

◆ Load life 2000 Hrs at 105°C

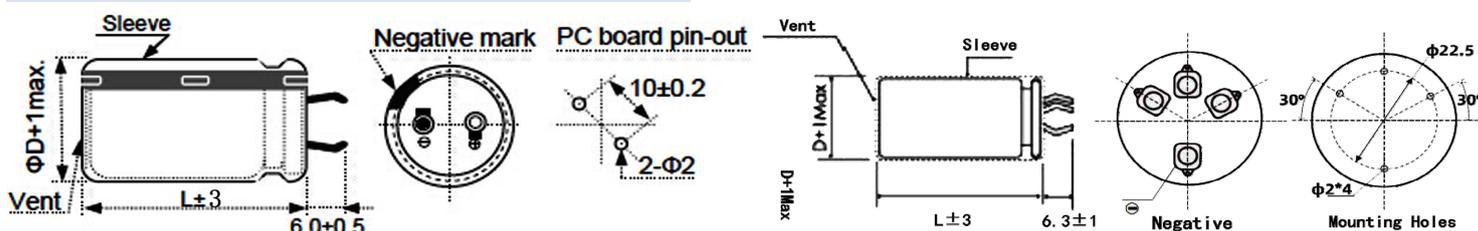
◆ RoHS Compliant



### Specifications 規格表

Ltem 項目	Performance Characteristics 特性參數								
Operating Temperature Range 工作溫度範圍	-40 to +105°C					-25 to +105°C			
Rated Voltage Range 額定電壓範圍	16 to 100 VDC					160 to 500 VDC			
Capacitance Range 容量範圍	68 to 56000 $\mu$ F								
Capacitance Tolerance 靜電容量偏差	$\pm 20\%$ (120Hz, +20°C)								
Leakage Current 漏電流	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( $\mu$ F) V: Rated Voltage(V)								
Dissipation Factor 損耗角正切值 $\tan\delta$ (%)	rated voltage (V)	16	25	35	50	63	100	160-400	450-500
	$\tan\delta$ (Max)	50	40	40	30	20	20	15	20
Low Temperature Characteristics 低溫特性	impedance ratio max 電容器最大阻抗比值								
	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 使用壽命	105°C施加額定工作電壓2000小時，經恢復後，產品性能應滿足以下要求 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								
	Capacitance change	$\cong \pm 20\%$ of the initial value							
	D. F. ( $\tan\delta$ )	$\cong 200\%$ of the specified value							
	Leakage current	$\cong$ The specified value							
Shelf Life 存儲特性	105°C放置1000小時，經恢復後20°C后，產品性能應滿足以下要求 The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours at 105°C without voltage applied.								
	Capacitance change	$\cong \pm 20\%$ of the initial value							
	D. F. ( $\tan\delta$ )	$\cong 150\%$ of the specified value							
	Leakage current	$\cong$ The specified value							

### Diagram of Dimensions 外形尺寸圖 (mm)



**KN series****Frequency Coefficient**

Frequency	50/60	120	300	1K	10K	≥50K
Voltage(v)	Hz	Hz	Hz	Hz	Hz	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	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
16V	8200	22*31	2.20	25V	6800	30*26	2.60
		22*31	2.79			8200	22*36
	10000	25*26	2.79		25*31		3.14
		30*26	2.81			10000	30*26
	12000	22*36	3.06		22*41		3.50
		30*26	3.06			25*36	3.50
	15000	22*41	3.24		30*31		3.50
			25*36			3.24	35*27
		30*26	3.24		12000	22*46	
	18000	35*32	3.24			25*41	4.02
			22*51		3.54		30*31
		25*46	3.51		35*27	4.02	
		30*36	3.51			15000	25*46
	22000	35*32	3.54		30*36		4.58
			25*51			4.25	35*32
	27000	30*36	4.08		25*51	4.82	
			35*32			4.08	18000
		33000	25*51		4.30	35*32	
	30*41				4.30		22000
	35*32		4.30		35*37	5.12	
	39000	30*46	4.83			27000	35*42
			35*37		4.83		33000
	47000	30*51	5.78		39000	35*52	
			35*42			5.78	47000
56000	35*45	6.32					
56000	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
V	μF	mm	A
35V	1500	22*26	1.26
	2200	22*26	1.35
		25*26	1.45
	2700	22*26	1.55
		25*26	1.65
	3300	22*26	1.80
		25*26	1.90
	4700	22*36	2.42
		25*26	2.30
		30*26	2.54
	6800	22*41	3.24
		25*36	3.24
		30*26	3.21
		35*27	3.24
	10000	25*46	3.96
		30*36	3.96
		35*27	3.75
	12000	25*51	4.21
		30*41	4.21
		35*32	4.21
15000	30*46	4.69	
	35*37	4.69	
22000	35*52	5.50	
27000	35*52	5.80	
	35*45	5.60	
33000	35*52	5.90	

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
	4700	22*46	2.95
		25*36	2.80
		30*31	2.95
		35*27	2.95
	6800	25*46	3.23
		30*41	3.20
		35*32	3.26
	8200	30*46	3.58
		35*37	3.58
	10000	30*51	4.11
30*45		4.01	
35*42		4.11	
30*40		4.00	
25*50		3.90	
15000	35*30	3.86	
	35*52	5.05	
18000	35*52	5.30	
22000	35*60	5.50	

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

**Standard Ratings**

Rated Voltage	Rated Capacity	Size φD*L	Rated ripple current
V	μF	mm	A
63V	1500	30*26	1.14
	1800	22*31	1.40
		25*26	1.40
	2200	22*36	1.65
		25*31	1.65
		30*26	1.65
	2700	22*41	2.07
		25*36	2.07
		30*26	2.07
	3300	22*46	2.46
		25*36	2.40
		30*31	2.48
		35*27	2.48
	3900	25*41	2.92
		30*36	3.05
		35*27	3.05
	4700	25*51	3.43
		30*41	3.43
		35*32	3.43
	5600	30*46	3.86
		35*37	3.86
	6800	30*51	4.64
		35*42	4.64
	8200	35*47	5.05
	10000	35*52	5.75
		30*60	5.65
		30*50	5.35
15000	35*52	5.40	
	35*60	5.56	

Rated Voltage	Rated Capacity	Size φD*L	Rated ripple current
V	μF	mm	A
100V	680	25*26	1.02
		30*26	1.14
	820	22*31	1.26
		25*26	1.26
		30*26	1.32
	1000	22*36	1.38
		25*31	1.38
		30*26	1.38
	1200	22*41	1.65
		25*36	1.65
		30*31	1.65
	1500	22*46	1.83
		25*41	1.83
		30*31	1.83
		35*27	1.83
	1800	25*41	2.52
		30*36	2.52
		35*32	2.52
	2200	25*51	3.03
		30*41	3.03
		35*32	3.03
	2700	30*46	4.10
		35*37	4.10
	3300	30*56	4.59
		35*47	4.59
	3900	35*47	4.98
		35*52	5.03
4700	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	Rated Voltage	Rated Capacity	Size φD*L	Rated ripple current		
V	μF	mm	A	V	μF	mm	A		
160V	560	22*41	1.40	200V	560	22*46	1.81		
		25*36	1.40			25*41	1.85		
		30*31	1.40			30*31	1.85		
			35*27			1.85			
	680	680	22*46		1.64	680	680	25*45	2.07
			25*36		1.58			30*30	2.04
			30*31		1.65			35*30	2.17
	820	820	22*36		1.49	820	820	25*35	2.00
			25*41		1.76			25*30	1.98
			30*36		1.85			22*40	2.00
	820	820	35*32		1.85	820	820	25*51	2.30
								30*35	2.30
								25*35	2.20
	1000	1000	25*51		2.15	1000	1000	25*40	2.20
			30*41		2.15			25*45	2.25
			35*32		2.15			22*50	2.20
	1200	1200	25*56		2.46	1000	1000	30*40	2.62
			30*46		2.46			35*37	2.62
			35*37		2.46			25*45	2.55
	1500	1500	30*51		2.80	1500	1500	25*40	2.51
			35*42		2.80			35*30	2.50
1800	1800	30*51	3.13	1800	1800	25*50	2.55		
		35*42	3.13			30*30	2.45		
2200	2200	35*52	3.26	2200	2200	30*35	2.51		
		35*42	3.18			30*50	3.00		
3300	3300	35*52	3.50	2700	2700	35*42	3.00		
		35*45	3.35			35*47	3.28		
200V	330	22*36	1.21	1800	35*50	4.01			
		25*31	1.21	2200	35*50	4.10			
		30*26	1.21		30*50	3.85			
	470	470	22*40	1.57	2700	35*50	4.10		
			25*35	1.59		35*45	3.80		
			30*31	1.65					
			22*30	1.55					
			22*35	1.65					
25*30	1.65								

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	470	25*41	1.76	400V	100	22*36	0.82	
		30*36	1.76			25*31	0.82	
		35*32	1.76			22*25	0.70	
		25*30	1.56			25*25	0.80	
		25*35	1.60			120	22*36	0.90
		22*36	1.56				25*31	0.90
		30*30	1.68				22*25	0.80
		22*40	1.68				25*25	0.85
	560	560	25*51		1.93	150	22*41	0.98
			30*41		1.93		25*36	0.98
			35*32		1.93		30*31	0.95
	680	680	25*40		2.15		35*27	0.95
			30*46		2.22		22*30	0.90
			35*37		2.22		25*25	0.90
			30*51		2.48	180	25*36	1.05
	22*45	2.15	30*30		1.21			
	820	820	30*35		2.20	220	30*41	1.21
			25*45		2.46		25*40	1.21
			30*35		2.43		25*35	1.21
			30*51		2.48		35*32	1.21
			35*42		2.48		22*40	1.10
			25*40		2.20		25*30	1.10
	1000	1000	35*30		2.25	270	30*25	1.10
			30*50		2.74		30*40	1.40
			30*40		2.65		25*40	1.30
			35*47		2.80		30*35	1.30
	1200	1200	30*45		2.70	330	30*40	1.57
			35*50		3.00		35*30	1.57
	1500	1500	35*55		3.00		22*45	1.50
			35*50		3.50		25*40	1.50
	2200	2200	35*55		3.50		30*35	1.50
			35*55		5.00		35*35	1.60
35*60			5.10	30*30	1.50			
		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
400V	390	30*40	1.68
		35*42	1.71
	470	35*45	1.94
		25*50	1.80
		30*40	1.80
		35*35	1.80
		30*50	1.85
		30*45	1.85
		35*40	1.85
	560	35*50	1.98
		35*50	2.23
		30*45	2.23
		35*45	2.40
	680	35*40	2.40
		35*62	2.85
		35*50	2.83
		35*45	2.80
		30*50	2.70
	820	35*40	2.65
		35*62	2.90
35*45		2.83	
1000	35*50	2.85	
	35*70	3.20	
	35*65	3.15	
	35*60	3.15	
1200	35*50	3.10	
	35*70	3.30	
	35*65	3.30	
1500	35*60	3.30	
	35*80	4.50	
	35*90	4.60	
		40*70	4.50

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

Rated Voltage	Rated Capacity	Size φD*L	Rated ripple current
V	μF	mm	A
450V	100	25*31	0.74
		22*25	0.70
		22*35	0.72
		25*25	0.72
		22*46	0.82
		25*36	0.82
	120	30*31	0.82
		22*30	0.80
		25*25	0.80
		25*30	0.80
		25*30	0.80
	150	22*51	0.96
		25*41	0.96
		30*36	0.96
		35*27	0.96
		22*30	0.90
		22*35	0.90
		25*30	0.90
		25*35	0.95
	180	30*25	0.95
		30*30	0.95
		25*46	1.14
		30*36	1.10
		35*32	1.14
	220	25*35	1.20
		30*40	1.24
		35*37	1.24
22*40		1.20	
25*40		1.20	
270	25*50	1.20	
	30*30	1.20	
	30*50	1.48	
330	35*40	1.48	
	30*36	1.60	

## 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	
450V	330	30*40	1.60	500V	100	22*40	0.90	
		30*50	1.64			22*45	0.94	
		25*50	1.60			25*40	0.94	
		30*35	1.60			30*30	0.94	
		390	35*30		1.60	120	25*40	0.94
			35*45		1.70		30*30	0.94
			30*30		1.60		35*25	0.94
	470		35*40		1.80	150	25*40	1.10
		35*50	1.86		30*35		1.13	
		35*35	1.65		35*30		1.13	
		560	35*30		1.60	180	25*50	1.39
	35*40		1.80		30*40		1.40	
	680		35*50		1.90	220	30*40	1.50
			35*45		1.90		30*45	1.60
			30*50		1.90		35*35	1.60
		30*60	1.90		35*40		1.60	
	820	35*50	2.40		270	30*50	1.70	
		35*45	2.40			35*40	1.70	
		1000	35*40		2.40	330	30*55	2.10
			30*50		2.40		30*60	2.10
			35*60		2.90		35*50	2.10
	1200		35*55		2.85	390	35*55	2.50
			35*50		2.85		35*50	2.47
		1500	35*45		2.80	470	35*55	2.60
			30*55		2.80		35*60	2.65
	2200		35*70		3.20	680	35*70	3.10
		35*65	3.20		35*60		2.90	
		35*60	3.20		820	35*70	3.60	
		35*55	3.10			35*80	3.80	
		35*70	3.30		1000	40*70	3.80	
		35*65	3.30			40*80	4.70	
		35*80	3.60					
	40*100	4.80						
	50*100	7.00						

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