HCX1-T

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



Features

- Metallized polypropylene film
- Capable of withstanding over-voltage stress
- Excellent self-healing performance
- UL 94 V-0 compliant
- Excellent long-term capacitance stability under harsh environments (e.g., high temperature and high humidity)
- Automotive (AEC–Q200) grade

Typical Applications

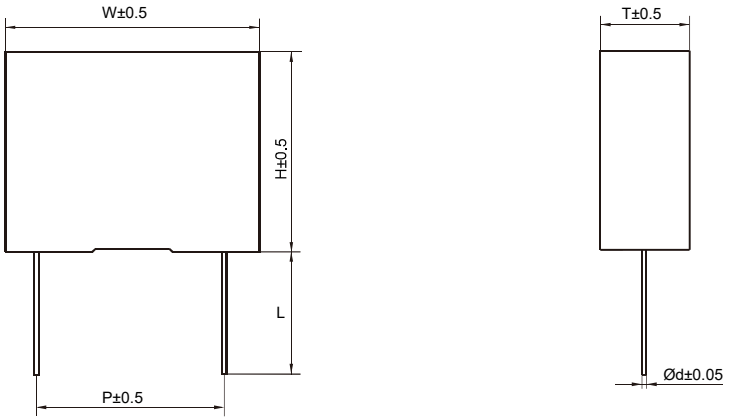
- For use in electromagnetic interference (EMI) suppression in across-the-line applications Typical applications include series connection with the mains and operation in harsh environments such as high temperature and high humidity

Safety Approvals

cqc	CQC	GB/T 6346.14	0.01μF-5.6μF,530Va.c./480Va.c.,40/110/56B File No.: CQC24001449565
EN 15	ENEC	EN 60384-14 EN 60384-14： A1	0.01μF-5.6μF,530Va.c./480Va.c.,40/110/56B File No.: ENEC-05014
c UL us	UL/cUL	UL 60384-14 CSA E60384-1 CSA E60384-14	0.01μF-5.6μF,530Va.c./480Va.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.(50 Hz/60 Hz)	
Permissible DC voltage	U_{DC}	1000Vd.c. $T_{op}\leqslant 85°C$ 1.33%/°C derating when $85°C<T_{op}\leqslant 110°C$	
Capacitance range	C_N	0.01μF~5.6μF	
Capacitance tolerance		±10%(K),±20%(M)	
Dissipation factor	tanδ	$0.01\mu F\leqslant C_N\leqslant 0.47\mu F$	$\leqslant 30\times10^{-4}$(10kHz)
		$0.47\mu F<C_N\leqslant 1.0\mu F$	$\leqslant 40\times10^{-4}$(1kHz)
		$1.0\mu F<C_N\leqslant 5.6\mu F$	$\leqslant 30\times10^{-4}$(1kHz)
Insulation resistance (20℃,100V,1min)	IR	$C_N\leqslant 0.33\mu F$	$IR\geqslant 15000M\Omega$
		$C_N>0.33\mu F$	$IR\cdot C_N\geqslant 5000s$
Climatic category/ Passive flammability category		40/110/56/B	
Operating temperature range	T_{OP}	-40℃~+110℃	
Voltage proof	$U_{t\text{-}t}$	Between terminals	$4.3U_R$(Vd.c.),2s
	$U_{t\text{-}c}$	Between terminals and case	2560Va.c.,1min
THB test (Damp heat test with loading)	THB	Temperature: 85℃± 2℃; Humidity: 85%RH±2%RH Voltage: 400 Va.c. 50 Hz; Duration: 1000 hours Capacitance change(ΔC/C): ⩽10% Dissipation factor change (Δtanδ): ⩽0.015(1kHz) Insulation resistance: ⩾ 50% of the rated value	

Pulse handling capability						
	Lead spacing	15mm	22.5mm	27.5mm	37.5mm	52.5mm
	dV/dt (V/μs)	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	20	21
H	C	X	1	-	T	/	T	9	1	0	4	K	9	0	0	0	C	0	0	0

Series code

Rated voltage

T9=530Va.c.
S3=480Va.c.

Rated capacitance

For example:
$104=10\times10^4pF=0.1\mu F$

Capacitance tolerance

K=±10%
M=±20%

Pitch

6=15mm
9=22.5mm
B=27.5mm
F=37.5mm
M=52.5mm

Internal code

Lead form and packaging code

See table 1

Table 1: Lead Form and Packaging Code

Digit 18		Digit 19		Digit 20		Digit 21	
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				
		6	F=15mm			5	P_3=25.4mm,H=18.0mm (Pitch=10.0 or 15.0mm)
		7	F=22.5mm	1	Crimped	7	P_3=38mm,H=18.0mm (Pitch=22.5mm or 27.5mm)
		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.													
C_N(μF)	W	H	T	P	d	Ordering Information	C_N(μF)	W	H	T	P	d	Ordering Information
0.010	18.0	11.0	5.0	15	0.6	HCX1-T/T9103+6000****	0.33	26.5	22.0	12.0	22.5	0.8	HCX1-T/T9334+9000****
0.015	18.0	12.0	6.0	15	0.6	HCX1-T/T9153+6000****	0.47	26.5	29.5	14.5	22.5	0.8	HCX1-T/T9474+9000****
0.022	18.0	12.0	6.0	15	0.8	HCX1-T/T9223+6000****	0.56	26.5	29.5	14.5	22.5	0.8	HCX1-T/T9564+9000****
0.033	18.0	13.0	7.0	15	0.8	HCX1-T/T9333+6000****	0.15	32.0	18.0	9.0	27.5	0.8	HCX1-T/T9154+B000****
0.047	18.0	13.5	7.5	15	0.8	HCX1-T/T9473+6000****	0.22	32.0	18.0	9.0	27.5	0.8	HCX1-T/T9224+B000****
0.056	18.0	14.5	8.5	15	0.8	HCX1-T/T9563+6000****	0.33	32.0	20.0	11.0	27.5	0.8	HCX1-T/T9334+B000****
0.068	18.0	14.5	8.5	15	0.8	HCX1-T/T9683+6000****	0.47	32.0	24.0	14.0	27.5	0.8	HCX1-T/T9474+B000****
0.082	18.0	16.0	10.0	15	0.8	HCX1-T/T9823+6000****	0.56	32.0	24.0	14.0	27.5	0.8	HCX1-T/T9564+B000****
0.100	18.0	19.0	11.0	15	0.8	HCX1-T/T9104+6000****	0.68	32.0	28.0	14.0	27.5	0.8	HCX1-T/T9684+B000****
0.033	26.5	15.0	6.0	22.5	0.8	HCX1-T/T9333+9000****	0.82	32.0	30.0	16.0	27.5	0.8	HCX1-T/T9824+B000****
0.047	26.5	15.0	6.0	22.5	0.8	HCX1-T/T9473+9000****	1.0	32.0	33.0	18.0	27.5	0.8	HCX1-T/T9105+B000****
0.056	26.5	15.0	6.0	22.5	0.8	HCX1-T/T9563+9000****	1.5	32.0	37.0	22.0	27.5	0.8	HCX1-T/T9155+B000****
0.068	26.5	15.0	6.0	22.5	0.8	HCX1-T/T9683+9000****	0.22	42.0	22.0	12.0	37.5	1.0	HCX1-T/T9224+F000****
0.082	26.5	16.0	7.0	22.5	0.8	HCX1-T/T9823+9000****	0.33	42.0	22.0	12.0	37.5	1.0	HCX1-T/T9334+F000****
0.10	26.5	16.0	7.0	22.5	0.8	HCX1-T/T9104+9000****	0.39	42.0	22.0	12.0	37.5	1.0	HCX1-T/T9394+F000****
0.15	26.5	17.0	8.5	22.5	0.8	HCX1-T/T9154+9000****	0.47	42.0	22.0	12.0	37.5	1.0	HCX1-T/T9474+F000****
0.22	26.5	19.0	10.0	22.5	0.8	HCX1-T/T9224+9000****	0.56	42.0	22.0	12.0	37.5	1.0	HCX1-T/T9564+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 8th to 9th digits shall be S3.

Outline Dimensions

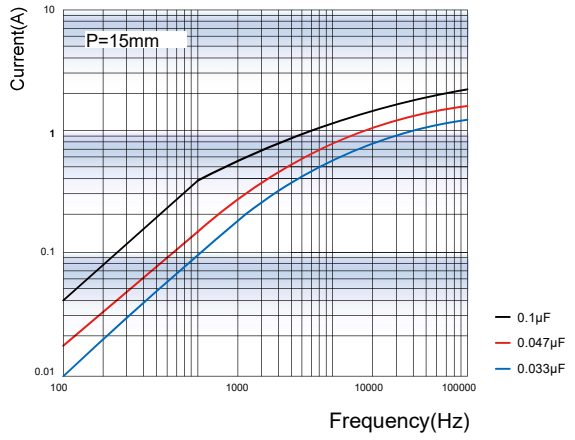
Unit: mm

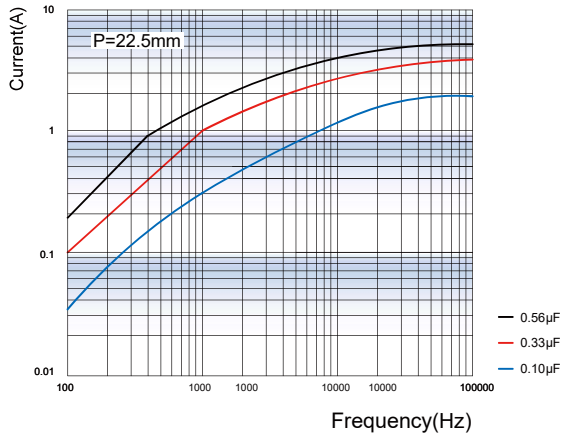
530Va.c./480Va.c.													
C_N(μF)	W	H	T	P	d	Ordering Information	C_N(μF)	W	H	T	P	d	Ordering Information
0.68	42.0	25.0	14.0	37.5	1.0	HCX1-T/T9684+F000****	3.3	42.0	42.0	28.0	37.5	1.0	HCX1-T/T9335+F000****
0.82	42.0	25.0	14.0	37.5	1.0	HCX1-T/T9824+F000****	3.5	42.0	45.0	30.0	37.5	1.0	HCX1-T/T9355+F000****
1.0	42.0	30.0	16.0	37.5	1.0	HCX1-T/T9105+F000****	4.0	42.0	45.0	30.0	37.5	1.0	HCX1-T/T9405+F000****
1.2	42.0	30.0	16.0	37.5	1.0	HCX1-T/T9125+F000****	4.7	42.0	46.0	35.0	37.5	1.0	HCX1-T/T9475+F000****
1.5	42.0	33.0	18.0	37.5	1.0	HCX1-T/T9155+F000****	5.0	42.0	50.0	35.0	37.5	1.0	HCX1-T/T9505+F000****
1.8	42.0	40.0	20.0	37.5	1.0	HCX1-T/T9185+F000****	5.6	42.0	50.0	35.0	37.5	1.0	HCX1-T/T9565+F000****
2.0	42.0	40.0	20.0	37.5	1.0	HCX1-T/T9205+F000****	4.7	57.5	45.0	30.0	52.5	1.2	HCX1-T/T9475+M000****
2.2	42.0	40.0	20.0	37.5	1.0	HCX1-T/T9225+F000****	5.0	57.5	45.0	30.0	52.5	1.2	HCX1-T/T9505+M000****
2.5	42.0	44.0	24.0	37.5	1.0	HCX1-T/T9255+F000****	5.6	57.5	45.0	30.0	52.5	1.2	HCX1-T/T9565+M000****
3.0	42.0	42.0	28.0	37.5	1.0	HCX1-T/T9305+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 8th to 9th digits shall be S3.

Characteristic Curve (Typical)

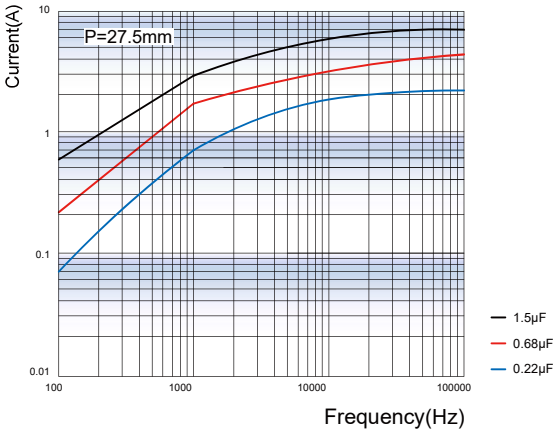
Permissible AC current I_{RMS} versus frequency f (for sonusoidal waveforms Top≤85℃)

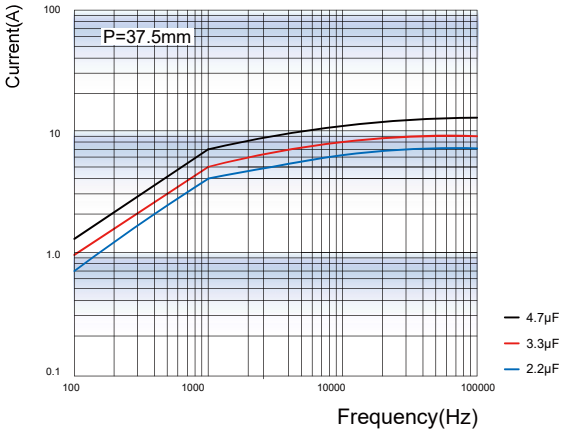


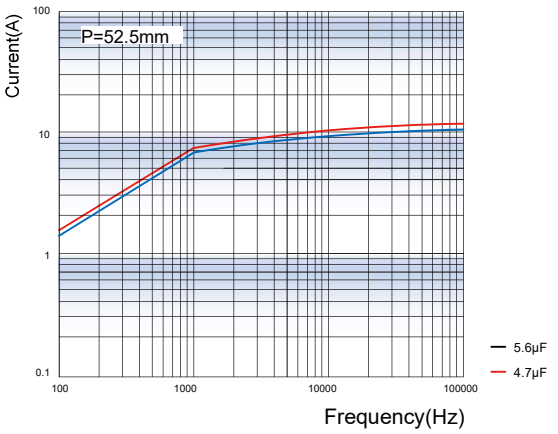


Characteristic Curve (Typical)

Permissible AC current I_{RMS} versus frequency f (for sonusoidal waveforms Top≤85℃)







Impedance Z versus frequency f

