

# HX 系列 SERIES

Downsize

RoHS



HX

↑ Downsize  
HF P56

● 小型化产品  
Downsized

● 保证 105℃、2000 小时寿命。(叠加纹波电流)

Endurance with ripple current: 2000 hours at 105℃

● 额定工作电压范围: 160V~450V

Rated voltage range: 160V-450V

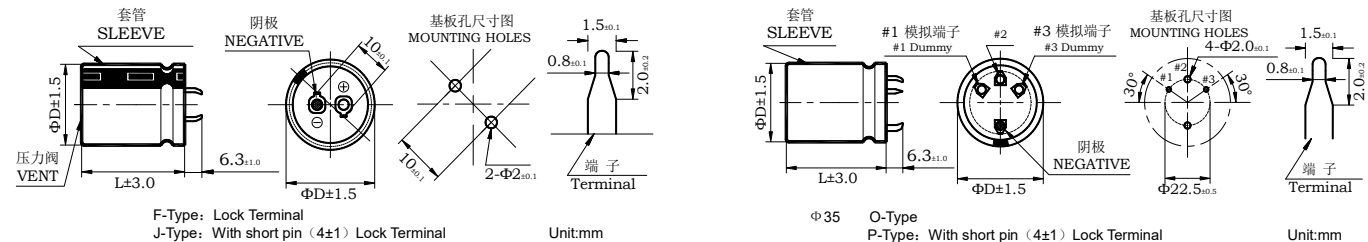
## ◆ 规格表 SPECIFICATIONS

项目 Items	特性 Characteristics							
工作温度范围 Operating Temperature Range	-25~+105℃							
额定工作电压范围 Rated Working Voltage Range	160~450V							
静电容量允许偏差 Capacitance Tolerance	±20% (20℃, 120Hz)							
损耗角正切值 Dissipation Factor (MAX) 20℃, 120Hz	U <sub>R</sub> (V)	160	200	250	315	350	400	450
	tanδ	0.15	0.15	0.15	0.15	0.18	0.18	0.20
阻抗比 Impedance Ratio (MAX) 120Hz	U <sub>R</sub> (V)	160	200	250	315	350	400	450
	Z <sub>-25℃/20℃</sub>	4	4	4	7	7	7	8
漏电流 Leakage Current (MAX)	I=0.01C <sub>R</sub> U <sub>R</sub> 或 1.5mA 取小者 (20℃, 施加额定电压 5 分钟后) I=0.01C <sub>R</sub> U <sub>R</sub> or 1.5mA whichever is minimum. (at 20℃, After 5minutes application of rated voltage) I=漏电流 (μA) U <sub>R</sub> =额定电压 (V) C <sub>R</sub> =静电容量 (μF) Leakage Current Rated Voltage Rated Capacitance							

	使用寿命 Useful Life		负荷寿命 Load Life	耐久性特性 Endurance Test	高温无负荷特性 Shelf Life
产品寿命 Life Time	3000h	>180000h	2000h	2000h	1000h
漏电流 Leakage Current	≤规定值 ≤Specified value		≤规定值 ≤Specified value	≤规定值 ≤Specified value	≤规定值 ≤Specified value
损耗角正切值变化率 Tgδ Change	≤规定值的 300% ≤300% of specified value		≤规定值的 200% ≤200% of specified value	≤规定值的 200% ≤200% of specified value	≤规定值的 200% ≤200% of specified value
静电容量变化率 Capacitance Change	初始值±30%以内 Within±30% of initial value		初始值±20%以内 Within±20% of initial value	初始值±20%以内 Within±20% of initial value	初始值±20%以内 Within±20% of initial value
施加条件 Condition 施加电压 Applied Voltage 施加纹波电流 Applied Ripple Current 环境温度 Applied Temperature 失效等级 Failure Rate Level	U <sub>R</sub> I <sub>R</sub> 105℃ ≤1% Failure rate	U <sub>R</sub> 1.4×I <sub>R</sub> 40℃ ≤1% Failure rate	U <sub>R</sub> I <sub>R</sub> 105℃ 0%	U <sub>R</sub> I <sub>R</sub> =0 105℃ 0%	U <sub>R</sub> =0 I <sub>R</sub> =0 105℃ 0% Back up to 20℃ and placed more than 24 hours. U <sub>R</sub> to be applied for 60 min before measurement.

## ◆ 尺寸图 Dimensions

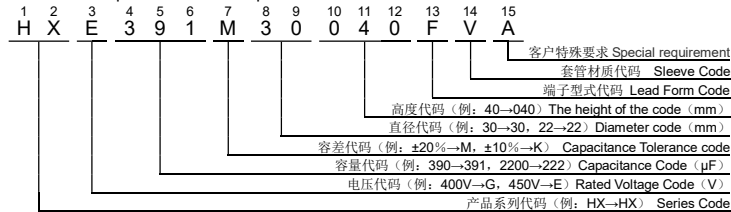
● 常用端子型式代码: Terminal Code



● 记载以外的端子形状, 请另行咨询。Please consult to us for the terminal type not displayed in content.

## ◆ 产品编码体系 PART NUMBER SYSTEM

● 例如: Example HX 450V390μF Φ30×40 ±20%



## ◆ 纹波电流修正系数 Rated Ripple Current Multiplies

● 频率修正系数 Frequency coefficient		频率 (Hz) Frequency				
电压范围 (v) Rated voltage	50 (60)	100 (120)	300	1k	≥10k	
	160~250VV	0.80	1.00	1.17	1.32	1.45
315~450VV	0.70	1.00	1.16	1.30	1.41	

● 温度修正系数 Temperature coefficient		温度 (℃) Temperature				
电压范围 (v) Rated voltage	+40	+55	+70	+85	+105	
	160~450VV	2.7	2.5	2.1	1.7	1.0

## ◆ 产品一览表 Standard Ratings

WV <sub>DC</sub> (Surge Voltage) (V)	Cap (μF)	Size D×L (mm)	tanδ 20°C/120Hz	Ripple Current 105°C/120Hz (Arms)	Catalog Part Number
160 (200)	560	22×25	0.15	1.58	HXN561M22025□VA
	680	22×30	0.15	1.83	HXN681M22030□VA
	820	22×35	0.15	2.06	HXN821M22035□VA
	820	25×25	0.15	1.89	HXN821M25025□VA
	1000	22×40	0.15	2.33	HXN102M22040□VA
	1000	25×30	0.15	2.15	HXN102M25030□VA
	1000	30×25	0.15	2.30	HXN102M30025□VA
	1200	22×45	0.15	2.61	HXN122M22045□VA
	1200	22×50	0.15	2.69	HXN122M22050□VA
	1200	25×35	0.15	2.45	HXN122M25035□VA
	1500	25×40	0.15	2.82	HXN152M25040□VA
	1500	25×45	0.15	2.88	HXN152M25045□VA
	1500	30×30	0.15	2.39	HXN152M30030□VA
	1500	35×25	0.15	2.17	HXN152M35025□VA
	1800	25×50	0.15	3.22	HXN182M25050□VA
	1800	30×35	0.15	2.73	HXN182M30035□VA
	1800	30×40	0.15	2.82	HXN182M30040□VA
	1800	35×30	0.15	2.47	HXN182M35030□VA
	2200	30×45	0.15	3.23	HXN222M30045□VA
	2200	35×35	0.15	2.79	HXN222M35035□VA
2700	30×50	0.15	3.66	HXN272M30050□VA	
2700	35×40	0.15	3.23	HXN272M35040□VA	
3300	35×45	0.15	3.68	HXN332M35045□VA	
3900	35×50	0.15	4.12	HXN392M35050□VA	
200 (250)	470	22×25	0.15	1.20	HXL471M22025□VA
	560	22×30	0.15	1.48	HXL561M22030□VA
	560	25×25	0.15	1.48	HXL561M25025□VA
	680	22×35	0.15	1.62	HXL681M22035□VA
	680	25×30	0.15	1.60	HXL681M25030□VA
	820	22×40	0.15	1.75	HXL821M22040□VA
	820	25×35	0.15	1.75	HXL821M25035□VA
	820	30×25	0.15	1.75	HXL821M30025□VA
	1000	22×50	0.15	2.19	HXL102M22050□VA
	1000	25×40	0.15	2.04	HXL102M25040□VA
	1000	30×30	0.15	1.95	HXL102M30030□VA
	1200	25×45	0.15	2.30	HXL122M25045□VA
	1200	30×35	0.15	2.23	HXL122M30035□VA
	1200	35×25	0.15	1.94	HXL122M35025□VA
	1500	25×50	0.15	2.57	HXL152M25050□VA
	1500	30×40	0.15	2.57	HXL152M30040□VA
	1500	35×30	0.15	2.25	HXL152M35030□VA
	1800	30×45	0.15	2.68	HXL182M30045□VA
	1800	35×35	0.15	2.53	HXL182M35035□VA
	2200	30×50	0.15	2.92	HXL222M30050□VA
2200	35×40	0.15	2.92	HXL222M35040□VA	
2700	35×45	0.15	3.27	HXL272M35045□VA	
2700	35×50	0.15	3.33	HXL272M35050□VA	
250 (300)	330	22×25	0.15	1.21	HXJ331M22025□VA
	390	22×30	0.15	1.38	HXJ391M22030□VA
	470	22×35	0.15	1.56	HXJ471M22035□VA
	560	22×40	0.15	1.74	HXJ561M22040□VA
	560	25×30	0.15	1.61	HXJ561M25030□VA
	680	22×45	0.15	1.97	HXJ681M22045□VA
	680	25×35	0.15	1.85	HXJ681M25035□VA
	820	25×40	0.15	2.08	HXJ821M25040□VA
	820	25×45	0.15	2.13	HXJ821M25045□VA
	820	30×30	0.15	1.77	HXJ821M30030□VA
820	35×25	0.15	1.60	HXJ821M35025□VA	

WV <sub>DC</sub> (Surge Voltage) (V)	Cap (μF)	Size D×L (mm)	tanδ 20°C/120Hz	Ripple Current 105°C/120Hz (Arms)	Catalog Part Number	
250 (300)	1000	25×50	0.15	2.40	HXJ102M25050□VA	
	1000	30×35	0.15	2.03	HXJ102M30035□VA	
	1200	30×40	0.15	2.31	HXJ122M30040□VA	
	1200	30×45	0.15	2.38	HXJ122M30045□VA	
	1200	35×35	0.15	2.38	HXJ122M35035□VA	
	1500	30×50	0.15	2.73	HXJ152M30050□VA	
	1500	35×40	0.15	2.41	HXJ152M35040□VA	
	1800	35×45	0.15	2.72	HXJ182M35045□VA	
	2200	35×50	0.15	3.10	HXJ222M35050□VA	
	315 (365)	180	22×25	0.15	0.91	HXI181M22025□VA
		220	22×30	0.15	1.06	HXI221M22030□VA
		270	22×35	0.15	1.20	HXI271M22035□VA
		270	25×25	0.15	1.15	HXI271M25025□VA
330		22×40	0.15	1.37	HXI331M22040□VA	
330		25×30	0.15	1.30	HXI331M25030□VA	
390		22×45	0.15	1.52	HXI391M22045□VA	
390		25×35	0.15	1.48	HXI391M25035□VA	
390		30×25	0.15	1.39	HXI391M30025□VA	
470		22×50	0.15	1.72	HXI471M22050□VA	
470		25×40	0.15	1.67	HXI471M25040□VA	
470		30×30	0.15	1.57	HXI471M30030□VA	
470		35×25	0.15	1.52	HXI471M35025□VA	
560		25×45	0.15	1.86	HXI561M25045□VA	
560		30×35	0.15	1.78	HXI561M30035□VA	
680		25×50	0.15	2.10	HXI681M25050□VA	
680		30×40	0.15	2.03	HXI681M30040□VA	
680		35×30	0.15	1.90	HXI681M35030□VA	
820		30×45	0.15	2.31	HXI821M30045□VA	
820		35×35	0.15	2.13	HXI821M35035□VA	
1000	30×50	0.15	2.61	HXI102M30050□VA		
1000	35×40	0.15	2.46	HXI102M35040□VA		
1200	35×45	0.15	2.78	HXI122M35045□VA		
1200	35×50	0.15	2.86	HXI122M35050□VA		
350 (400)	150	22×35	0.18	0.84	HXH151M22035□VA	
	220	22×30	0.18	1.06	HXH221M22030□VA	
	220	25×25	0.18	1.04	HXH221M25025□VA	
	270	22×35	0.18	1.20	HXH271M22035□VA	
	270	25×30	0.18	1.18	HXH271M25030□VA	
	330	22×40	0.18	1.37	HXH331M22040□VA	
	330	22×45	0.18	1.40	HXH331M22045□VA	
	330	25×35	0.18	1.36	HXH331M25035□VA	
	330	30×25	0.18	1.28	HXH331M30025□VA	
	390	22×50	0.18	1.56	HXH391M22050□VA	
	390	25×40	0.18	1.52	HXH391M25040□VA	
	390	30×30	0.18	1.43	HXH391M30030□VA	
	390	35×25	0.18	1.38	HXH391M35025□VA	
	470	25×45	0.18	1.71	HXH471M25045□VA	
	560	25×50	0.18	1.90	HXH561M25050□VA	
	560	30×35	0.18	1.78	HXH561M30035□VA	
	560	30×40	0.18	1.84	HXH561M30040□VA	
	560	35×30	0.18	1.72	HXH561M35030□VA	
	680	30×45	0.18	2.10	HXH681M30045□VA	
	680	35×35	0.18	1.94	HXH681M35035□VA	
820	30×50	0.18	2.26	HXH821M30050□VA		
820	35×40	0.18	2.23	HXH821M35040□VA		
1000	35×45	0.18	2.54	HXH102M35045□VA		
1200	35×50	0.18	2.86	HXH122M35050□VA		

\*产品编码中□内为产品端子引出型式代码  
\*□Enter the appropriate terminal code

## ◆ 产品一览表 Standard Ratings

WV <sub>DC</sub> (Surge Voltage) (V)	Cap ( $\mu$ F)	Size D×L (mm)	$\tan\delta$ 20°C 120Hz	Ripple Current 105°C 120Hz (Arms)	Catalog Part Number
400 (450)	120	22×25	0.18	0.70	HXG121M22025□VA
	120	22×30	0.18	0.75	HXG121M22030□VA
	180	22×30	0.18	0.96	HXG181M22030□VA
	180	25×25	0.18	0.94	HXG181M25025□VA
	220	22×35	0.18	1.09	HXG221M22035□VA
	220	25×30	0.18	1.07	HXG221M25030□VA
	270	22×40	0.18	1.24	HXG271M22040□VA
	270	22×45	0.18	1.26	HXG271M22045□VA
	270	25×35	0.18	1.23	HXG271M25035□VA
	270	30×25	0.18	1.16	HXG271M30025□VA
	330	22×45	0.18	1.37	HXG331M22045□VA
	330	22×50	0.18	1.44	HXG331M22050□VA
	330	25×40	0.18	1.40	HXG331M25040□VA
	330	30×30	0.18	1.31	HXG331M30030□VA
	330	35×25	0.18	1.27	HXG331M35025□VA
	390	25×40	0.18	1.47	HXG391M25040□VA
	390	25×45	0.18	1.55	HXG391M25045□VA
	390	30×35	0.18	1.49	HXG391M30035□VA
	470	25×50	0.18	1.74	HXG471M25050□VA
	470	30×40	0.18	1.69	HXG471M30040□VA
470	35×30	0.18	1.58	HXG471M35030□VA	
560	30×45	0.18	1.91	HXG561M30045□VA	
560	35×35	0.18	1.76	HXG561M35035□VA	
680	30×50	0.18	2.15	HXG681M30050□VA	
680	35×40	0.18	2.03	HXG681M35040□VA	
820	35×45	0.18	2.30	HXG821M35045□VA	
820	35×50	0.18	2.37	HXG821M35050□VA	
1000	35×50	0.18	2.60	HXG102M35050□VA	

WV <sub>DC</sub> (Surge Voltage) (V)	Cap ( $\mu$ F)	Size D×L (mm)	$\tan\delta$ 20°C 120Hz	Ripple Current 105°C 120Hz (Arms)	Catalog Part Number
450 (500)	100	22×25	0.20	0.71	HXE101M22025□VA
	120	22×30	0.20	0.82	HXE121M22030□VA
	150	22×30	0.20	0.88	HXE151M22030□VA
	150	22×35	0.20	0.94	HXE151M22035□VA
	150	25×25	0.20	0.89	HXE151M25025□VA
	180	22×35	0.20	0.99	HXE181M22035□VA
	180	22×40	0.20	1.05	HXE181M22040□VA
	180	25×30	0.20	1.00	HXE181M25030□VA
	220	22×40	0.20	1.13	HXE221M22040□VA
	220	22×45	0.20	1.19	HXE221M22045□VA
	220	25×35	0.20	1.16	HXE221M25035□VA
	220	30×25	0.20	1.11	HXE221M30025□VA
	270	22×50	0.20	1.36	HXE271M22050□VA
	270	25×40	0.20	1.32	HXE271M25040□VA
	270	25×45	0.20	1.35	HXE271M25045□VA
	270	30×30	0.20	1.26	HXE271M30030□VA
	270	35×25	0.20	1.26	HXE271M35025□VA
	330	25×45	0.20	1.35	HXE331M25045□VA
	330	25×50	0.20	1.52	HXE331M25050□VA
	330	30×35	0.20	1.45	HXE331M30035□VA
	330	35×30	0.20	1.45	HXE331M35030□VA
	390	30×40	0.20	1.63	HXE391M30040□VA
	470	30×45	0.20	1.85	HXE471M30045□VA
	470	30×50	0.20	1.90	HXE471M30050□VA
	470	35×35	0.20	1.77	HXE471M35035□VA
	560	35×40	0.20	2.02	HXE561M35040□VA
	560	35×45	0.20	2.08	HXE561M35045□VA
	680	35×45	0.20	2.26	HXE681M35045□VA
680	35×50	0.20	2.36	HXE681M35050□VA	

\*产品编码中□内为产品端子引出型式代码

\*□Enter the appropriate terminal code

\*记载之外的体积，请另行咨询。

\* Please ask for advice for other sizes.

\*铝电解电容器由于承受纹波电流而发热，随着温升而发生性能劣化。请在使用中降低产品承受的纹波电流。

\*Aluminum electrolytic capacitor will emit heat when ripple current is applied, the performance will deteriorate when temp. rises. Please reduce the ripple current when using capacitor.