Capacitance Tolerance 静电容量偏差	±20% (120Hz, +20°C)																											
Leakage Current 漏电流	After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 1.5mA, whichever is smaller C: Nominal Capacitance (μF) V: Rated Voltage (V)																											
Dissipation Factor 损耗角正切值 tanδ (%)	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>rated voltage (V)</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> <td>160-400</td> <td>450-500</td> </tr> <tr> <td>tanδ (Max)</td> <td>50</td> <td>40</td> <td>40</td> <td>30</td> <td>20</td> <td>20</td> <td>15</td> <td>20</td> </tr> </table>	rated voltage (V)	16	25	35	50	63	100	160-400	450-500	tanδ (Max)	50	40	40	30	20	20	15	20									
rated voltage (V)	16	25	35	50	63	100	160-400	450-500																				
tanδ (Max)	50	40	40	30	20	20	15	20																				
Low Temperature characteristics 低温特性	impedance ratio ma 电容器最大阻抗比值 <table border="1" style="width: 100%; text-align: center;"> <tr> <td>rated voltage (V)</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> <td>160-400</td> <td>450-500</td> </tr> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>8</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>—</td> <td>.</td> </tr> </table>	rated voltage (V)	16	25	35	50	63	100	160-400	450-500	Z(-25°C)/Z(+20°C)	4	4	4	4	4	4	4	8	Z(-40°C)/Z(+20°C)	15	15	15	15	15	15	—	.
rated voltage (V)	16	25	35	50	63	100	160-400	450-500																				
Z(-25°C)/Z(+20°C)	4	4	4	4	4	4	4	8																				
Z(-40°C)/Z(+20°C)	15	15	15	15	15	15	—	.																				
Load Life 使用寿命	105°C 施加额定工作电压 2000 小时, 经恢复后, 产品性能应满足以下要求 The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 2000H at 105°C <table border="1" style="width: 100%; text-align: center;"> <tr> <td>Capacitance change</td> <td>≅ ±20% of the initial value</td> </tr> <tr> <td>D.F. (tanδ)</td> <td>≅ 200% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≅ The specified value</td> </tr> </table>	Capacitance change	≅ ±20% of the initial value	D.F. (tanδ)	≅ 200% of the specified value	Leakage current	≅ The specified value																					
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D.F. (tanδ)	≅ 200% of the specified value																											
Leakage current	≅ The specified value																											
Shelf Life 存储特性	夜后 20°C 后, 产品性能应满足以下要求 <table border="1" style="width: 100%; text-align: center;"> <tr> <td>Capacitance change</td> <td>≅ ±20% of the initial value</td> </tr> <tr> <td>D.F. (tanδ)</td> <td>≅ 150% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≅ The specified value</td> </tr> </table>	Capacitance change	≅ ±20% of the initial value	D.F. (tanδ)	≅ 150% of the specified value	Leakage current	≅ The specified value																					
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Leakage current	≅ The specified value																											



## KN series

### Frequency Coefficient

Frequency Voltage (v)	50/60 Hz	120 Hz	300 Hz	1K Hz	10K Hz	≥50K Hz
≤100V	0.95	1.00	1.07	1.13	1.19	1.20
160-250V	0.87	1.00	1.17	1.32	1.45	1.50
≥350	0.80	1.00	1.16	1.30	1.41	1.43

### Standard Ratings

Rated Voltage V	Rated Capacity μF	Size φD*L mm	Rated ripple current A	Rated Voltage V	Rated Capacity μF	Size φD*L mm	Rated ripple current A
16V	3300	22*26	1.17	25V	3300	22*26	1.48
		22*26	1.53			25*26	1.48
	4700	25*26	1.55		4700	22*26	1.88
		22*31	2.02			25*26	1.90
	6800	25*26	2.02		6800	22*31	2.60
		30*26	2.02			25*26	2.60
	8200	22*31	2.20		8200	30*26	2.60
	10000	22*31	2.79			22*36	3.14
		25*26	2.79			25*31	3.14
	12000	30*26	2.81		10000	30*26	3.14
		22*36	3.06			22*41	3.50
		30*26	3.06			25*36	3.50
	15000	22*41	3.24		12000	30*31	3.50
		25*36	3.24			35*27	3.50
		30*26	3.24			22*46	4.02
	18000	35*32	3.24		15000	25*41	4.02
		22*51	3.54			30*31	4.02
		25*46	3.51			35*27	4.02
		30*36	3.51			25*46	4.58
	22000	35*32	3.54		18000	30*36	4.58
25*51		4.25	35*32	4.58			
30*36		4.08	25*51	4.82			
27000	35*32	4.08	22000	30*41	4.82		
	25*51	4.30		35*32	4.79		
33000	30*41	4.30	27000	30*46	5.12		
	35*32	4.30		35*37	5.12		
39000	30*46	4.83	33000	35*42	5.30		
	35*37	4.83		35*52	6.09		
47000	30*51	5.78	39000	35*52	6.20		
	35*42	5.78		47000	35*52	6.30	
56000	35*45	6.32					
	35*47	6.48					

Rated ripple current (A,rms) at 105°C, 120Hz

KN series				Standard Ratings				
Rated Voltage	Rated Capacity	Size φD×L	Rated ripple current	Rated Voltage	Rated Capacity	Size φD×L	Rated ripple current	
V	μF	mm	A	V	μF	mm	A	
400V	560	35*50	2.23	450V	150	22*35	0.90	
		30*45	2.23			25*30	0.90	
		35*45	2.40			25*35	0.95	
		35*40	2.40			30*25	0.95	
	35*62	2.85	30*30			0.95		
	35*50	2.83	25*46			1.14		
	680	35*45	35*45		2.80	180	30*36	1.10
			30*50		2.70		35*32	1.14
			35*40		2.65		30*41	1.24
			35*62		2.90	35*37	1.24	
	820	35*50	35*50		2.85	220	22*40	1.20
			35*70		3.20		25*40	1.20
			35*65		3.15		25*50	1.20
			35*60		3.15		30*30	1.20
	1000	35*50	35*50		3.10	270	30*51	1.48
			35*70		3.30		35*42	1.48
			35*65		3.30		30*40	1.60
			35*60		3.30	30*50	1.64	
	450V	82	22*36		0.64	330	25*50	1.60
			25*31		0.64		30*35	1.60
30*26			0.64	35*30	1.60			
100		22*41	0.74	390	35*40	1.80		
		25*31	0.74		35*52	1.86		
		30*31	0.74		35*35	1.65		
		22*25	0.70	470	35*50	1.90		
		22*35	0.72		35*45	1.90		
		25*25	0.72		30*50	1.90		
120		22*46	0.82	560	30*60	1.90		
		25*36	0.82		35*50	2.40		
		30*31	0.82		35*45	2.40		
		22*30	0.80	680	35*40	2.40		
		25*25	0.80		30*50	2.40		
		25*30	0.80		35*60	2.90		
150		22*51	0.96	820	35*50	2.85		
		25*41	0.96		35*45	2.80		
		30*36	0.96		30*55	2.80		
		35*27	0.96	1000	35*70	3.20		
		22*30	0.90		35*65	3.20		
	35*70	3.30	35*60		3.20			
				1200	35*70	3.30		
					35*80	3.60		

Rated ripple current (A, rms) at 105°C, 120Hz



**KN series**

**Standard Ratings**

Rated Voltage	Rated Capacity	Size φD*L	Rated ripple current	Rated Voltage	Rated Capacity	Size φD*L	Rated ripple current		
V	μF	mm	A	V	μF	mm	A		
250V	220	22*36	1.00	400V	100	22*36	0.82		
		25*31	1.00			25*31	0.82		
		30*26	1.00			22*25	0.70		
		22*30	0.95			25*25	0.80		
	22*41	1.16	22*36			0.90			
	270	270	25*36		1.16	120	120	25*31	0.90
			30*31		1.16			22*25	0.80
			22*46		1.28			25*25	0.85
	330	330	25*36		1.28	150	150	22*41	0.98
			30*31		1.28			25*36	0.98
			35*27		1.28			30*31	0.95
	390	390	22*46		1.48			35*27	0.95
			30*31		1.48			22*30	0.90
			35*27		1.48			25*25	0.90
	470	470	25*41		1.76	180	180	25*36	1.05
			30*36		1.76	220	220	30*30	1.21
			35*32		1.76			30*41	1.21
			25*30		1.56			25*40	1.21
			25*35		1.60			25*35	1.21
			22*36		1.56			35*32	1.21
			30*30		1.68			22*40	1.10
			22*40		1.68			25*30	1.10
	25*51	1.93	30*25		1.10				
	560	560	30*41		1.93	270	270	30*40	1.40
			35*32		1.93			25*40	1.30
			680		680	25*40	2.15	330	330
	30*46	2.22				30*40	1.57		
	35*37	2.22				35*30	1.57		
	30*51	2.48				22*45	1.50		
	820	820	22*45		2.15	25*40	1.50		
			25*45		2.46	30*35	1.50		
			30*35		2.43	35*35	1.60		
30*51			2.48	390	390	30*40	1.68		
35*42	2.48	35*42	1.71						
1000	1000	30*50	2.74	470	470	35*45	1.94		
		30*40	2.65			25*50	1.80		
		35*47	2.80			30*40	1.80		
		30*45	2.70			35*35	1.80		
1200	1200	35*50	3.00			30*50	1.85		
		35*55	3.00			30*45	1.85		
1500	1500	35*50	3.50			35*40	1.85		
		35*55	3.50			35*50	1.98		
2200	2200	35*55	5.00						
		35*60	5.10						
		35*70	5.10						

Rated ripple current (A,rms) at 105°C, 120Hz

**KN series**

**Standard Ratings**

Rated Voltage	Rated Capacity	Size φD*L	Rated ripple current
V	μF	mm	A
160V	220	22*26	0.42
		22*31	0.98
	330	25*26	0.98
		30*26	1.00
		22*36	1.21
	470	25*31	1.21
		30*26	1.21
		22*31	1.15
	560	22*41	1.40
		25*36	1.40
		30*31	1.40
		35*27	1.40
	680	22*46	1.64
		25*36	1.58
		30*31	1.65
		35*27	1.71
	820	22*36	1.49
		25*41	1.76
		30*36	1.85
	1000	35*32	1.85
		25*51	2.15
		30*41	2.15
	1200	35*32	2.15
		25*56	2.46
30*46		2.46	
1500	35*37	2.46	
	30*51	2.80	
	35*42	2.80	
1800	30*51	3.13	
	35*42	3.13	
2200	35*52	3.26	
	35*42	3.18	
3300	35*52	3.50	
	35*45	3.35	
200V	150	22*26	0.54
		25*26	0.54
	220	22*31	0.92
		25*26	0.92
		30*26	0.92
	270	22*31	1.03
		25*26	1.03
		30*26	1.05
		30*26	1.05

Rated ripple current (A,rms) at 105°C, 120Hz

Rated Voltage	Rated Capacity	Size φD*L	Rated ripple current	
V	μF	mm	A	
200V	330	22*36	1.21	
		25*31	1.21	
		30*26	1.21	
	390	22*36	1.33	
		25*31	1.34	
		30*31	1.45	
	470	22*41	1.57	
		25*36	1.59	
		30*31	1.65	
		35*27	1.65	
	560	22*46	1.55	
		25*46	1.81	
		25*41	1.85	
		30*31	1.85	
	680	35*27	1.85	
		22*51	2.04	
		25*46	2.07	
	820	30*31	2.04	
		35*32	2.17	
		25*51	2.30	
	1000	30*36	2.30	
		35*37	2.31	
		30*40	2.62	
	1200	35*37	2.62	
		25*45	2.55	
		25*40	2.51	
		35*30	2.50	
		25*50	2.55	
	1500	30*30	2.45	
		30*50	3.00	
		35*42	3.00	
	1800	35*47	3.28	
		35*52	4.01	
	2200	35*52	4.10	
		30*50	3.85	
	2700	35*52	4.10	
		35*45	3.80	
	250V	100	22*31	0.44
			25*26	0.44
			22*25	0.42
		120	22*31	0.50
			25*26	0.50
150		22*31	0.60	
		25*26	0.60	
		30*26	0.60	
		30*26	0.60	
		30*26	0.60	

**KN series**

**Standard Ratings**

Rated Voltage	Rated Capacity	Size φD*L	Rated ripple current	Rated Voltage	Rated Capacity	Size φD*L	Rated ripple current
V	μF	mm	A	V	μF	mm	A
63V	820	22*26	0.75	100V	330	22*26	0.54
	1000	22*26	0.85		470	22*26	0.79
		25*26	0.85		25*26	0.81	
	1500	22*26	1.10		560	22*26	0.90
		25*26	1.12		25*26	0.95	
		30*26	1.14		22*31	1.02	
	1800	22*31	1.40		680	25*26	1.02
		25*26	1.40		30*26	1.14	
	2200	22*36	1.65		820	22*31	1.26
		25*31	1.65		25*26	1.26	
		30*26	1.65		30*26	1.32	
	2700	22*41	2.07		1000	22*36	1.38
		25*36	2.07		25*31	1.38	
		30*26	2.07		30*26	1.38	
		22*46	2.46		1200	22*41	1.65
	3300	25*36	2.40		25*36	1.65	
		30*31	2.48		30*31	1.65	
		35*27	2.48		22*46	1.83	
	3900	25*41	2.92		1500	25*41	1.83
		30*36	3.05		30*31	1.83	
		35*27	3.05		35*27	1.83	
	4700	25*51	3.43		1800	25*41	2.52
		30*41	3.43		30*36	2.52	
		35*32	3.43		35*32	2.52	
	5600	30*46	3.86		2200	25*51	3.03
		35*37	3.86		30*41	3.03	
	6800	30*51	4.64		35*32	3.03	
		35*42	4.64		2700	30*46	4.10
	8200	35*47	5.05		35*37	4.10	
		35*52	5.75		3300	30*56	4.59
10000	30*60	5.65	35*47	4.59			
	30*50	5.35	3900	35*47	4.98		
	35*52	5.40	4700	35*52	5.03		
15000	35*60	5.56	35*40	4.80			
			30*50	4.65			
			5600	35*60	5.10		
			5600	35*52	5.09		
			6800	35*60	5.20		

Rated ripple current (A, rms) at 105°C, 120Hz

**KN series**

**Standard Ratings**

Rated Voltage	Rated Capacity	Size φD×L	Rated ripple current
V	μF	mm	A
35V	1500	22*26	1.26
		22*26	1.35
	2200	25*26	1.45
		22*26	1.55
	2700	25*26	1.65
		22*26	1.80
	3300	25*26	1.90
		22*36	2.42
	4700	25*26	2.30
		30*26	2.54
		22*41	3.24
	6800	25*36	3.24
		30*26	3.21
		35*27	3.24
		25*46	3.96
	10000	30*36	3.96
		35*27	3.75
		25*51	4.21
	12000	30*41	4.21
		35*32	4.21
30*46		4.69	
15000	35*37	4.69	
	35*52	5.50	
27000	35*52	5.80	
	35*45	5.60	
33000	35*52	5.90	

Rated ripple current (A, rms) at 105°C, 120Hz

Rated Voltage	Rated Capacity	Size φD×L	Rated ripple current
V	μF	mm	A
50V	1500	22*26	1.10
		25*26	1.02
	2200	22*31	1.65
		25*26	1.65
	2700	22*31	1.85
		25*26	1.85
		30*26	1.95
	3300	22*36	2.24
		25*31	2.24
		30*26	2.24
		22*46	2.95
	4700	25*36	2.80
		30*31	2.95
		35*27	2.95
		25*46	3.23
	6800	30*41	3.20
		35*32	3.26
		30*46	3.58
	8200	35*37	3.58
		30*51	4.11
10000	30*45	4.01	
	35*42	4.11	
	30*40	4.00	
	25*50	3.90	
	35*30	3.86	
15000	35*52	5.05	
18000	35*52	5.30	
22000	35*60	5.50	



## KN series

### Standard Ratings

Rated Voltage	Rated Capacity	Size φD*L	Rated ripple current
V	μF	mm	A
500V	100	22*40	0.90
		22*45	0.94
		25*40	0.94
		30*30	0.94
	120	25*40	0.94
		30*30	0.94
		35*25	0.94
	150	25*40	1.10
		30*35	1.13
		35*30	1.13
	180	25*50	1.39
		30*40	1.40
	220	30*40	1.50
		30*45	1.60
		35*35	1.60
		35*40	1.60
	270	30*50	1.70
		35*40	1.70
	330	30*55	2.10
		30*60	2.10
		35*50	2.10
	390	35*55	2.50
		35*50	2.47
	470	35*55	2.60
35*60		2.65	
680	35*70	3.10	
820	35*80	3.80	
	40*70	3.80	
1000	40*80	4.70	

Rated ripple current (A,rms) at 105°C, 120Hz