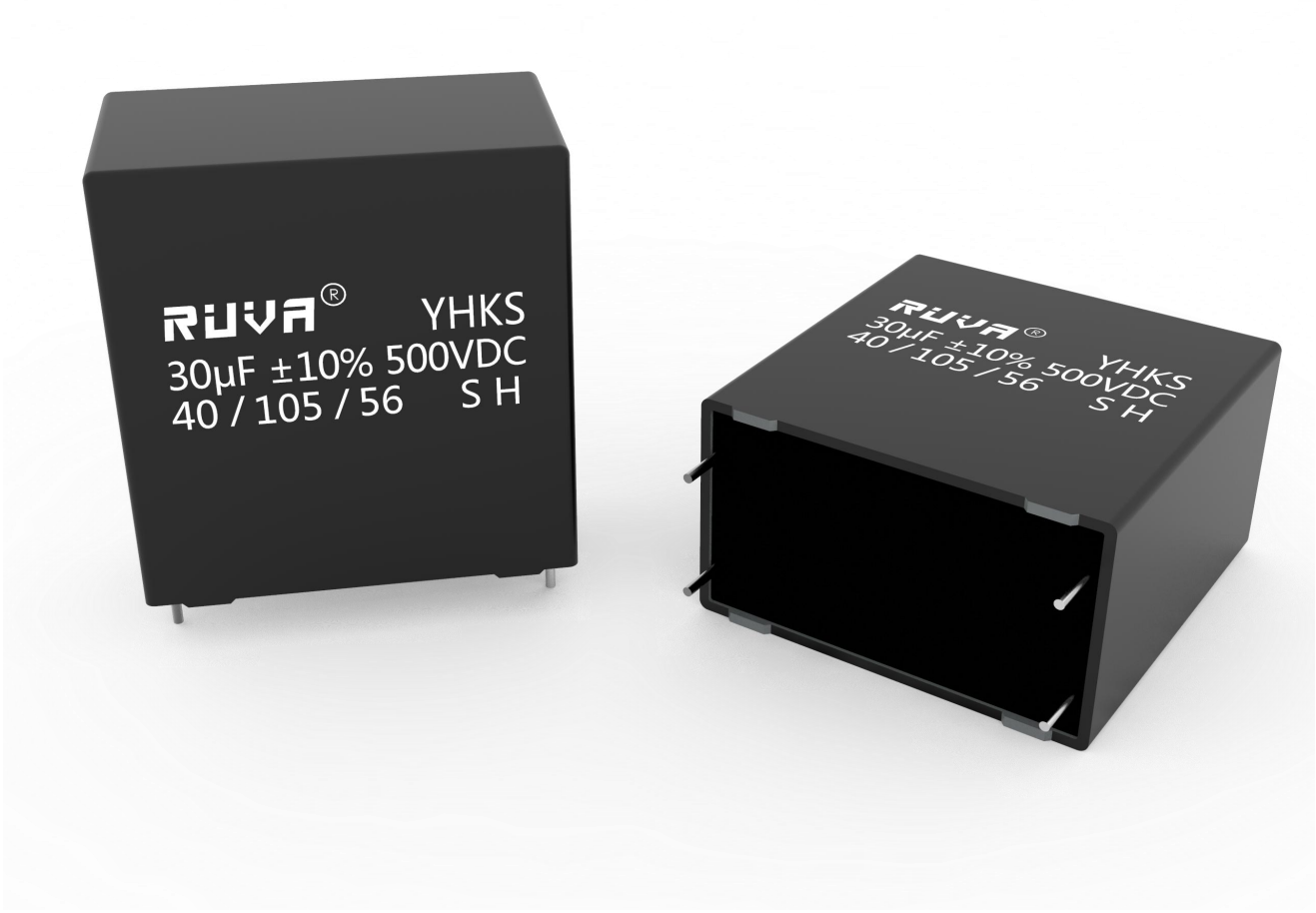
Metallized Polypropylene Film Capacitors (MKP)

Series/Type: YHKS series



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www.ngyh.com Version: Mar.2020

◆ Applications

1. Frequency converters
2. Industrial and high-end power supplies
3. Solar Inverters

◆ Construction

1. Dielectric: Polypropylene (MKP)
2. PPS Plastic case (UL 94 V-0)
3. Epoxy resin sealing (UL 94 V-0)

◆ Features

1. High CV product, compact
2. Good self-healing properties
3. Over-voltage capability
4. Low losses with high current capability
5. High reliability
6. Long useful life
7. RoHS-compatible

◆ Climatic

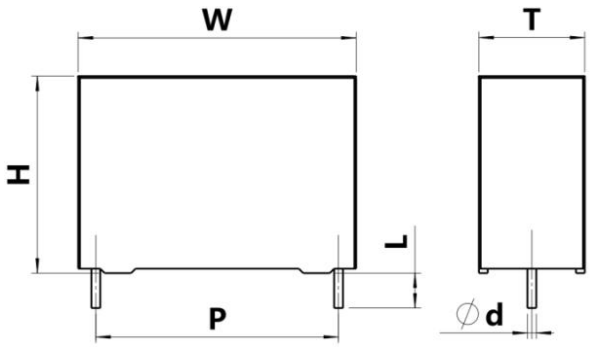
1. Max. operating temperature: 105 °C (case)
2. Climatic category (IEC 60068-1): 40/105/56

◆ Terminals

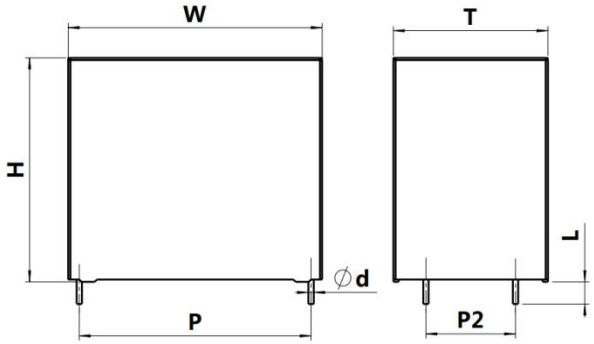
1. Parallel wire leads, lead-free tinned
2. 2-pins, 4-pins, versions
3. Standard lead lengths: 5±1 mm

YHKC series Datasheet.

◆ Outline Drawing



2-Pins



4-Pins

◆ Marking

For example:

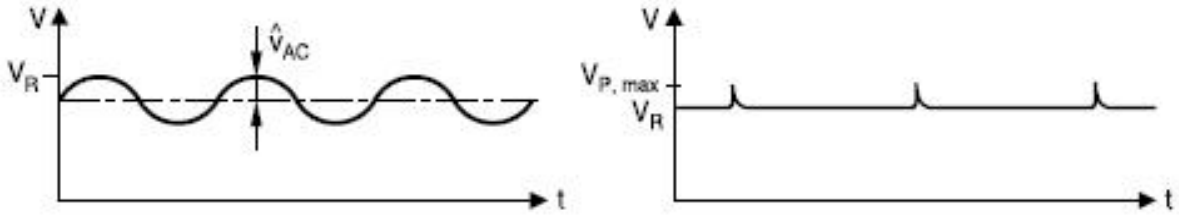
RUVA® YHKC
30μF±5% 500VDC
40/105/56 S H
L1202001

Symbol	Description	Symbol	Description
RUVA®	Brand	YHKC	Specification
30μF±5%	Rated capacitance and tolerance	500VDC	Rated voltage
SH	Self healing marker	L1202001	Production date

◆ Technical data

Reference standard	GB/T 17702-2013(IEC 61071:2007) ; GB/T 2693-2001(IEC 60384-1:2008) ; IEC 60068
Climatic category	40/105/56
Operating temperature range (case)	Max. operating temperature, Top +105℃ Lower category temperature T_{min} -40℃
For temperatures between 85 °C and 105 °C	1.33%/°C of Vop derating compared to Vop @85 °C
Rated voltage (V_R) 85℃	500VDC/600VDC/800VDC/900VDC/1000VDC 1100VDC/1200VDC
Capacitance tolerance	J (±5%) ; K (±10%)
DC test voltage between terminals (10s)	1.5 x V_R
Voltage test terminal to case (10s)	2100 V AC, 50 Hz
Insulation Resistance	> 10 000 s (20℃, 100vdc, 1min)
Maximum peak current	I_P=C*dV/dT
Operation life time	60 000 h at V_R and 85℃

◆ **Typical Waveform**



◆ **Restrictions**

V_R: Maximum operating peak voltage of either polarity but of a non-reversing waveform, for which the capacitor has been designed for continuous operation.

$V_{AC} \leq 0.2 * V_R$

Overvoltage	Maximum duration within one day	Observation
1.1 * V_R	30% of on-load duration	System regulation
1.15 * V_R	30 min.	System regulation
1.2 * V_R	5 min.	System regulation
1.3 * V_R	1 min.	System regulation

NOTE 1

An over voltage equal to 1.5 * V_R for 30 ms is permitted 1000 times during the life of the capacitor.The amplitudes of the over voltage that may be tolerated without significant reduction in the life time of the capacitor depend on their duration, the number of application and the capacitor temperature.In addition, these values assume that the over voltage may appear when the internal temperature of the capacitor is less than 0 ℃but within the temperature category.

NOTE 2

The average applied voltage must not be higher than the specified voltage

◆ **Part Number Code System**

YHK	S	505	P	1200	Z	27	K	050
①	②	③	④	⑤	⑥	⑦	⑧	⑨

1. **Series code**

YHK DC-link series

2. **Internal use**

3. **Rated capacitance value**

For example 505=50*10^5pF=5.0uF

4. **Internal use**

5. **Rated voltage**

For example 1200=1200Vdc, 0600=600Vdc

6. **Lead diameter**

Z=Φ0.8mm ; H=Φ1.0mm ; E=Φ1.2mm

7. **Lead pitch**

2 pins 27=27.5mm 37=37.5mm 52=52.5mm

4 pins 2A=27.5mm (P2=10.2mm) 2B=27.5mm (P2=12.7mm)

4 pins 3A=37.5mm (P2=10.2mm) 3B=37.5mm (P2=12.7mm)

4 pins 3C=37.5mm (P2=20.3mm) 5C=52.5mm (P2=20.3mm)

8. **Capacitance tolerance**

J=±5% K=±10%

9. **Lead length**

050= 5mm 100=10mm Rxx=Special customization

◆ Parameters and specifications

V_R=500Vdc at 85℃												
C (uF)	W ±1	H ±1	T ±1	P ±0.5	P2 ±0.5	d ±0.05	dV/dt (V/us)	Tgδ*10^{-4}		ESR@10 kHz (mΩ)	Irms(A)	Part number
								1kHz	10kHz			
5	32.0	21.0	11.0	27.5	-	0.8	30	12	120	25	3.0	YHKS505P0500Z27+-000
10	32.0	24.5	15.0	27.5	-	0.8	30	12	120	7.5	6.5	YHKS106P0500Z27+-000
22	32.0	36.5	22.0	27.5	-	1.0	30	12	120	5.0	10.0	YHKS226P0500Z27+-000
30	42.0	40.0	20.0	37.5	10.2	1.0	21	22	220	8.0	12.5	YHKS306P0500H3A+-000
35	42.0	36.0	24.0	37.5	10.2	1.0	21	22	230	8.0	13.5	YHKS356P0500H3A+-000
45	42.0	38.0	28.0	37.5	10.2	1.0	21	25	250	6.0	14.5	YHKS456P0500H3A+-000
55	42.0	45.0	30.0	37.5	20.3	1.2	21	25	250	5.0	16.0	YHKS556P0500E3C+-000
60	42.0	50.0	33.0	37.5	20.3	1.2	21	25	250	4.5	16.5	YHKS556P0500E3C+-000
80	57.5	45.0	30.0	52.5	20.3	1.2	15	35	350	4.0	17.0	YHKS806P0500E5C+-000
110	57.5	50.0	35.0	52.5	20.3	1.2	15	35	350	3.5	18.0	YHKS117P0500E5C+-000

1 "+ -" Means the capacity tolerance can conform to "J""K

2 “000” Means Internal use the lead length

3 Capacitance value measured at 1 kHz

4 Max ripple current I_{RMS} at 85℃, at 10 kHz for a ΔT ≤15 ℃ at ΔESR_{typ} ≤±5%

5 Typical ESL value measured at resonance frequency

V_R=600Vdc at 85℃												
C (uF)	W ±1	H ±1	T ±1	P ±0.5	P2 ±0.5	d ±0.05	dV/dt V/us）	Tgδ*10^{-4}		ESR@10 kHz (mΩ）	Irms（A）	Part number
								1kHz	10kHz			
2	32.0	18.0	9.0	27.5	-	0.8	30	11	100	45.0	3.0	YHKS205P0600Z27+-000
4	32.0	21.0	11.0	27.5	-	0.8	30	11	100	24.0	5.5	YHKS405P0600Z27+-000
6	32.0	24.5	15.0	27.5	-	0.8	30	11	100	18.5	7.5	YHKS605P0600Z27+-000
10	32.0	30.0	16.0	37.5	-	1.0	30	11	100	15.5	11.0	YHKS106P0600Z27+-000
18	32.0	37.0	22.0	37.5	-	1.0	30	11	100	8.5	15.0	YHKS186P0600Z27+-000
12	41.0	30.0	16.0	37.5	-	1.0	22	20	180	16.5	7.0	YHKS126P0600H37+-000
15	41.0	32.0	17.0	37.5	-	1.0	22	20	180	13.0	9.0	YHKS156P0600H37+-000
20	42.0	40.0	20.0	37.5	10.2	1.0	22	20	180	10.0	12.5	YHKS206P0600E3A+-000
25	42.0	40.0	20.0	37.5	10.2	1.0	22	20	180	8.0	15.5	YHKS256P0600E3A+-000
30	42.0	44.0	24.0	37.5	10.2	1.0	22	20	180	6.5	17.5	YHKS306P0600E3A+-000
35	42.0	45.0	30.0	37.5	20.3	1.2	22	25	200	6.0	20.0	YHKS356P0600E3C+-000
40	42.0	45.0	30.0	37.5	20.3	1.2	22	25	200	5.5	22.0	YHKS406P0600E3C+-000
50	42.0	46.0	35.0	37.5	20.3	1.2	22	25	200	4.5	25.0	YHKS506P0600E3C+-000
55	42.0	50.0	35.0	37.5	20.3	1.2	22	25	200	3.5	27.0	YHKS606P0600E3C+-000
60	57.5	45.0	30.0	52.5	20.3	1.2	22	30	360	4.0	22.0	YHKS606P0600E5C+-000
80	57.5	50.0	35.0	52.5	20.3	1.2	15	30	360	3.5	27.0	YHKS806P0600E5C+-000
110	57.5	55.0	45.0	52.5	20.3	1.2	15	30	360	3.0	29.0	YHKS117P0600E5C+-000

1 "+ -" Means the capacity tolerance can conform to "J""K

2 “000” Means Internal use the lead length

3 Capacitance value measured at 1 kHz

4 Max ripple current I_{RMS} at 85℃, at 10 kHz for a ΔT ≤15 ℃ at ΔESR_{typ} ≤±5%

5 Typical ESL value measured at resonance frequency

V_R=800Vdc at 85℃												
C (uF)	W ±1	H ±1	T ±1	P ±0.5	P2 ±0.5	d ±0.05	dV/dt (V/us)	Tgδ*10^{-4}		ESR@10 kHz (mΩ)	Irms (A)	Part number
								1kHz	10kHz			
2	32.0	18.0	9.0	27.5	-	0.8	40	10	95	45.0	2.5	YHKS205P0800Z27+-000
3	32.0	21.0	11.0	27.5	-	0.8	40	10	95	30.0	3.0	YHKS305P0800Z27+-000
5	32.0	24.5	15.0	27.5	-	0.8	40	10	95	18.0	6.5	YHKS505P0800Z27+-000
7	32.0	30.0	16.0	27.5	-	0.8	40	10	95	13.0	10.5	YHKS705P0800Z27+-000
12	32.0	37.0	22.0	27.5	-	1.0	40	10	95	7.5	12.0	YHKS126P0800Z27+-000
14	32.0	37.0	22.0	27.5	10.2	1.0	40	10	95	7.0	13.0	YHKS146P0800Z27K000
8	41.0	30.0	16.0	37.5	-	1.0	22	18	180	22.0	5.0	YHKS805P0800H37+-000
10	41.0	32.0	17.0	37.5	-	1.0	22	18	180	18.0	8.5	YHKS106P0800H37+-000
12	42.0	32.5	19.0	37.5	-	1.0	22	18	180	15.0	9.0	YHKS126P0800H37+-000
18	42.0	40.0	20.0	37.5	10.2	1.2	22	18	180	12.0	10.0	YHKS186P0800E3A+-000
20	42.0	40.0	20.0	37.5	10.2	1.2	22	18	180	12.0	12.0	YHKS206P0800E3A+-000
25	42.0	44.0	24.0	37.5	10.2	1.2	22	18	180	7.0	15.5	YHKS206P0800E3A+-000
30	42.0	45.0	30.0	37.5	20.3	1.2	22	18	180	6.5	18.5	YHKS306P0800E3C+-000
35	42.0	45.0	30.0	37.5	20.3	1.2	22	18	180	6.0	20.5	YHKS356P0800E3C+-000
40	42.0	46.0	35.0	37.5	20.3	1.2	22	18	180	5.5	22.0	YHKS406P0800E3C+-000
45	42.0	50.0	35.0	37.5	20.3	1.2	22	18	180	4.8	23.0	YHKS456P0800E3C+-000
50	57.5	45.0	30.0	52.5	20.3	1.2	15	33	320	8.0	18.0	YHKS506P0800E5C+-000
55	57.5	45.0	30.0	52.5	20.3	1.2	15	33	320	7.5	20.0	YHKS556P0800E5C+-000
60	57.5	50.0	35.0	52.5	20.3	1.2	15	33	320	6.5	22.0	YHKS606P0800E5C+-000
80	57.5	57.0	38.0	52.5	20.3	1.2	15	33	320	5.0	25.0	YHKS806P0800E5C+-000
90	57.5	55.0	45.0	52.5	20.3	1.2	15	33	320	4.5	26.0	YHKS906P0800E5C+-000

1 "+ -" Means the capacity tolerance can conform to "J""K

2 “000” Means Internal use the lead length

3 Capacitance value measured at 1 kHz

4 Max ripple current I_{RMS} at 85℃, at 10 kHz for a ΔT ≤15 ℃ at ΔESR_{typ} ≤±5%

5 Typical ESL value measured at resonance frequency

V_R=900Vdc at 85℃												
C(uF)	W ±1	H ±1	T ±1	P ±0.5	P2 ±0.5	d ±0.05	dV/dt （V/us）	Tgδ*10^{-4}		ESR@10 kHz (mΩ）	Irms（A）	Part number
								1kHz	10kHz			
1.5	32.0	18.0	9.0	27.5	-	0.8	50	9	90	85	1.5	YHKS155P0900Z27+-000
2.0	90	21.0	11.0	27.5	-	0.8	50	9	90	45	3.0	YHKS205P0900Z27+-000
4.0	32.0	24.5	15.0	27.5	-	0.8	50	9	90	21.5	6.0	YHKS405P0900Z27+-000
6.0	32.0	30.0	16.0	27.5	-	0.8	50	9	90	18.0	6.5	YHKS605P0900Z27+-000
10.0	32.0	37.0	22.0	27.5	-	1.0	50	9	90	12.0	12.5	YHKS106P0900Z27+-000
8	41.0	30.0	16.0	37.5	-	1.0	30	17	150	21	5.5	YHKS805P0900H37+-000
12	42.0	32.5	19.0	37.5	-	1.0	30	17	150	14.0	6.5	YHKS126P0900H37+-000
15	42.0	40.0	20.0	37.5	10.2	1.2	30	17	150	11.0	10.5	YHKS156P0900E3A+-000
20	42.0	44.0	24.0	37.5	10.2	1.2	30	17	150	8.5	15.0	YHKS206P0900E3A+-000
25	42.0	45.0	30.0	37.5	20.3	1.2	30	17	150	6.5	17.0	YHKS256P0900E3C+-000
28	42.0	45.0	30.0	37.5	20.3	1.2	30	17	150	6.0	18.0	YHKS286P0900E3C+-000
30	42.0	46.0	35.0	37.5	20.3	1.2	30	17	150	5.5	19.0	YHKS306P0900E3C+-000
35	42.0	50.0	35.0	37.5	20.3	1.2	30	17	150	5.0	21.0	YHKS356P0900E3C+-000
30	57.5	45.0	30.0	52.5	20.3	1.2	15	33	320	11.0	15.0	YHKS306P0900E5C+-000
35	57.5	45.0	30.0	52.5	20.3	1.2	15	33	320	9.5	12.5	YHKS356P0900E5C+-000
45	57.5	50.0	35.0	52.5	20.3	1.2	15	33	320	7.5	16.5	YHKS456P0900E5C+-000
60	57.5	57.0	38.0	52.5	20.3	1.2	15	33	320	5.6	22.0	YHKS606P0900E5C+-000
70	57.5	55.0	45.0	52.5	20.3	1.2	15	33	320	4.5	28.0	YHKS706P0900E5C+-000

1 "+ -" Means the capacity tolerance can conform to "J""K

2 “000” Means Internal use the lead length

3 Capacitance value measured at 1 kHz

4 Max ripple current I_{RMS} at 85℃, at 10 kHz for a ΔT ≤15 ℃ at ΔESR_{typ} ≤±5%

5 Typical ESL value measured at resonance frequency

V_R=1000Vdc at 85℃												
C (uF)	W ±1	H ±1	T ±1	P ±0.5	P2 ±0.5	d ±0.05	dV/dt (V/us)	Tgδ*10^{-4}		ESR@10 kHz (mΩ)	Irms(A)	Part number
								1kHz	10kHz			
1.0	32.0	18.0	9.0	27.5	-	0.8	60	8	80	85	1.5	YHKS105P1000Z27+-000
1.5	32.0	21.0	11.0	27.5	-	0.8	60	8	80	45	3.0	YHKS155P1000Z27+-000
3.0	32.0	24.5	15.0	27.5	-	0.8	60	8	80	21.5	4.0	YHKS305P1000Z27+-000
4.5	32.0	30.0	16.0	27.5	-	0.8	60	8	80	18.0	5.5	YHKS455P1000Z27+-000
7.0	32.0	37.0	22.0	27.5	-	1.0	50	8	80	12.0	12.5	YHKS705P1000Z27+-000
6.0	41.0	30.0	16.0	37.5	-	1.0	60	15	140	21	5.5	YHKS605P1000H37+-000
8.0	42.0	32.5	19.0	37.5	-	1.0	40	15	140	14.0	6.5	YHKS805P1000H37+-000
10	42.0	40.0	20.0	37.5	10.2	1.0	40	15	140	11.0	10.5	YHKS106P1000E3A+-000
12	42.0	40.0	20.0	37.5	10.2	1.2	40	15	140	11.5	11.0	YHKS126P1000E3A+-000
15	42.0	44.0	24.0	37.5	10.2	1.2	40	15	140	8.5	15.0	YHKS156P1000E3A+-000
18	42.0	45.0	30.0	37.5	20.3	1.2	40	15	140	6.5	17.0	YHKS186P1000E3C+-000
20	42.0	45.0	30.0	37.5	20.3	1.2	40	15	140	6.0	18.0	YHKS206P1000E3C+-000
25	42.0	46.0	35.0	37.5	20.3	1.2	40	15	140	5.5	19.0	YHKS256P1000E3C+-000
25	57.5	45.0	30.0	52.5	20.3	1.2	20	28	280	11.0	15.0	YHKS256P1000E5C+-000
30	57.5	45.0	30.0	52.5	20.3	1.2	20	28	280	9.5	12.5	YHKS306P1000E5C+-000
35	57.5	50.0	35.0	52.5	20.3	1.2	20	28	280	7.5	16.5	YHKS356P1000E5C+-000
40	57.5	57.0	38.0	52.5	20.3	1.2	20	28	280	5.6	21.0	YHKS406P1000E5C+-000
55	57.5	55.0	45.0	52.5	20.3	1.2	20	28	280	4.5	28.0	YHKS556P1000E5C+-000

1 "+ -" Means the capacity tolerance can conform to "J""K

2 “000” Means Internal use the lead length

3 Capacitance value measured at 1 kHz

4 Max ripple current I_{RMS} at 85℃, at 10 kHz for a ΔT ≤15 ℃ at ΔESR_{typ} ≤±5%

5 Typical ESL value measured at resonance frequency

V_R=1100Vdc at 85℃												
C (uF)	W ±1	H ±1	T ±1	P ±0.5	P2 ±0.5	d ±0.05	dV/dt (V/us)	Tgδ*10^{-4}		ESR@10 kHz (mΩ)	Irms (A)	Part number
								1kHz	10kHz			
1.2	32	21.0	11.0	27.5	-	0.8	70	8	70	60	2.5	YHKS125P1100Z27+-000
2.5	32.0	24.5	15.0	27.5	-	0.8	70	8	70	25	4.5	YHKS255P1100Z27+-000
3.5	32.0	30.0	16.0	27.5	-	0.8	70	8	70	18	8.0	YHKS355P1100Z27+-000
5	32.0	37.0	22.0	27.5	-	1.0	70	8	70	15	10.5	YHKS505P1100Z27+-000
6	32.0	37.0	22.0	27.5	-	1.0	70	8	70	14.5	12.5	YHKS605P1100Z27+-000
4.5	41.0	30.0	16.0	37.5	-	1.0	45	15	130	30.5	4.0	YHKS455P1100H37+-000
7	42.0	32.5	19.0	37.5	-	1.0	45	15	130	21.0	7.0	YHKS705P1100H37+-000
8	42.0	40.0	20.0	37.5	10.2	1.0	45	15	130	18.0	8.5	YHKS805P1100E3A+-000
10	42.0	40.0	20.0	37.5	10.2	1.0	45	15	130	14.5	11.0	YHKS106P1100E3A+-000
12	42.0	44.0	24.0	37.5	10.2	1.0	45	15	130	12.0	12.5	YHKS126P1100E3A+-000
15	42.0	45.0	30.0	37.5	20.3	1.2	45	15	130	10.0	14.0	YHKS156P1100E3C+-000
17	42.0	45.0	30.0	37.5	20.3	1.2	45	15	130	8.0	17.0	YHKS176P1100E3C+-000
20	42.0	46.0	35.0	37.5	20.3	1.2	45	15	130	7.0	18.0	YHKS206P1100E3C+-000
22	42.0	50.0	35.0	37.5	20.3	1.2	45	15	130	6.5	16.0	YHKS226P1100E3C+-000
20	57.5	45.0	30.0	52.5	20.3	1.2	25	27	260	15.0	15.5	YHKS206P1100E5C+-000
25	57.5	45.0	30.0	52.5	20.3	1.2	25	27	260	11.0	18.5	YHKS256P1100E5C+-000
30	57.5	50.0	35.0	52.5	20.3	1.2	25	27	260	9.5	19.5	YHKS306P1100E5C+-000
35	57.5	57.0	38.0	52.5	20.3	1.2	25	27	260	8.5	20.5	YHKS356P1100E5C+-000
45	57.5	55.0	45.0	52.5	20.3	1.2	25	27	260	7.0	22.0	YHKS456P1100E5C+-000

1 "+ -" Means the capacity tolerance can conform to "J""K

2 “000” Means Internal use the lead length

3 Capacitance value measured at 1 kHz

4 Max ripple current I_{RMS} at 85℃, at 10 kHz for a ΔT ≤15 ℃ at ΔESR_{typ} ≤±5%

5 Typical ESL value measured at resonance frequency

V_R=1200Vdc at 85℃												
C (uF)	W ±1	H ±1	T ±1	P ±0.5	P2 ±0.5	d ±0.05	dV/dt (V/us)	Tgδ*10^{-4}		ESR@10 kHz (mΩ)	Irms (A)	Part number
								1kHz	10kHz			
1.0	32	21.0	11.0	27.5	-	0.8	80	7	55	40.0	3.5	YHKS105P1200Z27+-000
2.0	32.0	24.5	15.0	27.5	-	0.8	80	7	55	26.5	4.0	YHKS205P1200Z27+-000
3.0	32.0	30.0	16.0	27.5	-	0.8	80	7	55	17.5	6.5	YHKS325P1200Z27+-000
5.0	32.0	37.0	22.0	27.5	-	1.0	80	7	55	11.0	9.5	YHKS505P1200Z27+-000
4.0	41.0	30.0	16.0	37.5	-	1.0	50	13	100	37.5	3.5	YHKS405P1200H37+-000
6.0	42.0	32.5	19.0	37.5	-	1.0	50	13	100	18.5	6.5	YHKS605P1200H37+-000
7.0	42.0	40.0	20.0	37.5	10.2	1.0	50	13	100	16.0	9.5	YHKS705P1200E3A+-000
8.0	42.0	40.0	20.0	37.5	10.2	1.0	50	13	100	14.0	10.5	YHKS805P1200E3A+-000
10.0	42.0	44.0	24.0	37.5	10.2	1.0	50	13	100	11.0	12.0	YHKS106P1200E3A+-000
12.0	42.0	45.0	30.0	37.5	20.3	1.2	50	13	100	9.5	13.0	YHKS126P1200E3C+-000
14.0	42.0	45.0	30.0	37.5	20.3	1.2	50	13	100	7.5	16.0	YHKS146P1200E3C+-000
16.0	42.0	46.0	35.0	37.5	20.3	1.2	50	13	100	6.5	18.0	YHKS166P1200E3C+-000
18.0	42.0	50.0	35.0	37.5	20.3	1.2	50	13	100	6.0	20.0	YHKS186P1200E3C+-000
18.0	57.5	45.0	30.0	52.5	20.3	1.2	30	25	240	10.5	15.0	YHKS186P1200E5C+-000
20.0	57.5	45.0	30.0	52.5	20.3	1.2	30	25	240	11.0	16.0	YHKS206P1200E5C+-000
25.0	57.5	50.0	35.0	52.5	20.3	1.2	30	25	240	9.5	18.5	YHKS256P1200E5C+-000
30.0	57.5	57.0	38.0	52.5	20.3	1.2	30	25	240	8.0	20.0	YHKS306P1200E5C+-000
38.0	57.5	55.0	45.0	52.5	20.3	1.2	30	25	240	5.5	22.0	YHKS386P1200E5C+-000

1 "+ -" Means the capacity tolerance can conform to "J""K

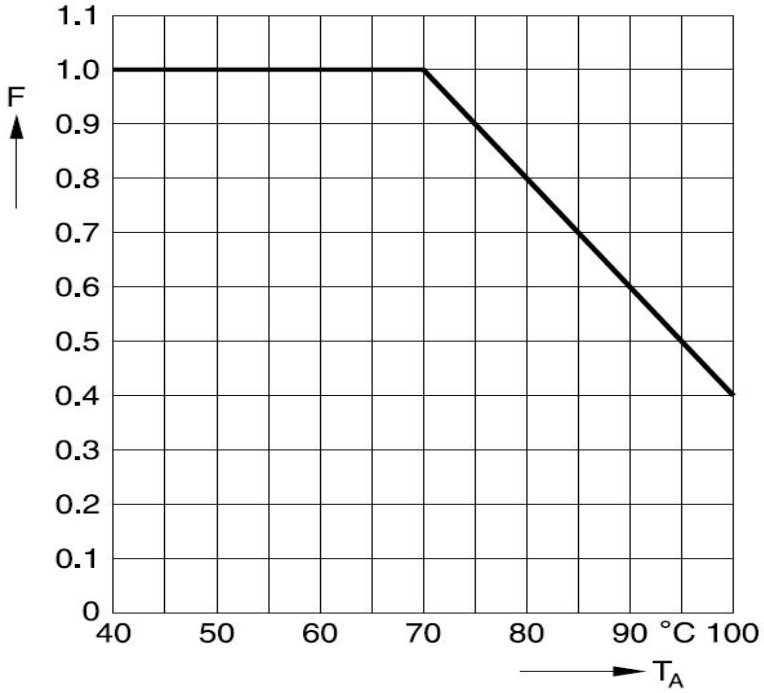
2 “000” Means Internal use the lead length

3 Capacitance value measured at 1 kHz

4 Max ripple current I_{RMS} at 85℃, at 10 kHz for a ΔT ≤15 ℃ at ΔESR_{typ} ≤±5%

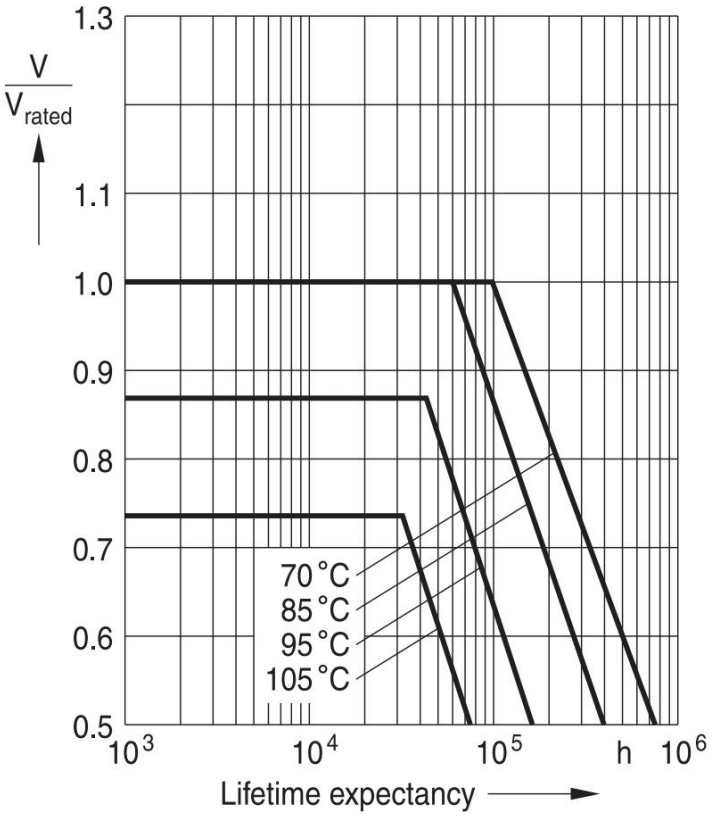
5 Typical ESL value measured at resonance frequency

◆ **Curves Characteristics (Irms derating vs temperature)**



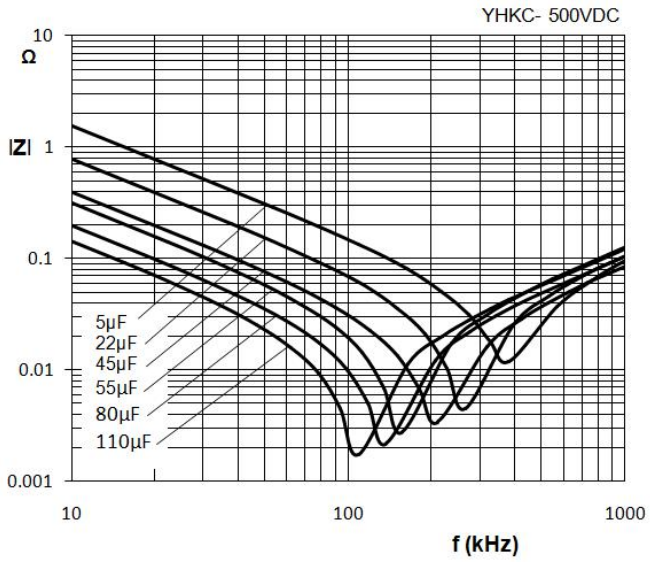
Maximum I_{RMS} current as function of the ambient temperature: I_{RMS} (T_A) = Factor x I_{RMS} (70℃)

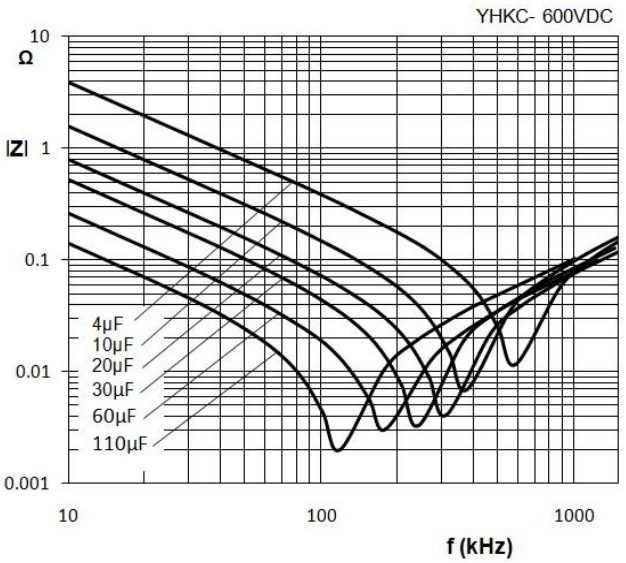
◆ **Life time expectancy - typical curve**

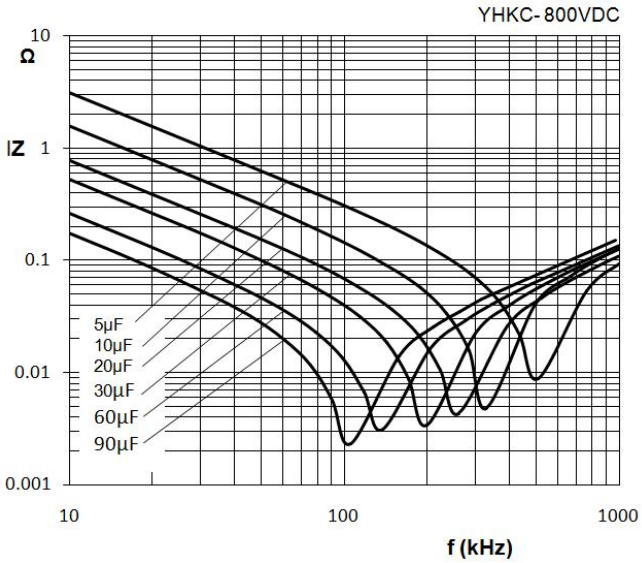


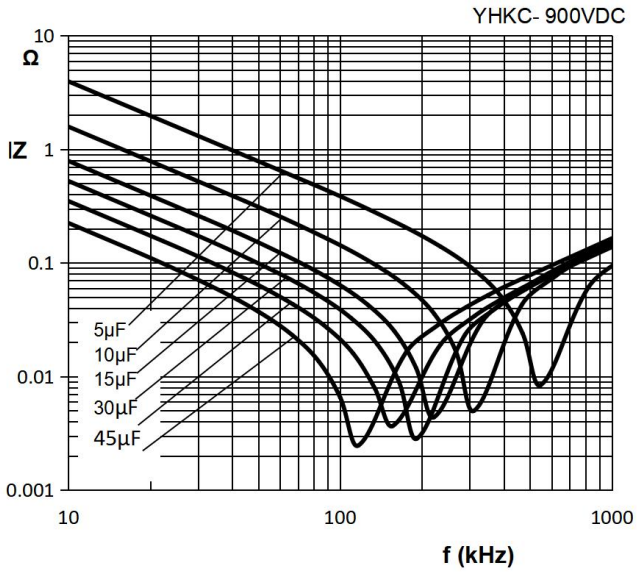
Note: Confidence level of 95%

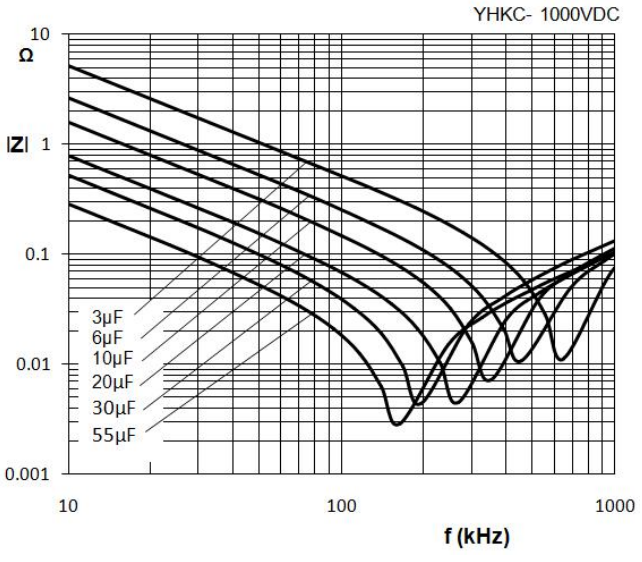
◆ Impedance Z vs frequency f - typical values

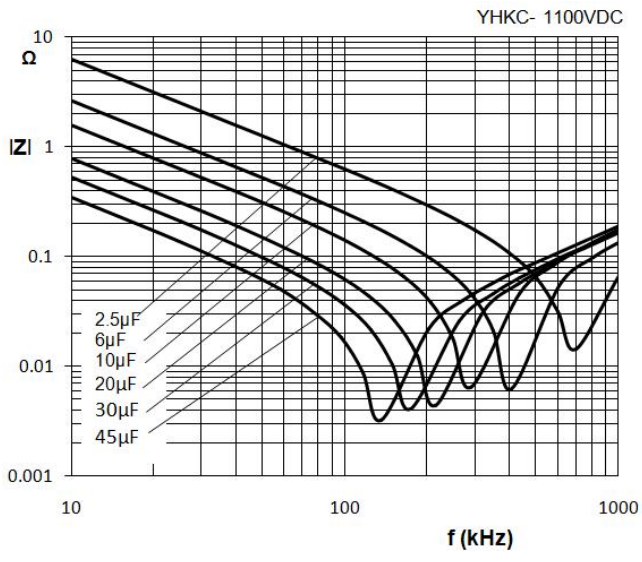


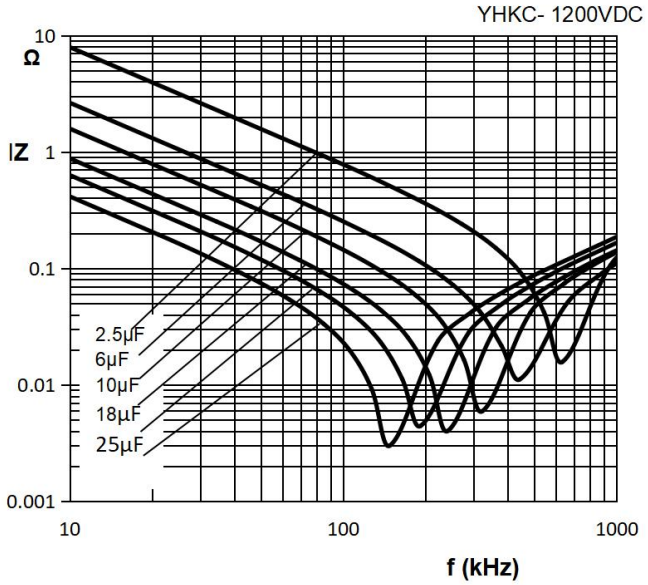




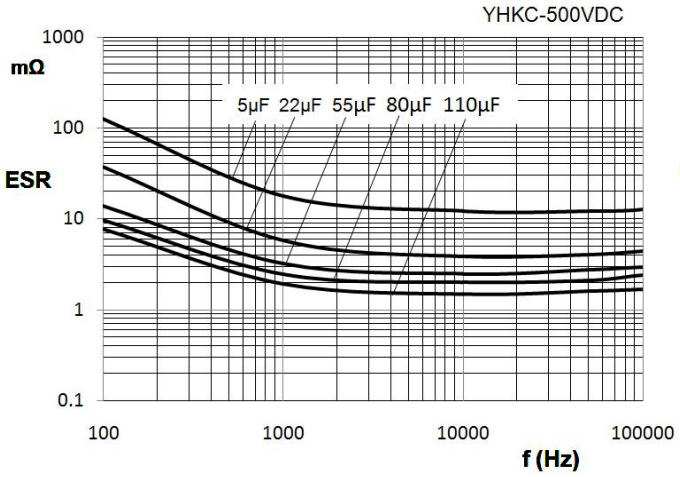


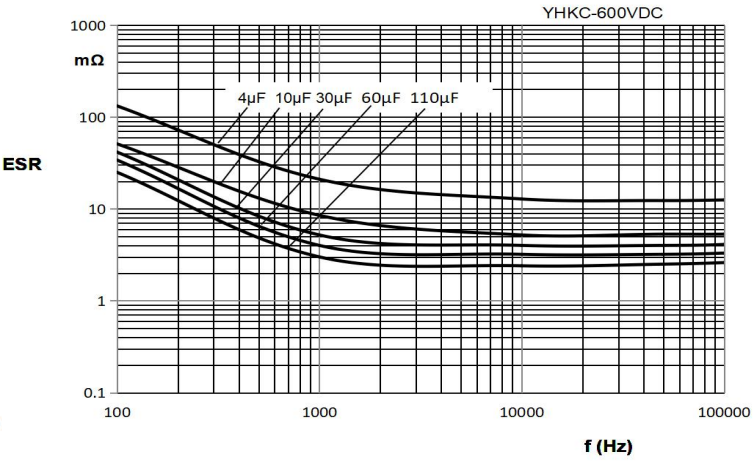


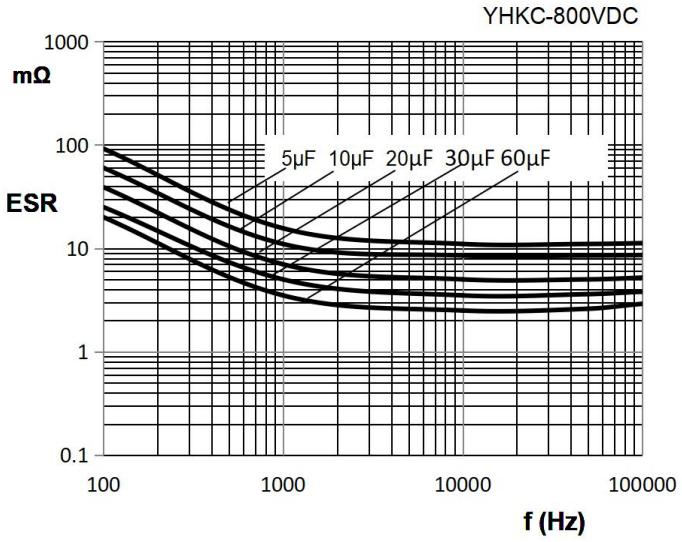


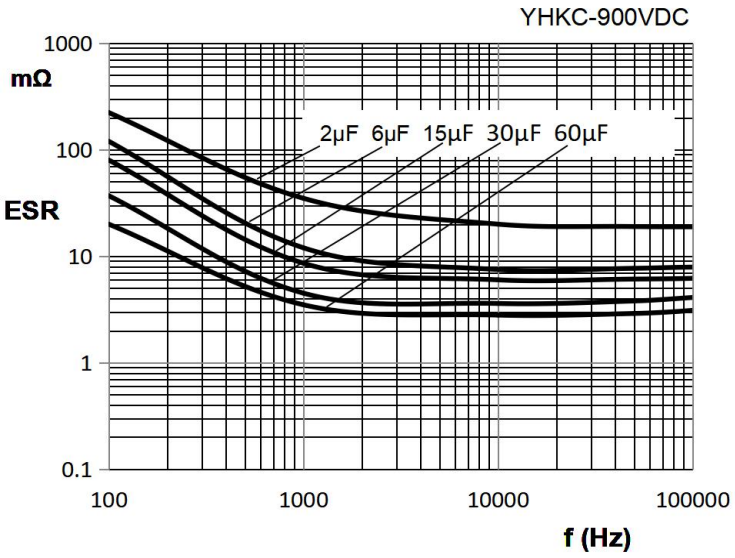


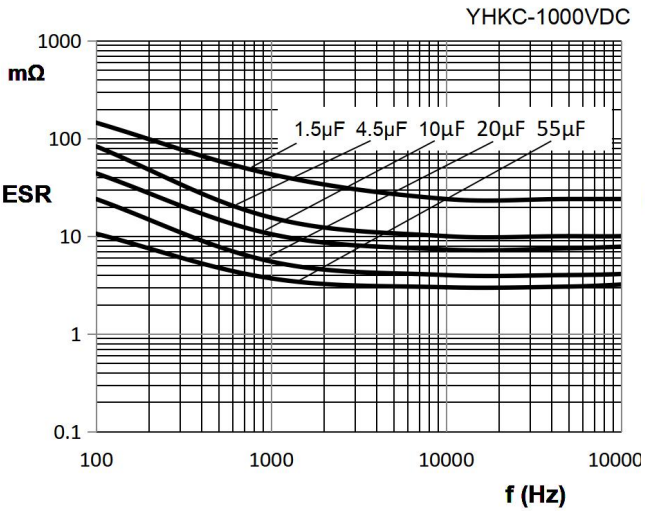
◆ **ESR vs frequency f - typical values**

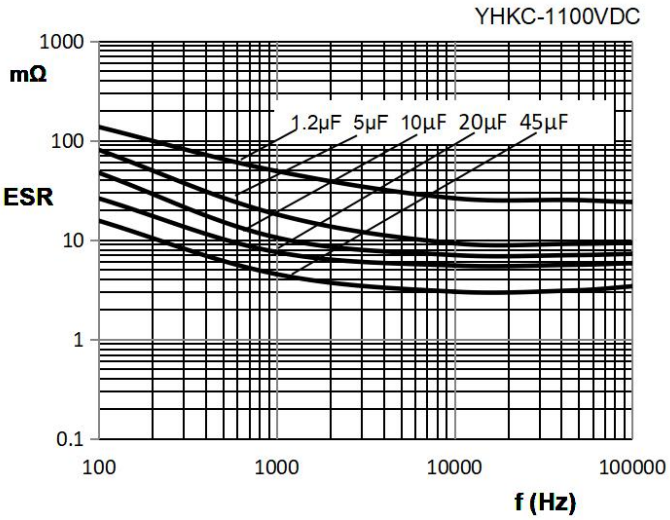


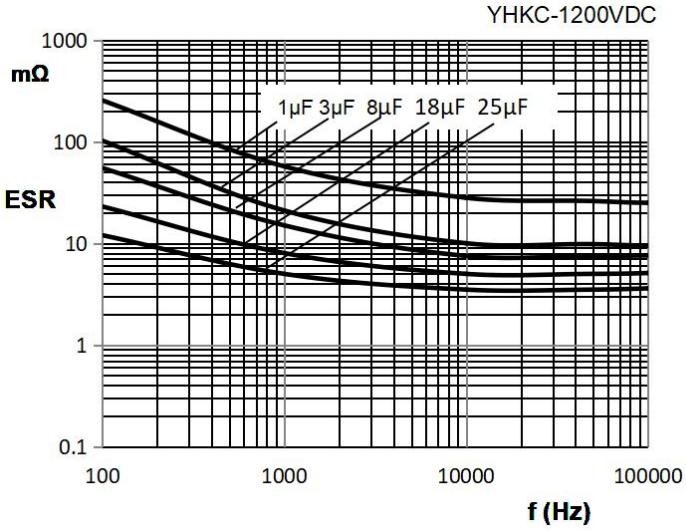




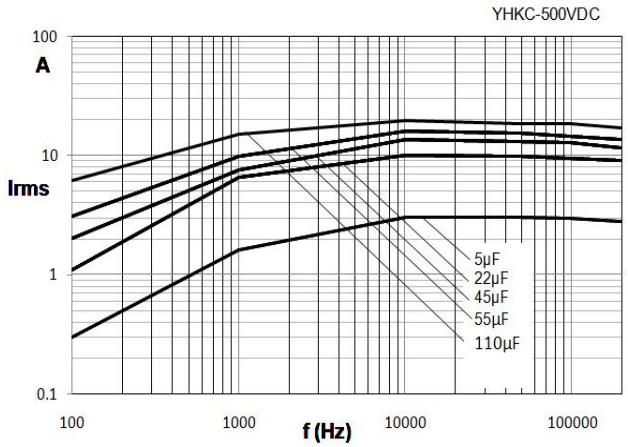


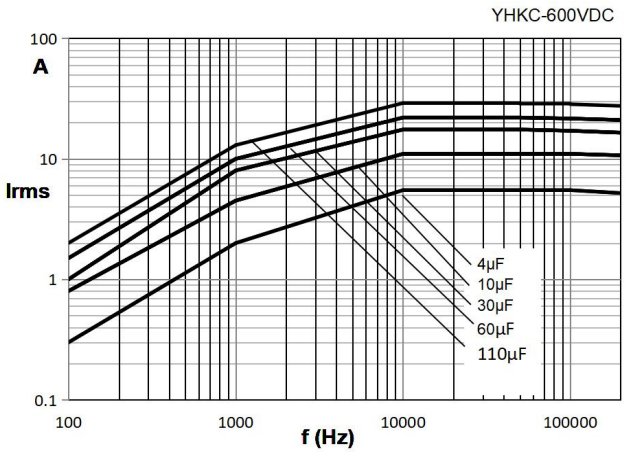




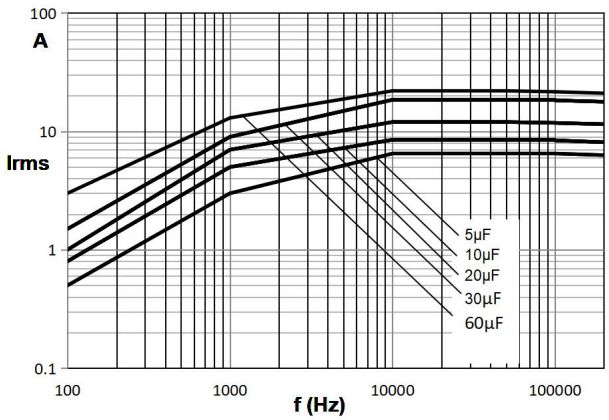


◆ Irms versus frequency f - typical values

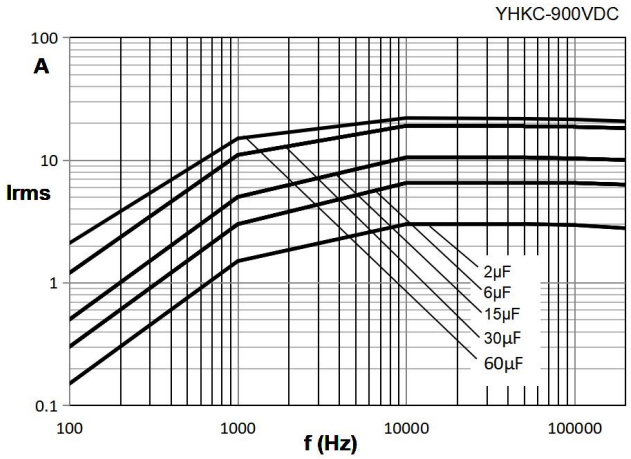




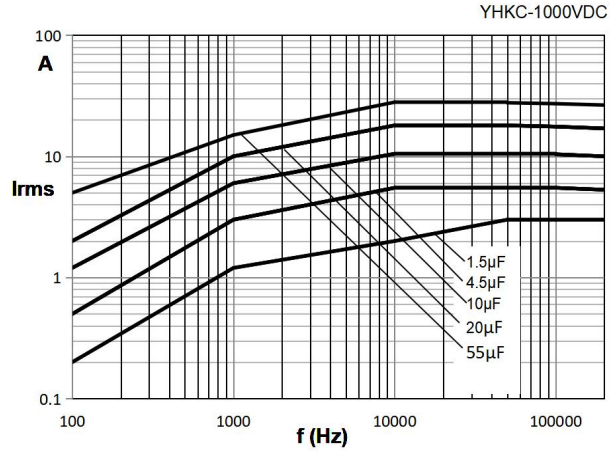
YHKC-800VDC



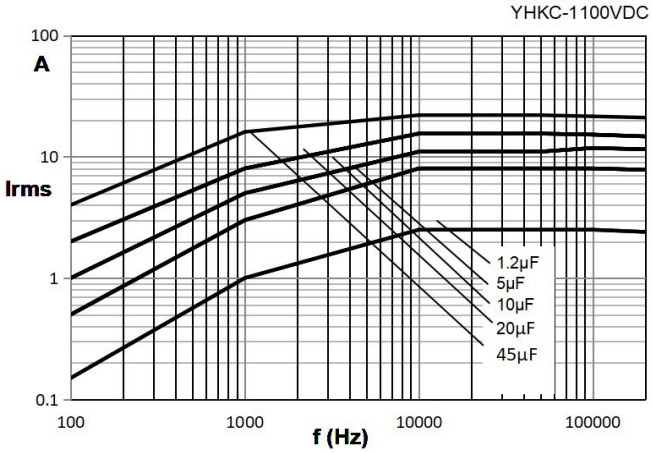
YHKC-900VDC



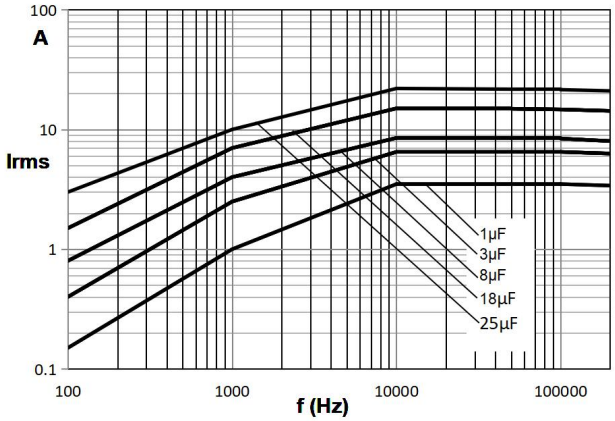
YHKC-1000VDC



YHKC-1100VDC



YHKC-1200VDC



◆ Testing and Standards

Test project	Conditions of test	Performance requirements
Appearance inspection	Visual inspection	No visible damage. Mark clear
Dimensional check	Vernier caliper	Comply with the specification limits
DC voltage test between terminals and terminals	1.5xU_N 60S	Capacitance and tan dwithin specified limits
AC voltage test between terminals and case	2100Vac*60s,50Hz	Capacitance and tan dwithin specified limits
Capacitance test	20±10℃,1kHz	Comply with the specification limits
Tangent of loss Angle	20±10℃,1kHz	Comply with the specification limits
Inter electrode insulation resistance	20±10℃,100v,60S	Comply with the specification limits
ESR	20±10℃,10kHz	Comply with the specification limits
ESL	Measured at resonant frequency	Comply with the specification limits
Robustness of terminations	Tensile strength (test Ua1) Wire diameter sectional area tensile force d ≤ 0.8 mm ≤ 0.5mm2 10N 0.8 < d ≤ 1.25 mm ≤ 1.2mm2 20N Bending (test Ub1) Wire diameter Cross section modulus tensile force d ≤ 0.8 mm 0.05mm3 10N 0.8 < d ≤ 1.25 mm 0.169mm320N	No visible damage |△C/C0|≤0.5% 1kHz Tanδ Increase ≤0.005 10kHz
Welding heat resistant	Groove welding Tb,methods 1A 260℃±5℃,2±0.5s, depth distance leads to the root,1.5~2mm	No visible damage DC/C0 ≤ 0.5%1kHz Tanδ Increase≤0.005 10kHz
Weldability	Groove welding Tb,methods 1A 235℃±5℃,2±0.5s, depth distance leads to the root,1.5~2mm	No visible damage DC/C0 ≤ 0.5%1kHz Tanδ Increase≤0.005 10kHz

Vibration	Test FC: vibration sinusoidal Displacement: 0.35mm Acceleration: 98 m/s2 Frequency: 10Hz ... 55Hz Frequency sweep cycles:10 times Test duration: Take three mutually perpendicular directions, each with a duration of 10 frequency cycles, One octave per minute	No visible damage | △C/C0 | ≤0.5% 1kHz Tanδ Increase ≤0.005 10kHz
Mechanical shock	Impact pulse pattern:A half sine wave Acceleration:490m/s^2 duration time:11ms	No visible damage | △C/C0 | ≤0.5% 1kHz Tanδ Increase ≤0.005 10kHz | △C/C0 | ≤0.5% 1kHz
Impact discharge test	5 times in 10 minutes Test voltage:1.1xU_N Test current:1.1 Maximum impulse current	No permanent breakdown or flash-over | △C/C0 | ≤1.0% 1kHz △tanδ≤1.2×tanδ+0.0001 10kHz
temperature change	Test Nb Tmin=-40℃ Tmax=+85℃ Rate of temperature change: 1℃/min 5 cycles, duration: 30min	No visible damage | △C/C0 | ≤2.0% 1kHz Tanδ Increase ≤0.015 10kHz Insulation resistance Rins≥50% of initial limit | △C/C0 | ≤2.0% 1kHz
High temperature storage	Ceiling temperature, 48h	No visible damage | △C/C0 | ≤2.0% 1kHz Tanδ Increase ≤0.015 10kHz | △C/C0 | ≤2.0% 1kHz
Low temperature storage	Lower limit temperature, 48h	No visible damage | △C/C0 | ≤2.0% 1kHz Tanδ Increase ≤0.015 10kHz | △C/C0 | ≤2.0% 1kHz

Self-Healing	Utest = 1,5xU_N, 10s. If fewer than five clearings occur during this time, the voltage shall be increased slowly until five clearings have occurred since the start of the test or until the voltage has reached 2,5 times the rated voltage	No visible damage DC/C0 ≤ 0.5%1kHz △tanδ≤1.2×tanδ+0.0001 10kHz RINS ≥ 50% of initial limit
Damp heat test	40±2°C 93% ±3RH 56 days	No visible damage ｜△C/C_0｜≤2.0% 1kHz Tanδ Increase≤0.015 10kHz Insulation resistance Rins ≥ 50% of initial limit
thermal stability	Test temperature: 85℃ Test current: Imax Test frequency: 10kHz Duration time: 48h or Until the temperature rises steadily	surface temperature rise△T≤15℃ ｜△C/C_0｜≤2.0% 1kHz Tanδ Increase≤0.015 10kHz Insulation resistance Rins ≥ 50% of initial limit
Endurance test	85 °C,1.3U_N 500h hours and 1000 discharges at 1.4 peak current and 85 °C,1.3U_N，500 hours	No visible damage ｜△C/C_0｜≤3.0% 1kHz Tanδ Increase≤0.015 10kHz Insulation resistance Rins ≥ 50% of initial limit
Biased humidity test	Test temperature: 85±2℃ Test humidity: 85±3%RH Test voltage: 1.0 U_N Duration time: 1000 hours	No visible damage ｜△C/C_0｜≤5.0% 1kHz Tanδ Increase≤0.050 10kHz Insulation resistance Rins ≥50%of initial limit

◆ Soldering

Solderability of leads

The solderability of terminal leads is tested to IEC 60068-2-20:2008, test Ta, method 1

Before a solderability test is carried out, terminals are subjected to accelerated ageing (to IEC 60068-2-2:2007, test Ba: 4 h exposure to dry heat at 155 °C). Since the ageing temperature is far higher than the upper category temperature of the capacitors, the terminal wires should be cut off from the capacitor before the ageing procedure to prevent the solderability being impaired by the products of any capacitor decomposition that might

Solder bath temperature	235 ±5 °C
Soldering time	2.0 ±0.5 s
Immersion depth	2.0 +0/0.5 mm from capacitor body or seating plane
Evaluation criteria: Visual inspection	Wetting of wire surface by new solder ≥90%, free flowing solder

◆ Packing

The part number, quantity, date of manufacture, manufacturer and factory inspection stamp are indicated on the packing box

Different batches of the same product shall not be placed in the same box6.2

After the arrival of the goods the customer side, packing seals should be intact, the box without damage, cracks and other phenomena;

The capacitor is fixed with a plastic foam board and should be shockproof and shockproof.

◆ Packing Mark

For example:

Product Label			
Supplier Code	1.11236P0450H27J050		
Description	DC-Filter Capacitor		
Type	YHKC		
Quantity	500PCS		
Date	2020.12	Batch No.	L1201003
Supplier	Ningguo Yuhua		