

HCX1

Metallized Polypropylene Film Interference Suppression Capacitor (Class X1, 530Va.c./480Va.c.)



Features

- Metallized polypropylene film
- Capable of withstanding over-voltage stress
- Excellent self-healing performance
- UL 94 V-0 compliant
- Automotive (AEC-Q200) grade

Typical Applications

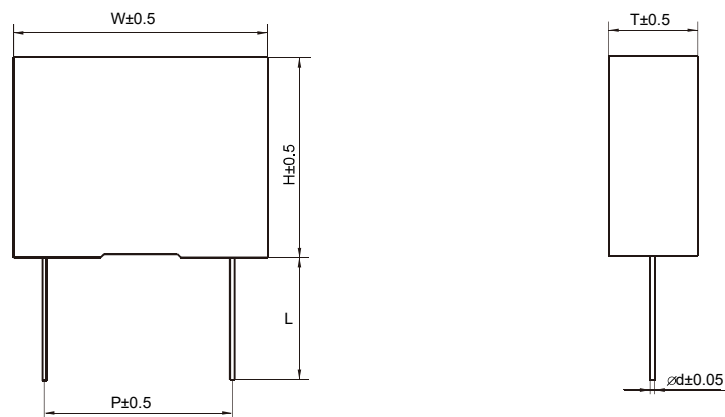
- For use in electromagnetic interference (EMI) suppression in across-the-line applications
- Not suitable for series connection with the mains

Safety Approvals

	CQC	GB/T 6346.14	0.001μF-5.6μF,440Va.c./480Va.c./530Va.c.,40/110/56B File No.: CQC24001449565
	ENEC	EN 60384-14	0.001μF-5.6μF,440Va.c./480Va.c./530Va.c.,40/110/56B File No.: ENEC-05014
	UL/cUL	UL 60384-14 CSA E60384-1 CSA E60384-14	0.001μF-5.6μF,440Va.c./480Va.c./530Va.c.,40/110/56B File No.: E311928

Notes: The above certificate No.is just a license No. Please refer to the certificates we supplied for detail information.

Outline Drawing



Notes: All product dimensions are in mm.
See the Outline Dimensions table for details.

Specifications

Reference standards		IEC 60384-14,GB/T 6346.14						
Rated voltage	U _R	530Va.c./480Va.c.(50Hz/60Hz)						
Permissible DC voltage	U _{DC}	1000Vd.c. T _{op} ≤85℃ 1.33%/℃ derating when 85℃<T _{op} ≤110℃						
Capacitance range	C _N	0.001μF~5.6μF						
Capacitance tolerance		±10%(K),±20%(M)						
Dissipation factor	tanδ	0.001μF≤C _N ≤0.47μF			≤30×10 ⁻⁴ (10kHz)			
		0.47μF<C _N ≤1.0μF			≤40×10 ⁻⁴ (10kHz)			
		1.0μF<C _N ≤5.6μF			≤30×10 ⁻⁴ (1kHz)			
Insulation resistance (20℃,100V,1min)	IR	C _N ≤0.33μF			IR≥15000MΩ			
		C _N >0.33μF			IR·C _N ≥5000s			
Climatic category/ Passive flammability category		40/110/56/B						
Operating temperature range	T _{OP}	-40℃~+110℃						
Voltage proof	U _{t-t}	Between terminals				4.3U _R (Vd.c.),2s		
	U _{t-c}	Between terminals and case				2560Va.c.,1min		
Pulse handling capability	Lead spacing	10mm	15mm	22.5mm	27.5mm	37.5mm	52.5mm	
	dV/dt (V/μs)	600	400	200	150	100	40	
	"dV/dt" represents the maximum permissible voltage change per unit of time for non-sinusoidal voltages, expressed in V/μs.							

Ordering Information

1 2 3 4	5	6 7	8 9 10	11	12	13 14 15	16 17 18 19
H C X 1	/	T 9	1 0 4	K	9	0 0 0	C 0 0 0
Series code		Rated voltage	Rated capacitance	Capacitance tolerance	Pitch	Internal code	Lead form and packaging code
		T9=530Va.c. S3=480Va.c.		K= $\pm 10\%$ M= $\pm 20\%$			See table 1
			For example: 104=10 $\times 10^4$ pF =0.1 μF		4=10mm 6=15mm 9=22.5mm B=27.5mm F=37.5mm M=52.5mm		

Table 1: Lead Form and Packaging Code

Digit 16		Digit 17		Digit 18		Digit 19		
Code	Explanation	Code	Explanation	Code	Explanation	Code	Explanation	
A	Ammo-pack ¹⁾	3	F=7.5mm	0	Straight	1	Taping lead space: P ₃ =12.7mm,H=18.0mm(Pitch=7.5mm)	
		4	F=10mm			5	P ₃ =25.4mm,H=18.0mm (Pitch=10.0 or 15.0mm)	
		6	F=15mm				7	P ₃ =38mm,H=18.0mm (Pitch=22.5mm or 27.5mm)
		7	F=22.5mm	1	Crimped			
		8	F=27.5mm					
C	Straight Lead (bulk) ²⁾	00	Standard lead length(18mm ~ 28mm)			0	Standard lead length	
		35	Lead length3.5mm ³⁾				Lead length tolerance±0.5mm	

Notes: 1) For more details on Ammo-pack, please refer to the Overview of the Universal Capacitors.

2) Other lead form and packaging options are available upon customer request.

3) If the lead length is 4.5 mm, the code is C450, etc.

Outline Dimensions

Unit: mm

530Va.c./480Va.c.													
CN(μF)	W	H	T	P	d	Ordering Information	CN(μF)	W	H	T	P	d	Ordering Information
0.0010	13.0	9.0	4.0	10.0	0.6	HCX1/T9102+4000****	0.033	18.0	13.0	7.0	15.0	0.8	HCX1/T9333+6000****
0.0012	13.0	9.0	4.0	10.0	0.6	HCX1/T9122+4000****	0.047	18.0	13.5	7.5	15.0	0.8	HCX1/T9473+6000****
0.0015	13.0	9.0	4.0	10.0	0.6	HCX1/T9152+4000****	0.056	18.0	14.5	8.5	15.0	0.8	HCX1/T9563+6000****
0.0018	13.0	9.0	4.0	10.0	0.6	HCX1/T9182+4000****	0.068	18.0	14.5	8.5	15.0	0.8	HCX1/T9683+6000****
0.0022	13.0	9.0	4.0	10.0	0.6	HCX1/T9222+4000****	0.082	18.0	16.0	10.0	15.0	0.8	HCX1/T9823+6000****
0.0033	13.0	9.0	4.0	10.0	0.6	HCX1/T9332+4000****	0.100	18.0	19.0	11.0	15.0	0.8	HCX1/T9104+6000****
0.0039	13.0	9.0	4.0	10.0	0.6	HCX1/T9392+4000****	0.033	26.5	15.0	6.0	22.5	0.8	HCX1/T9333+9000****
0.0047	13.0	11.0	5.0	10.0	0.6	HCX1/T9472+4000****	0.047	26.5	15.0	6.0	22.5	0.8	HCX1/T9473+9000****
0.0056	13.0	11.0	5.0	10.0	0.6	HCX1/T9562+4000****	0.056	26.5	15.0	6.0	22.5	0.8	HCX1/T9563+9000****
0.0068	13.0	11.0	5.0	10.0	0.6	HCX1/T9682+4000****	0.068	26.5	15.0	6.0	22.5	0.8	HCX1/T9683+9000****
0.0082	13.0	12.0	6.0	10.0	0.6	HCX1/T9822+4000****	0.082	26.5	16.5	7.0	22.5	0.8	HCX1/T9823+9000****
0.0100	13.0	12.0	6.0	10.0	0.6	HCX1/T9103+4000****	0.10	26.5	16.5	7.0	22.5	0.8	HCX1/T9104+9000****
0.0150	13.0	14.0	8.0	10.0	0.6	HCX1/T9153+4000****	0.15	26.5	17.0	8.5	22.5	0.8	HCX1/T9154+9000****
0.0068	18.0	11.0	5.0	15.0	0.6	HCX1/T9682+6000****	0.22	26.5	19.0	10.0	22.5	0.8	HCX1/T9224+9000****
0.0082	18.0	11.0	5.0	15.0	0.6	HCX1/T9822+6000****	0.33	26.5	22.0	12.0	22.5	0.8	HCX1/T9334+9000****
0.010	18.0	11.0	5.0	15.0	0.6	HCX1/T9103+6000****	0.47	26.5	29.5	14.5	22.5	0.8	HCX1/T9474+9000****
0.022	18.0	12.0	6.0	15.0	0.6	HCX1/T9223+6000****	0.56	26.5	29.5	14.5	22.5	0.8	HCX1/T9564+9000****

Notes: 1) "+" means capacitance tolerance, K=±10%, M=±20%;

2) "****" means lead form and packaging code (See table 1);

3) When the rated AC voltage is 480 V a.c., the 6th to 7th digits shall be S3.

Outline Dimensions

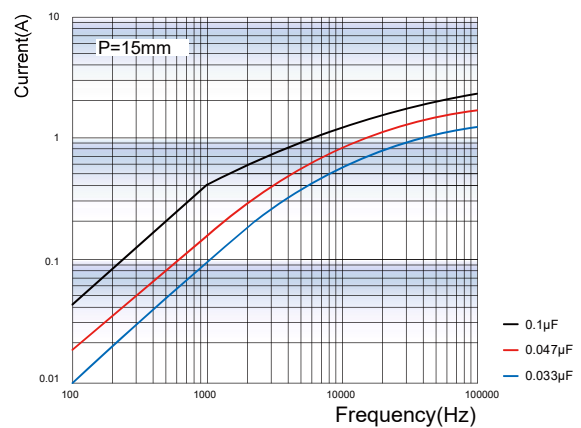
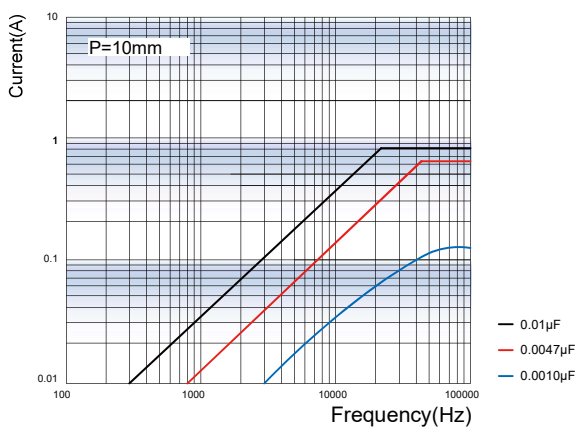
Unit: mm

530Va.c./480Va.c.													
CN(μ F)	W	H	T	P	d	Ordering Information	CN(μ F)	W	H	T	P	d	Ordering Information
0.15	32.0	18.0	9.0	27.5	0.8	HCX1/T9154+B000****	1.2	42.0	30.0	16.0	37.5	1.0	HCX1/T9125+F000****
0.22	32.0	18.0	9.0	27.5	0.8	HCX1/T9224+B000****	1.5	42.0	33.0	18.0	37.5	1.0	HCX1/T9155+F000****
0.33	32.0	20.0	11.0	27.5	0.8	HCX1/T9334+B000****	1.8	42.0	40.0	20.0	37.5	1.0	HCX1/T9185+F000****
0.47	32.0	25.0	14.0	27.5	0.8	HCX1/T9474+B000****	2.0	42.0	40.0	20.0	37.5	1.0	HCX1/T9205+F000****
0.56	32.0	25.0	14.0	27.5	0.8	HCX1/T9564+B000****	2.2	42.0	40.0	20.0	37.5	1.0	HCX1/T9225+F000****
0.68	32.0	28.0	14.0	27.5	0.8	HCX1/T9684+B000****	2.5	42.0	37.0	26.0	37.5	1.0	HCX1/T9255+F000****
0.82	32.0	30.0	16.0	27.5	0.8	HCX1/T9824+B000****	3.0	42.0	42.0	28.0	37.5	1.0	HCX1/T9305+F000****
1.0	32.0	33.0	18.0	27.5	0.8	HCX1/T9105+B000****	3.3	42.0	42.0	28.0	37.5	1.0	HCX1/T9335+F000****
1.0	32.0	37.0	22.0	27.5	0.8	HCX1/T9155+B000****	3.5	42.0	45.0	30.0	37.5	1.2	HCX1/T9355+F000****
0.22	42.0	22.0	12.0	37.5	1.0	HCX1/T9224+F000****	4.0	42.0	45.0	30.0	37.5	1.2	HCX1/T9405+F000****
0.33	42.0	22.0	12.0	37.5	1.0	HCX1/T9334+F000****	4.7	42.0	46.0	35.0	37.5	1.2	HCX1/T9475+F000****
0.39	42.0	22.0	12.0	37.5	1.0	HCX1/T9394+F000****	5.0	42.0	50.0	35.0	37.5	1.2	HCX1/T9505+F000****
0.47	42.0	22.0	12.0	37.5	1.0	HCX1/T9474+F000****	5.6	42.0	50.0	35.0	37.5	1.2	HCX1/T9565+F000****
0.56	42.0	22.0	12.0	37.5	1.0	HCX1/T9564+F000****	4.7	57.5	45.0	30.0	52.5	1.2	HCX1/T9475+M000****
0.68	42.0	25.0	14.0	37.5	1.0	HCX1/T9684+F000****	5.0	57.5	45.0	30.0	52.5	1.2	HCX1/T9505+M000****
0.82	42.0	25.0	14.0	37.5	1.0	HCX1/T9824+F000****	5.6	57.5	45.0	30.0	52.5	1.2	HCX1/T9565+M000****
1.0	42.0	30.0	16.0	37.5	1.0	HCX1/T9105+F000****							

Notes: 1) "+" means capacitance tolerance, K=±10%, M=±20%;
 2) "****" means lead form and packaging code (See table 1);
 3) When the rated AC voltage is 480 V a.c., the 6th to 7th digits shall be S3.

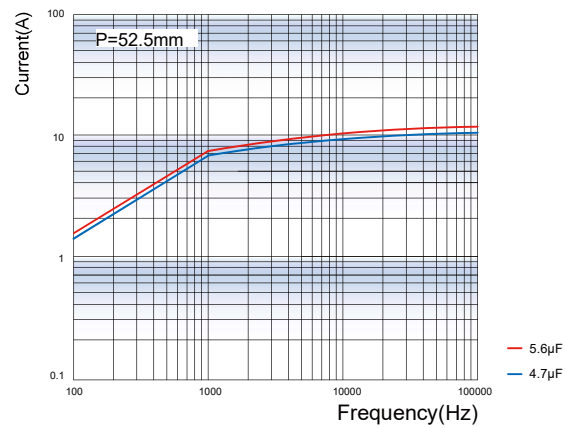
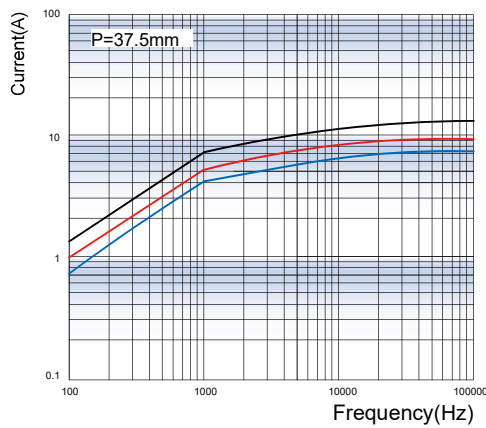
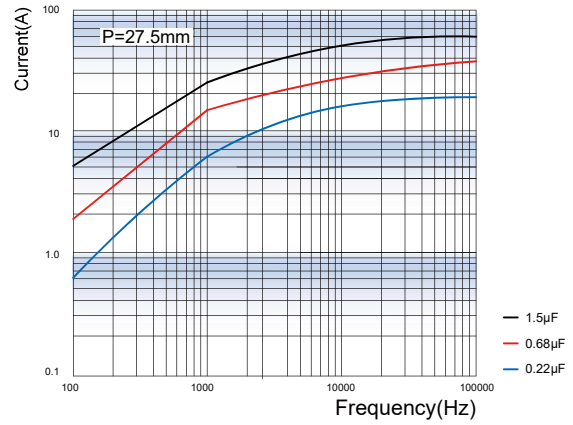
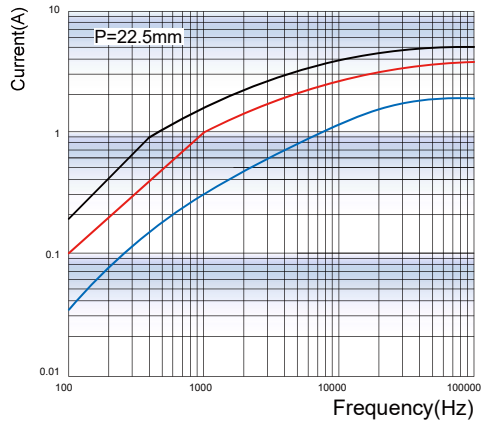
Characteristic Curve (Typical)

Permissible AC current I_{RMS} versus frequency f (for sinusoidal waveforms $T_{op} \leq 85^\circ\text{C}$)



Characteristic Curve (Typical)

Permissible AC current I_{RMS} versus frequency f (for sinusoidal waveforms $T_{op} \leq 85^{\circ}\text{C}$)



Impedance Z versus frequency f

