

CH Series Low Impedance

CH系列

Features

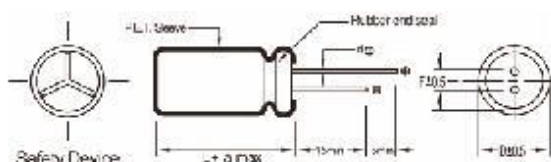
- Suitable for LED lighting driver and the electronic ballast
- Load life 3000 hrs at 130℃ or 105℃ 10000~15000hour, high-temperature resistance, high ripple current and long life
- RoHS Compliant



Specifications

Item	Performance Characteristics														
Operating Temp. Range	-40~+130℃							-25~+130℃							
Rated Voltage Range	10 to 100 VDC							160 to 450 VDC							
Capacitance Range	10 to 4700 μF							1 to 100 μF							
Capacitance Tolerance	±20% (120Hz, 20℃)														
Leakage Current	I _L ≦ 0.01CV or 3 (μA) After 2 minutes whichever is greater measured with rated working voltage applied							I _L ≦ 0.02CV+10 (μA) After 2 minutes with rated working voltage applied							
Dissipation Factor(Tan δ) (max, 120Hz, 20℃)	W.V(VDC)	10	16	25	35	50	63	80	100	120	160	200	250	400	450
	D.F(%)	19	16	14	12	10	9	8	8	8	12	12	12	15	17
	For capacitance > 1000 μF, add 2% per another 1000 μF														
Low Temp. Characteristics (Max Impedance Ratio) (120Hz)	W.V(VDC)	10	16	25	35	50	63	80~100	120	160	200	250	350	400	450
	Z(-40℃)/Z(+20℃)	2	2			2		5	3	3			6	6	7
	For capacitance > 1000 μF, add 0.5 per another 1000 μF for Z _(-25℃) /Z _(+25℃) add 0.5 per another 1000 μF for Z _(-40℃) /Z _(+25℃)														
Load Life	Test conditions Duration time:after application of the rated voltage at +105℃ 10000~15000 hours the capacitors meet the requiremēt below Ambient temperature: +105℃ or +130℃ Applied voltage: Rated DC working voltage After test requirements at +20℃ 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℃ Applied voltage: None After test requirements at +20℃ : Same limits as Load life, Pre-treatment for measurements shall be conducted after application of DC working voltage for 30minutes														
Industrial	JIS C-5101-4(IEC30384-4)														

Diagram of dimensions(cunit:mm)



ΦD	5	6.3	8	10	13	16	18	22
Φd	0.5			0.6		0.8		
F	2.0	2.5	3.5	5.0		7.5		10
L	L ± 1.0max			L ± 1.5max		L ± 2.0max		

Multiplier for ripple current vs frequency

Cap.(µF)	Fre(Hz)	50(60)	120	400	1K	10K	100K
≤ 10		0.47	0.59	0.76	0.85	0.97	1.0
12~100		0.52	0.62	0.80	0.89	0.97	1.0
120~1000		0.58	0.72	0.84	0.90	0.98	1.0
> 1000		0.63	0.78	0.87	0.91	0.98	1.0

Multiplier for ripple current vs temperature

Temp(℃)	50	70	85	105	130
Multiplier	2.4	2.1	1.8	1.4	1.0

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Case Size

WV(SV) Cap(μF)	10(13)			16(20)			25(32)			35(44)		
	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance
10	5*11	160	1.000	5*11	160	1.000	5*11	220	2.400	5*11	150	2.600
22	5*11	210	0.800	5*11	210	0.800	5*11	220	2.200	5*11	150	2.200
47	5*11	300	0.760	5*11	300	0.760	5*11	220	0.800	6.3*12	345	1.360
100	6.3*12	345	0.740	6.3*12	345	0.740	6.3*12	490	0.400	8*12	540	0.500
150	6.3*12	480	0.720	6.3*12	480	0.720	8*12	540	0.360	10*13	940	0.382
220	6.3*12	500	0.680	8*12	540	0.640	8*12	880	0.300	10*13	980	0.200
330	8*12	750	0.580	8*12	750	0.580	10*13	950	0.200	10*16	1340	0.180
470	8*12	800	0.500	10*13	975	0.230	10*16	1330	0.240	10*20	1800	0.152
1000	10*16	1200	0.150	10*20	1800	0.136	13*20	1960	0.130	13*25	2480	0.090
2200	13*20	2480	0.105	13*25	2620	0.084	16*21	2900	0.082	16*26	3580	0.056
3300	13*20	2800	0.092	13*25	2900	0.070	16*26	3630	0.062	18*35	4080	0.040
4700	16*26	3290	0.086	16*31	3630	0.062						

Ripple Current(mA,rms) at 105°C, 100KHz Max Impedance(Ω) at 20°C, 100KHz

Case Size

WV(SV) Cap(μF)	50(63)			63(72)			80(92)			100(125)		
	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance
1.0	5*11	150	5.500	5*11	150	5.000	5*11	140	6.000	5*11	140	6.000
1.5	5*11	150	5.500	5*11	150	5.000	5*11	140	6.000	5*11	140	6.000
1.8	5*11	150	5.500	5*11	150	5.000	5*11	140	6.000	5*11	140	6.000
2.2	5*11	150	5.500	5*11	150	3.000	5*11	140	6.000	5*11	140	6.000
2.7	5*11	150	5.500	5*11	150	3.000	5*11	140	6.000	5*11	140	6.000
3.3	5*11	150	5.500	5*11	150	1.500	5*11	140	2.000	5*11	140	2.000
3.9	5*11	150	5.500	5*11	150	1.500	5*11	140	2.000	5*11	140	2.000
4.7	5*11	150	2.500	5*11	150	1.500	5*11	140	2.000	5*11	140	2.000
5.6	5*11	150	2.500	5*11	150	1.500	6.3*12	140	2.000	6.3*12	140	1.500
6.8	5*11	150	2.500	6.3*12	150	1.500	6.3*12	140	2.000	6.3*12	140	1.500
8.2	6.3*12	180	2.000	6.3*12	150	1.500	8*12	140	1.500	8*12	170	1.500
10	6.3*12	150	2.000	6.3*12	150	1.500	8*12	140	1.500	8*12	240	1.000
15	6.3*12	150	2.000	6.3*12	150	1.500	8*12	230	1.000	8*12	260	1.000
22	6.3*12	200	1.500	6.3*12	220	1.000	8*12	260	0.650	10*13	360	0.800
33	6.3*12	320	0.780	8*12	340	0.700	8*12	270	0.650	10*13	450	0.600
47	8*12	385	0.650	8*12	380	0.620	10*13	450	0.400	10*17	620	0.450
56	8*12	385	0.580	8*12	530	0.580	10*13	450	0.400	10*17	620	0.300
68	8*12	650	0.450	8*12	724	0.450	10*17	565	0.300	10*17	780	0.250
82	10*13	700	0.450	10*17	724	0.400	10*20	480	0.350	10*20	780	0.250

Ripple Current(mA,rms) at 105°C, 100KHz Max Impedance(Ω) at 20°C, 100KHz

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Case Size

WV(SV) Cap(µF)	50(63)			63(72)			80(92)			100(125)		
	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance
100	10*13	720	0.160	10*13	970	0.240	10*17	680	0.600	13*16	1040	0.280
220	10*17	1330	0.100	10*20	1300	0.300	13*20	1040	0.260	13*25	1620	0.200
330	13*20	1580	0.062	13*20	1500	0.180	13*25	1430	0.140	16*26	1780	0.152
470	13*20	1800	0.050	13*25	2100	0.120	16*26	1780	0.120	16*31	2380	0.130
1000	16*26	2400	0.040	16*31	2990	0.060	18*32	2470	0.060	18*45	3420	0.064
1500	16*31	2680	0.038	18*32	3200	0.058						
2200	18*35	3300	0.029									

Ripple Current(mA,rms) at 105°C, 100KHz Max Impedance(Ω) at 20°C, 100KHz

Case Size

WV(SV) Cap(µF)	120(160)			160(200)			200(250)			250(300)		
	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance
1.0	5*11	48	28.000	5*11	68	23.000	6.3*12	59	15.000	6.3*12	80	12.000
1.5	5*11	48	28.000	5*11	68	23.000	6.3*12	59	15.000	6.3*12	80	12.000
1.8	5*11	68	28.000	5*11	68	23.000	6.3*12	59	15.000	6.3*12	80	12.000
2.2	5*11	68	28.000	5*11	68	23.000	6.3*12	80	10.000	6.3*12	90	10.000
2.7	5*11	68	28.000	6.3*12	90	13.000	6.3*12	80	10.000	6.3*12	90	10.000
3.3	6.3*12	105	28.000	6.3*12	90	13.000	6.3*12	95	9.800	6.3*12	130	9.800
3.9	6.3*12	110	23.000	6.3*12	95	13.000	6.3*12	105	9.800	6.3*12	135	9.800
4.7	6.3*12	110	23.000	6.3*12	100	13.000	6.3*12	130	7.500	8*12	135	7.500
5.6	6.3*12	110	23.000	6.3*12	110	12.200	8*12	150	7.500	8*12	150	7.500
6.8	6.3*12	115	23.000	8*12	140	12.200	8*12	150	7.500	10*13	160	7.500
8.2	8*12	130	15.000	8*12	140	11.000	8*12	160	7.500	10*13	180	7.500
10	8*12	140	15.000	8*12	140	10.800	8*16	180	7.300	10*16	350	3.500
15	10*13	180	9.500	8*16	230	7.300	10*17	300	3.500	10*16	350	3.200
22	10*13	230	10.000	10*13	260	6.800	10*16	320	3.200	10*20	450	3.200
33	10*16	398	9.000	10*17	650	2.500	10*20	750	1.800	13*20	680	2.200
47	10*20	640	1.400	10*20	700	2.400	13*20	960	1.300	13*25	980	2.200
56	13*16	640	1.000	13*16	900	2.400	13*20	1050	1.300	16*26	1100	2.000
68	13*16	720	0.800	13*20	1200	2.200	16*20	1380	1.000	16*26	1300	1.300
82	13*20	780	0.650	13*25	1300	2.000	16*20	1380	1.000	16*31	1420	1.300
100	13*20	980	0.500	13*25	1360	1.780	16*26	1420	0.900	16*31	1650	1.200
220	16*26	1155	0.400	18*26	2300	1.100	18*35	2300	0.880	20*36	2450	0.930
330	18*26	1400	0.260	18*35	3300	0.880	20*36	2380	0.880	22*36	2800	0.880
470	18*32	1400	0.240	20*36	3600	0.800	22*36	2420	0.860			
1000	18*35	1680	0.092									

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● Case Size



WV(sV) Cap(μF)	350(400)			400(450)			450(500)		
	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance
1.0	6.3*12	75	20.000	8*12	80	25.000	8*12	70	33.000
1.5	6.3*12	80	20.000	8*12	80	25.000	8*12	80	25.000
1.8	6.3*12	80	20.000	8*12	80	25.000	8*12	80	20.000
2.2	8*12	100	11.000	8*12	95	20.000	8*16	95	15.000
2.7	8*12	125	10.000	8*16	140	15.500	8*16	128	15.000
3.3	8*12	130	10.000	8*16	185	15.000	8*16	138	15.000
3.9	8*12	140	10.000	8*16	205	15.000	10*17	160	15.000
4.7	8*12	140	10.000	8*16	220	10.000	10*17	180	10.000
5.6	8*16	160	10.000	10*17	250	10.000	10*17	200	7.500
6.8	8*16	200	10.000	10*17	260	10.000	10*20	270	7.500
8.2	10*17	240	7.500	10*20	330	7.500	10*20	250	6.000
10	10*17	240	7.500	10*20	340	7.500	13*20	350	6.000
15	10*20	320	6.000	13*20	520	6.000	13*20	430	4.500
22	13*20	350	6.000	13*25	980	4.000	16*26	500	3.200
33	13*20	480	5.400	16*26	1080	4.000	16*31	730	2.800
47	16*26	560	4.500	18*26	1450	2.000	18*31	1320	1.200
56	16*26	620	4.000	16*32	1460	1.800	18*31	1320	1.200
68	18*26	880	3.000	18*32	1480	1.300	18*35	1390	1.000
82	18*32	950	2.800	18*35	1980	1.200	18*40	1520	0.960
100	18*35	1250	2.000	18*35	2020	1.100	20*40	1880	0.920
150	20*36	1895	1.200	22*36	2950	0.95			
180	22*36	2235	1.100						
220	22*36	2530	0.098						

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● For special designing requirement, please contact us.