

# PHC

## Axial Metallized polypropylene film for switching applications



### Applications

- Switching Power supplies
- DC Link
- Induction Heaters
- Motor speed controls

### Features

- Metallized polypropylene
- High dvdt
- Small size
- Low self inductance
- Low ESR

### Specifications

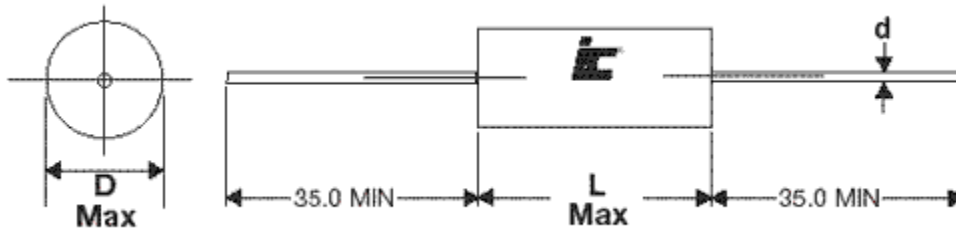
<b>Operating Temperature Range</b>		-40°C to +100°C Above +85°C applied voltage must be de-rated by 1.5%/°C						
<b>Capacitance Tolerance</b>		±10% at 1 kHz, 20°C ±5% optional						
<b>Surge Voltage</b>	VDC	575	700	800	900	1000	1100	1275
	SVDC	660	805	920	1035	1150	1265	1465
	Non-repetitive SVDC	750	910	1040	1170	1300	1430	1655
		SVDC Maximum repetitive voltage @+85°C for 1 hour Max/Day Non-repetitive SVDC@+85°C						
<b>AC voltage</b>	VDC	575	700	800	900	1000	1100	1275
	VAC	240	285	315	350	400	420	440
<b>Dissipation Factor (MAX) Tan δ at 1 kHz and 20°C</b>		C ≤ 4uF	4uF < C ≤ 12uF	12uF < C ≤ 20uF	20uF < C ≤ 40uF	C > 40uF		
<b>Peak current</b>		I <sub>pk</sub> = 1.5xC(dv/dt)						
<b>RMS current</b>		No RMS current is to be applied at temperatures > +95°C						
<b>Ripple current</b>		See standard part listing, No ripple current is to be applied when the ambient temperature is ≥ +95°C						
<b>Insulation Resistance @20°C (&lt;70% RH) for 1 minute at 500VDC applied</b>		3000 MΩxuF (10000 MΩxuF typical) "Not to exceed 3GΩ" After 1 minute of 100VDC applied between the terminals						
<b>Self Inductance</b>		<1 nano-Henry per mm of lead spacing and lead length						
<b>Dielectric Strength</b>	<b>Terminal to Terminal</b>				<b>Terminal to case</b>			
	150% of VDC or 150% of VAC applied for 10 Seconds and 20°C				3KVAC at 50/60 Hz applied between the terminals and case for 60 Seconds and 20°C			
<b>Life Expectancy</b>		≥60000 with VAC, ≥200000 With WVDC applied at +70°C ≥30000 with VAC, ≥100000 With WVDC applied at +85°C ≥10000 with 0.8xVAC, ≥30000 With 0.8xWVDC applied at +100°C						
<b>Failure quota</b>		300/billion component hours						



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Damp Heat Test	Test Condition		Performance requirements	
	Temperature= +40°C ±2°C		Capacitance Change	≤ ±3% of initially measured value
	Relative Humidity=93 ±2%		DF Change	≤ 200% of initially specified value
	Test length= 56 days		Insulation Resistance	≥ 50% of minimum specified value
Resistance to soldering Heat Solder bath temperature: +260°C +/- 5°C Exposure time: 10 seconds +/- 1 second	Capacitance change		≤1% of initially measured value	
	DF Change		≤ .1% at 1kHz	
	Insulation resistance		≥50% of minimum specified value	
Construction	Metallized Polypropylene film			
Electrodes	Vacuum deposited Metal layers			
Coating	Flame retardant Solvent resistant plastic case with epoxy end fill			
Lead terminations	Lead free tinned copper leads			



Diameter (D)	Lead diameter (d)
≤14	0.8
14<D≤23	1.0
>23	1.2

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Capacitance (µF)	WVDC	IC PART NUMBER	dv/dt (V/µs)	Maximum RMS Ripple Current (A) 100kHz, +70°C	Typical ESR mΩ 100kHz, +25°C	DxL (mm)
0.1	850	104PHC850KG	375	3.5	12.9	11.5x29
0.15	850	154PHC850K	300	4.5	10.8	12x34
0.15	850	154PHC850KG	375	4.5	9.8	13x29
0.22	700	224PHC700KG	135	4	10.2	12.5x29
0.22	700	224PHC700KJ	105	3.5	11.0	11.5x34
0.22	850	224PHC850K	300	5.5	8.4	13.5x34
0.22	850	224PHC850KG	375	5.5	7.7	15x29
0.33	600	334PHC600KG	95	4	9.0	12x29
0.33	700	334PHC700KG	135	4.5	8.1	15x29
0.33	700	334PHC700KJ	105	4.5	8.9	13.5x34
0.33	850	334PHC850K	300	7	6.6	16x34
0.33	850	334PHC850KG	375	7	5.9	17.5x29
0.47	600	474PHC600KG	95	5	7.9	13.5x29
0.47	700	474PHC700KG	135	6.5	6.6	17x29
0.47	400	474PHC400K	75	4	8.2	11x29
0.47	600	474PHC600K	75	5	8.9	12.5x34
0.47	700	474PHC700K	105	6.5	7.3	15.5x34
0.47	850	474PHC850K	300	9	5.4	18.5x34
0.68	330	684PHC330KG	60	4.5	8.7	11x29
0.68	400	684PHC400K	55	5	8.5	12x34
0.68	400	684PHC400KG	75	5.5	6.7	13x29
0.68	600	684PHC600K	75	6	7.4	14x34
0.68	600	684PHC600KG	95	6	6.5	16x29
0.68	700	684PHC700K	105	8	5.7	17.5x34
0.68	850	684PHC850K	300	10	4.3	21.5x34
0.68	850	684PHC850KN	200	9	5.4	18x46
1	250	105PHC250K	50	4.5	7.2	11x29
1	330	105PHC330KG	60	5.5	6.6	12.5x29
1	400	105PHC400K	55	6	6.4	13x34
1	400	105PHC400KG	75	6.5	5.5	15x29
1	600	105PHC600K	75	8	5.8	17.5x34
1	700	105PHC700KN	70	9	6.3	18x46
1	700	105PHC700K	105	9	4.3	21.5x34
1	850	105PHC850K	200	10.5	4.3	21.5x46
1	850	105PHC850KJ	300	13	3.2	26x34
1.2	700	125PHC700K	105	10.5	3.7	24x34
1.2	700	125PHC700KN	70	9	6.0	20x46
1.5	250	155PHC250K	50	5	5.8	13x29
1.5	330	155PHC330KG	60	6.5	5.3	15x29
1.5	330	155PHC330KJ	45	6	6.0	13.5x34
1.5	400	155PHC400K	55	7	5.3	15.5x34
1.5	400	155PHC400KG	75	7	4.5	17.5x29
1.5	600	155PHC600K	75	9	4.7	20x34
1.5	700	155PHC700K	70	10.5	5.3	21.5x46

Capacitance (µF)	WVDC	IC PART NUMBER	dv/dt (V/µs)	Maximum RMS Ripple Current (A) 100kHz, +70°C	Typical ESR mΩ 100kHz, +25°C	DxL (mm)
1	400	105PHC400KG	75	6.5	5.5	15x29
1	600	105PHC600K	75	8	5.8	17.5x34
1	700	105PHC700KN	70	9	6.3	18x46
1	700	105PHC700K	105	9	4.3	21.5x34
1	850	105PHC850K	200	10.5	4.3	21.5x46
1	850	105PHC850KJ	300	13	3.2	26x34
1.2	700	125PHC700K	105	10.5	3.7	24x34
1.2	700	125PHC700KN	70	9	6.0	20x46
1.5	250	155PHC250K	50	5	5.8	13x29
1.5	330	155PHC330KG	60	6.5	5.3	15x29
1.5	330	155PHC330KJ	45	6	6.0	13.5x34
1.5	400	155PHC400K	55	7	5.3	15.5x34
1.5	400	155PHC400KG	75	7	4.5	17.5x29
1.5	600	155PHC600K	75	9	4.7	20x34
1.5	700	155PHC700K	70	10.5	5.3	21.5x46
1.5	850	155PHC850K	200	14	3.5	25.5x46
2	250	205PHC250K	50	6	4.9	14.5x29
2	250	205PHC250KG	40	5.5	5.7	12.5x34
2	330	205PHC330KG	60	7.5	4.5	16.5x29
2	330	205PHC330KJ	45	7	5.4	15x34
2	400	205PHC400K	55	9	4.4	17.5x34
2	600	205PHC600K	55	10	5.0	20x46
2	600	205PHC600KJ	75	10.5	3.9	23x34
2	700	205PHC700K	70	12	4.6	24.5x46
2	850	205PHC850K	200	14	2.9	29x46
2.2	250	225PHC250K	40	6	5.4	13x34
2.2	250	225PHC250KG	50	6.5	4.8	15x29
2.2	330	225PHC330KG	60	7	4.1	17.5x29
2.2	330	225PHC330KJ	45	7.5	5.1	15.5x34
2.2	400	225PHC400K	55	9	4.2	18.5x34
2.2	600	225PHC600K	55	10	4.6	21x46
2.2	600	225PHC600KJ	75	10.5	3.6	24x34
2.2	700	225PHC700K	70	12.5	4.3	25.5x46
2.2	850	225PHC850K	200	14	2.9	30x46
2.2	850	225PHC850KR	125	14	3.8	26.5x55
2.2	850	225PHC850KS	110	13	4.3	25x59
3	600	305PHC600K	55	10.5	4.0	24x46
3	700	305PHC700K	70	12	6.1	29x46
3	850	305PHC850K	200	14	2.4	34.5x46
3	850	305PHC850KR	125	14	3.2	30.5x55
3	850	305PHC850KS	110	14	3.6	29x59
3.3	330	335PHC330KJ	45	9	4.1	19x34
3.3	250	335PHC250K	40	8	4.2	15.5x34
3.3	400	335PHC400KN	40	10.5	4.1	19x46



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Capacitance (µF)	WVDC	IC PART NUMBER	dv/dt (V/µs)	Maximum RMS Ripple Current (A) 100kHz,+70°C	Typical ESR mΩ 100kHz,+25°C	DxL (mm)
3.3	600	335PHC600K	55	10.5	3.8	25x46
3.3	700	335PHC700K	70	12	5.9	30.5x46
3.3	850	335PHC850K	125	14	3.1	32x55
4	250	405PHC250K	40	9	3.6	17x34
4	330	405PHC330KJ	45	10.5	3.6	20.5x34
4	400	405PHC400K	40	10.5	3.7	20.5x46
4	400	405PHC400KJ	55	10.5	3.1	24x34
4	600	405PHC600K	55	13.5	3.4	27x46
4	700	405PHC700K	70	13.5	5.4	33.5x46
4	700	405PHC700KR	60	12.5	6.7	29x55
4	700	405PHC700KS	45	12	7.7	27.5x59
4	850	405PHC850K	125	14	2.8	35x55
4	850	405PHC850KS	110	14	3.1	33x59
4.7	250	475PHC250KJ	40	10	3.3	18x34
4.7	330	475PHC330KJ	45	10.5	3.1	22x34
4.7	330	475PHC330KN	30	10.5	4.0	19x46
4.7	400	475PHC400K	40	9.5	7.6	22x46
4.7	600	475PHC600K	55	12	6.4	29x46
4.7	600	475PHC600KR	50	11.5	7.7	26.5x55
4.7	600	475PHC600KS	40	11	8.6	24.5x59
4.7	700	475PHC700K	60	13	6.1	31x55
4.7	700	475PHC700KS	45	12	7.0	29.5x59
4.7	850	475PHC850K	125	14	2.5	37x55
4.7	850	475PHC850KS	110	14	2.8	35.5x59
5	250	505PHC250K	40	10	3.2	18.5x34
5	330	505PHC330KJ	45	10.5	3.0	22.5x34
5	330	505PHC330KN	30	10.5	3.9	19.5x46
5	400	505PHC400K	40	10	7.4	22.5x46
5	600	505PHC600K	50	12	7.4	27x55
5	600	505PHC600KN	55	12.5	6.3	29.5x46
5	600	505PHC600KS	40	11.5	8.3	25x59
5	700	505PHC700K	60	13.5	5.8	32x55
5	700	505PHC700KS	45	12.5	6.6	30.5x59
5	850	505PHC850K	125	14	2.4	38x55
5	850	505PHC850KS	110	14	2.7	36.5x59
6.8	250	685PHC250K	40	10.5	2.9	21x34
6.8	330	685PHC330KN	30	10.5	3.4	22x46
6.8	400	685PHC400K	40	11	6.4	26x46
6.8	600	685PHC600K	50	12.5	6.5	30x55
6.8	600	685PHC600KS	40	12	7.3	28.5x59
6.8	700	685PHC700K	60	14	5.1	37x55
6.8	700	685PHC700KS	45	14	5.8	35x59
6.8	850	685PHC850KS	110	14	2.3	41.5x59
8.2	700	825PHC700K	60	14	4.6	41x55

Capacitance (µF)	WVDC	IC PART NUMBER	dv/dt (V/µs)	Maximum RMS Ripple Current (A) 100kHz,+70°C	Typical ESR mΩ 100kHz,+25°C	DxL (mm)
8.2	700	825PHC700KS	45	14	5.3	38x59
10	250	106PHC250K	40	10.5	2.4	24x34
10	250	106PHC250KN	25	10.5	3.1	21.5x46
10	330	106PHC330KN	30	11	6.7	26x46
10	400	106PHC400K	30	12	6.3	27x55
10	400	106PHC400KN	40	13	5.4	31x46
10	400	106PHC400KS	25	11	7.1	26x59
10	600	106PHC600K	50	14	5.4	35x55
10	600	106PHC600KS	40	14	6.1	33.5x59
10	700	106PHC700KS	45	14	4.9	41.5x59
12.5	600	126PHC600K	50	14	4.9	40.5x55
12.5	600	126PHC600KS	40	14	5.5	37.5x59
15	250	156PHC250K	25	14	2.6	25.5x46
15	330	156PHC330KN	30	13	5.4	31x46
15	330	156PHC330KR	25	12.5	6.0	28x55
15	330	156PHC330KS	20	12	6.8	26.5x59
15	400	156PHC400K	30	14	5.0	33x55
15	400	156PHC400KS	25	14	5.6	31x59
15	600	156PHC600KS	40	14	5.1	41x59
20	250	206PHC250K	25	14	5.0	29x46
20	330	206PHC330KR	25	14	5.1	31.5x55
20	330	206PHC330KS	20	13.5	5.8	30x59
20	400	206PHC400K	30	14	4.3	37x55
20	400	206PHC400KS	25	14	4.7	35x59
22	250	226PHC250KN	25	14	4.7	30.5x46
22	330	226PHC330KR	25	14	4.8	33x55
22	330	226PHC330KS	20	14	5.4	31x59
22	400	226PHC400KR	30	14	4.1	39x55
22	400	226PHC400KS	25	14	4.5	37x59
25	250	256PHC250K	25	14	4.4	32x46
25	330	256PHC330KR	25	14	4.5	35x55
25	330	256PHC330KS	20	14	5.0	33x59
25	400	256PHC400K	30	14	3.8	41.5x55
25	400	256PHC400KS	25	14	4.2	39x59
30	250	306PHC250K	20	14	4.5	31x55
30	250	306PHC250KS	15	14	5.3	29.5x59
30	330	306PHC330KR	25	14	4.1	38x55
30	330	306PHC330KS	20	14	4.5	36x59
33	250	336PHC250KR	20	14	4.3	32.5x55
33	250	336PHC250KS	15	14	5.0	31x59
33	330	336PHC330KR	25	14	3.9	39.5x55
33	330	336PHC330KS	20	14	4.3	37.5x59
35	330	356PHC330KR	25	14	3.8	41x55
35	330	356PHC330KS	20	14	4.2	38.5x59



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Capacitance (μF)	WVDC	<b>ic</b> PART NUMBER	dv/dt (V/μs)	Maximum RMS Ripple Current (A) 100kHz, +70°C	Typical ESR mΩ 100kHz, +25°C	DxL (mm)
40	250	406PHC250K	20	14	3.9	36x55
40	250	406PHC250KS	15	14	4.5	33.5x59
40	330	406PHC330KS	20	12	3.9	41x59
50	250	506PHC250K	20	14	3.5	40x55

Capacitance (μF)	WVDC	<b>ic</b> PART NUMBER	dv/dt (V/μs)	Maximum RMS Ripple Current (A) 100kHz, +70°C	Typical ESR mΩ 100kHz, +25°C	DxL (mm)
50	250	506PHC250KS	15	14	3.9	37x59
60	250	606PHC250KS	15	14	3.5	40x59
60	250	606PHC250KS	15	12	3.5	40x59

