

KH Series Long Life 5,000~10,000 hrs



Features

- ◆ Used in electronic ballast, switching power supply, industrial measuring instruments.
- ◆ higher ripple current
- ◆ Endurance 5000~10000 Hrs at 105°C
- ◆ Safety vent construction design.
- ◆ RoHS Compliant

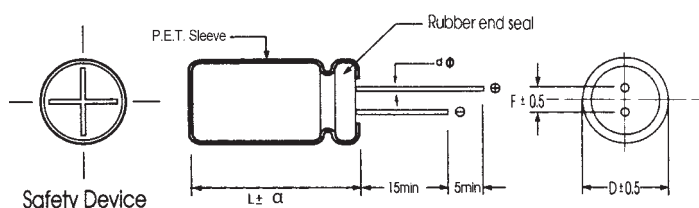
Specifications

Item	Performance Characteristics										
Operating Temperature Range	-40 to +105°C	-25 to +105°C									
Rated Voltage Range	10 to 400 VDC	450 VDC									
Capacitance Range	6.8 to 3300 µF	6.8 to 100 µF									
Capacitance Tolerance	±20%(120Hz,+20°C)										
Leakage Current (+20°C,max.)	10~100V I ≤ 0.01 CV or 3 (µA)	160~450V I ≤ 0.04 CV+100 (µA)									
	After 1 minute with rated working voltage applied. I=Leakage Current(µA) C=Rated capacitance(µF) V=Rated Voltage(V)										
Dissipation Factor (tan δ , at 20°C , 120Hz)	Working voltage(VDC)	10 16 25 35 50 160 200 250 350 400 450									
	D.F.(%)max.	19 16 14 12 10 15 15 15 20 20 20									
Low Temperature Characteristics (at 120Hz)	Impedance ratio max										
	Working voltage(VDC)	10 16 25 35 50 160 200 250 350 400 450									
	Z-25°C / Z+20°C	4 3 2 2 2 3 3 3 6 6 6									
Z-40°C / Z+20°C	6 4 3 3 3 6 6 6 6 6 6										
	-										
Endurance	Test conditions										
	Duration time : as right Ambient temperature : +105°C Applied voltage : Rated DC working voltage	<table border="1"> <thead> <tr> <th>D φ</th> <th>Life (hours)</th> </tr> </thead> <tbody> <tr> <td>< 8 φ</td> <td>5000</td> </tr> <tr> <td>8 φ</td> <td>8000</td> </tr> <tr> <td>≥ 10 φ</td> <td>10000</td> </tr> </tbody> </table>	D φ	Life (hours)	< 8 φ	5000	8 φ	8000	≥ 10 φ	10000	
D φ	Life (hours)										
< 8 φ	5000										
8 φ	8000										
≥ 10 φ	10000										
Shelf Life	After test requirement at +20°C										
	Capacitance change : ≤ ±20% of the initial measured value Dissipation factor : ≤ 200% of the initial specified value Leakage current : ≤ The initial specified value										
Shelf Life	Test conditions										
	Duration time : 1000Hrs Ambient temperature : +105°C Applied voltage : None										
Shelf Life	After test requirement at +20°C: Same limits as Endurance.										
	Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.										

Multiplier for Ripple Current vs. Frequency

Frequency(Hz)	120	1K	10K	≥100K
Multiplier	0.50	0.80	0.85	1.0

Diagram of Dimensions:(unit:mm)



φ D	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φ d	0.5			0.6		0.8	
α	D < 16	D = 16		D = 18		D ≥ 18	
	1.5	L:25~35.5	L < 25 and L ≥ 40	L:25~31.5	L < 25 and L ≥ 35.5	2.0	

Case Size

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mAmps/105°C /100KHz)
10	47	5x11	100
10	68	5x11	130
10	100	6.3x11	190
10	150	6.3x11	220
10	220	6.3x11	270
10	330	6.3x11	334
10	330	8x11.5	390
10	470	8x11.5	458
10	470	10x12.5	540
10	1000	8x20	878
10	1000	10x12.5	810
10	1000	10x16	900
10	2200	13x16	1401
10	2200	13x20	1540
10	3300	13x20	1533
10	3300	16x25	1900
16	33	5x11	115
16	47	5x11	145
16	68	6.3x11	200
16	100	6.3x11	210
16	100	8x11.5	245
16	150	6.3x11	257
16	150	8x11.5	300
16	220	6.3x11	360
16	220	8x11.5	420
16	220	10x12.5	495
16	330	8x11.5	433
16	330	8x16	500
16	470	8x11.5	558
16	470	10x12.5	657
16	470	10x16	730
16	1000	10x20	1012
16	1000	13x20	1173
16	2200	13x20	1689
16	2200	13x25	1862
16	2200	16x25	2093
25	22	5x11	100
25	33	5x11	130
25	47	6.3x11	160
25	68	6.3x11	197
25	68	8x11.5	230
25	100	6.3x11	280
25	100	8x11.5	327
25	150	8x11.5	390
25	150	10x12.5	460
25	220	8x11.5	443
25	220	10x16	580
25	330	8x16	644
25	330	10x12.5	657
25	330	10x16	730
25	330	10x20	805
25	470	10x16	861
25	470	10x20	950
25	1000	13x20	1408
25	1000	13x25	1552
25	2200	16x25	2169
25	2200	16x31.5	2400
35	10	5x11	65
35	22	5x11	125
35	33	5x11	160

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mAmps/105°C /100KHz)
35	33	6.3x11	178
35	47	5x11	180
35	47	6.3x11	206
35	47	8x11.5	240
35	68	6.3x11	231
35	68	8x11.5	270
35	100	8x11.5	331
35	100	10x12.5	390
35	150	8x11.5	483
35	150	8x16	558
35	150	10x16	632
35	220	8x16	610
35	220	10x16	689
35	220	10x20	760
35	330	10x16	810
35	330	10x20	893
35	330	13x20	1035
35	470	10x16	781
35	470	10x20	861
35	470	13x20	998
35	470	13x25	1100
35	820	10x25	1300
35	1000	13x20	1409
35	1000	13x25	1554
35	1000	16x25	1746
35	1000	16x31.5	1932
50	6.8	5x11	75
50	10	5x11	97
50	22	6.3x11	130
50	33	6.3x11	210
50	33	8x11.5	241
50	47	6.3x11	246
50	47	8x11.5	287
50	47	10x12.5	300
50	68	8x11.5	302
50	68	10x12.5	356
50	100	8x11.5	382
50	100	10x16	500
50	150	10x12.5	610
50	150	10x16	677
50	150	10x20	747
50	220	10x16	764
50	220	10x20	843
50	220	13x20	977
50	330	13x20	1043
50	330	13x25	1150
50	470	13x20	1253
50	470	16x20	1441
50	470	16x25	1552
50	1000	16x25	1771
50	1000	16x31.5	1960
50	1000	18x31.5	2093
160	10	10x16	330
160	22	10x20	510
160	33	10x20	660
160	33	13x20	760
160	47	10x20	760
160	47	13x20	870
160	68	13x20	1190
160	68	13x25	1350

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA _{rms} /105°C /100KHz)
160	82	13x20	1280
160	100	13x25	1430
160	100	16x20	1430
160	100	18x20	1530
160	150	16x20	1900
160	150	18x25	2180
160	220	16x25	2380
160	220	18x25	2540
160	330	18x31.5	3140
200	10	10x16	330
200	10	10x20	360
200	22	10x20	510
200	33	10x20	660
200	33	13x20	760
200	47	13x20	990
200	68	13x20	1310
200	82	16x20	1390
200	100	16x20	1430
200	100	18x20	1530
200	150	16x25	1900
200	150	18x25	2030
200	220	18x25	2370
200	220	18x31.5	2620
200	330	18x35.5	3230
250	10	10x20	360
250	22	10x20	510
250	22	13x20	590
250	33	13x20	810
250	33	13x25	890
250	47	13x20	990
250	47	16x20	1130
250	68	16x20	1310
250	68	18x20	1400
250	82	16x20	1390
250	100	16x25	1540
250	100	18x25	1640
250	150	18x25	1950
250	150	18x31.5	2150
250	220	18x31.5	3140
350	6.8	10x16	290
350	6.8	10x20	310
350	10	10x20	360
350	10	13x20	410
350	22	13x20	660
350	22	13x25	720
350	33	16x20	910
350	47	16x20	1090

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA _{rms} /105°C /100KHz)
350	47	18x20	1160
350	68	16x25	1410
350	68	18x20	1380
350	68	18x25	1480
350	82	18x25	1540
350	100	18x25	1580
350	120	18x31.5	1870
350	150	18x35.5	2170
400	6.8	10x12.5	260
400	6.8	10x16	290
400	6.8	10x20	310
400	10	10x16	330
400	10	10x20	360
400	10	13x20	410
400	15	13x20	560
400	22	13x20	770
400	22	16x20	880
400	22	16x25	950
400	33	16x20	910
400	33	18x20	970
400	47	16x25	1190
400	47	18x20	1190
400	47	18x25	1270
400	68	18x25	1480
400	68	18x31.5	1630
400	82	18x25	1530
400	100	18x31.5	1730
400	120	18x35.5	1950
400	150	18x40	2220
450	6.8	10x20	290
450	6.8	13x20	330
450	10	13x20	460
450	10	13x25	500
450	15	13x20	550
450	15	13x25	610
450	22	13x25	710
450	22	16x20	760
450	22	16x25	790
450	33	16x25	990
450	33	18x20	990
450	33	18x25	1060
450	47	18x25	1210
450	47	18x31.5	1330
450	68	18x31.5	1580
450	82	18x35.5	1790
450	100	18x40	1810