

HQ 系列 SERIES

Downsize

RoHS

HQ

↑ Downsize
HF P56

- 保证 105°C、2000 小时寿命。(叠加纹波电流)
Endurance with ripple current: 2000 hours at 105°C
- 额定工作电压范围: 25V~200V
Rated voltage range: 25V-200V
- 适用于功放、仪表仪器家用电器等电源滤波
Suitable for power filtering of power amplifiers, instruments, home appliances, etc.

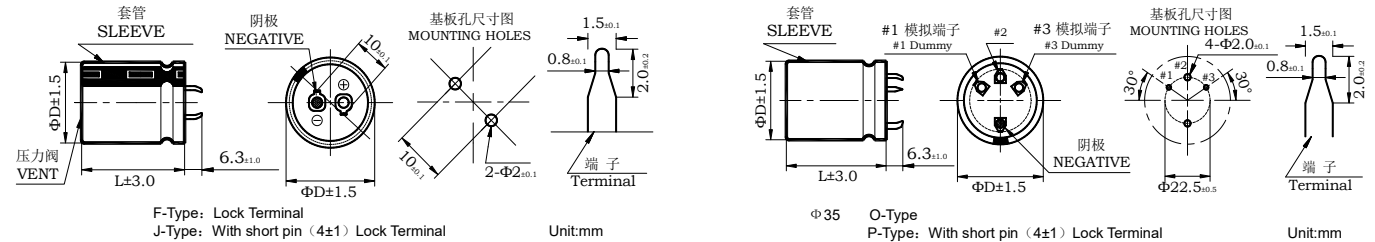
规格表 SPECIFICATIONS

项目 Items	特性 Characteristics								
工作温度范围 Operating Temperature Range	-40~+105°C								
额定工作电压范围 Rated Working Voltage Range	25~200V								
静电容量允许偏差 Capacitance Tolerance	±20% (20°C, 120Hz)								
损耗角正切值 Dissipation Factor (MAX) 25°C, 120Hz	U _R (V)	25	35	50	63	80	100	160	200
	tanδ	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.15
阻抗比 Impedance Ratio (MAX) 120Hz	U _R (V)	25~35		50~100		160	200		
	Z _{-40°C/20°C}	10		6		4	7		
漏电流 Leakage Current (MAX)	I=0.01C _R U _R 或 1.5mA 取小者 (20°C, 施加额定电压 5 分钟后) I=0.01C _R U _R or 1.5mA whichever is minimum. (at 20°C, After 5minutes application of rated voltage) I=漏电流 (μA) U _R =额定电压 (V) C _R =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 _R I _R 105°C ≤1% Failure rate	UR 1.4×IR 40°C ≤1% Failure rate	U _R I _R 105°C 0%	U _R I _R =0 105°C 0%	U _R =0 I _R =0 105°C 0% Back up to 20 °C and placed more than 24 hours. U _R to be applied for 60 min before measurement.

尺寸图 Dimensions

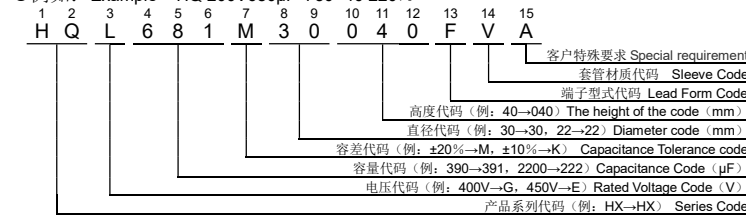
● 常用端子型式代码: Terminal Code



● 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 HQ 200V680μF Φ30×40 ±20%



纹波电流修正系数 Rated Ripple Current Multiplies

● 频率修正系数 Frequency coefficient

电压范围 (v) Rated voltage	频率 (Hz) Frequency			
	50 (60)	100 (120)	1k	≥10k
16~100	0.95	1.00	1.20	1.30
160~220	0.85	1.00	1.30	1.50

◆ 产品一览表 Standard Ratings

WV _{DC} (Surge Voltage) (V)	Cap (μ F)	Size D×L (mm)	tan δ 20°C 120Hz	ESR _{typ} 20°C 120Hz (m Ω)	Ripple Current 105°C 120Hz (Arms)	Catalog Part Number
25 (32)	4700	22×30	0.45	79	1.73	HQU472M22030□VA
	5600	22×35	0.45	66	2.11	HQU562M22035□VA
	6800	22×40	0.45	55	2.48	HQU682M22040□VA
	10000	25×40	0.45	37	3.12	HQU103M25040□VA
	15000	30×40	0.45	25	3.88	HQU153M30040□VA
	22000	30×50	0.45	17	4.83	HQU223M30050□VA
	33000	35×50	0.45	11	5.95	HQU333M35050□VA
35 (44)	47000	35×60	0.45	9	7.05	HQU473M35060□VA
	2200	22×25	0.40	151	1.23	HQT222M22025□VA
	2700	22×25	0.40	123	1.53	HQT272M22025□VA
	3300	22×25	0.40	100	1.64	HQT332M22025□VA
	3300	22×30	0.40	100	1.77	HQT332M22030□VA
	4700	22×35	0.40	69	2.19	HQT472M22035□VA
	4700	22×40	0.40	69	2.32	HQT472M22040□VA
	5600	22×40	0.40	58	2.49	HQT562M22040□VA
	6800	25×35	0.40	48	2.76	HQT682M25035□VA
	10000	25×45	0.40	33	3.59	HQT103M25045□VA
	10000	30×50	0.40	33	4.17	HQT103M30050□VA
	15000	30×50	0.40	22	4.85	HQT153M30050□VA
	15000	35×40	0.40	22	4.82	HQT153M35040□VA
	22000	35×45	0.40	15	5.49	HQT223M35045□VA
33000	35×70	0.40	12	6.56	HQT333M35070□VA	
50 (63)	2200	22×30	0.35	127	1.45	HQR222M22030□VA
	3300	22×30	0.35	84	2.00	HQR332M22030□VA
	3300	22×40	0.35	84	2.26	HQR332M22040□VA
	4700	22×40	0.35	59	2.50	HQR472M22040□VA
	4700	25×35	0.35	59	2.54	HQR472M25035□VA
	5600	25×40	0.35	50	2.91	HQR562M25040□VA
	6800	25×45	0.35	41	3.23	HQR682M25045□VA
	10000	30×50	0.35	28	4.19	HQR103M30050□VA
	10000	35×40	0.35	28	4.17	HQR103M35040□VA
	15000	35×50	0.35	19	5.17	HQR153M35050□VA
	15000	35×60	0.35	19	5.59	HQR153M35060□VA
	22000	35×70	0.35	14	6.76	HQR223M35070□VA
63 (79)	1000	22×25	0.30	186	1.03	HQQ102M22025□VA
	2200	22×30	0.30	84	1.82	HQQ222M22030□VA
	2700	22×40	0.30	69	2.05	HQQ272M22040□VA
	3300	22×40	0.30	56	2.30	HQQ332M22040□VA
	3300	25×40	0.30	56	2.47	HQQ332M25040□VA
	4700	25×50	0.30	40	3.15	HQQ472M25050□VA
	4700	30×30	0.30	40	3.17	HQQ472M30030□VA
	5600	30×40	0.30	33	3.76	HQQ562M30040□VA
	6800	30×50	0.30	27	4.20	HQQ682M30050□VA
	10000	35×50	0.30	19	5.29	HQQ103M35050□VA
	10000	35×60	0.30	19	5.70	HQQ103M35060□VA
	15000	35×60	0.30	13	6.24	HQQ153M35060□VA
	15000	35×70	0.30	13	6.68	HQQ153M35070□VA
	80 (100)	1000	22×30	0.25	186	1.37
2200		25×30	0.25	84	2.09	HQP222M25030□VA
2700		25×40	0.25	69	2.53	HQP272M25040□VA
2700		30×30	0.25	69	2.50	HQP272M30030□VA
3300		25×40	0.25	56	2.81	HQP332M25040□VA
3300		30×40	0.25	56	3.12	HQP332M30040□VA
4700		35×40	0.25	40	3.65	HQP472M35040□VA

WV _{DC} (Surge Voltage) (V)	Cap (μ F)	Size D×L (mm)	tan δ 20°C 120Hz	ESR _{typ} 20°C 120Hz (m Ω)	Ripple Current 105°C 120Hz (Arms)	Catalog Part Number	
80 (100)	4700	30×50	0.25	40	3.67	HQP472M30050□VA	
	5600	35×50	0.25	33	4.15	HQP562M35050□VA	
	6800	35×50	0.25	27	4.47	HQP682M35050□VA	
	10000	35×60	0.25	19	5.48	HQP103M35060□VA	
	10000	35×70	0.25	19	5.85	HQP103M35070□VA	
	15000	35×70	0.25	13	6.80	HQP153M35070□VA	
	22000	35×100	0.25	9	8.05	HQP223M35100□VA	
100 (125)	1000	25×30	0.20	186	1.47	HQO102M25030□VA	
	1800	25×35	0.20	103	1.95	HQO182M25035□VA	
	2200	25×50	0.20	84	2.52	HQO222M25050□VA	
	2700	30×40	0.20	69	2.81	HQO272M30040□VA	
	3300	35×30	0.20	56	3.03	HQO332M35030□VA	
	3300	35×40	0.20	56	3.40	HQO332M35040□VA	
	4700	35×50	0.20	40	3.82	HQO472M35050□VA	
	4700	35×60	0.20	40	4.13	HQO472M35060□VA	
	5600	35×60	0.20	33	4.56	HQO562M35060□VA	
	6800	35×60	0.22	27	5.09	HQO682M35060□VA	
	10000	35×80	0.20	19	6.46	HQO103M35080□VA	
	15000	35×100	0.20	13	7.84	HQO153M35100□VA	
	160 (200)	220	22×25	0.15	603	0.73	HQN221M22025□VA
		220	22×30	0.15	603	0.78	HQN221M22030□VA
330		22×40	0.15	402	1.09	HQN331M22040□VA	
470		25×35	0.15	294	1.32	HQN471M25035□VA	
470		25×40	0.15	294	1.40	HQN471M25040□VA	
560		25×45	0.15	245	1.61	HQN561M25045□VA	
560		30×30	0.15	245	1.51	HQN561M30030□VA	
680		25×35	0.15	202	1.58	HQN681M25035□VA	
680		25×45	0.15	202	1.77	HQN681M25045□VA	
820		30×50	0.18	168	2.26	HQN821M30050□VA	
820		35×35	0.18	168	2.12	HQN821M35035□VA	
1000		30×40	0.18	136	2.34	HQN102M30040□VA	
1500		30×50	0.15	92	2.85	HQN152M30050□VA	
1500		35×35	0.15	92	2.65	HQN152M35035□VA	
1800	35×60	0.15	75	3.54	HQN182M35060□VA		
2200	35×70	0.15	62	4.16	HQN222M35070□VA		
3300	35×70	0.18	40	4.71	HQN332M35070□VA		
200 (250)	220	22×25	0.15	603	0.78	HQL221M22025□VA	
	220	22×30	0.15	603	0.84	HQL221M22030□VA	
	330	22×30	0.15	402	1.02	HQL331M22030□VA	
	330	22×40	0.15	402	1.17	HQL331M22040□VA	
	470	25×35	0.15	294	1.41	HQL471M25035□VA	
	470	30×30	0.15	294	1.47	HQL471M30030□VA	
	560	30×30	0.15	245	1.61	HQL561M30030□VA	
	680	25×45	0.15	202	1.89	HQL681M25045□VA	
	680	30×40	0.15	202	1.99	HQL681M30040□VA	
	820	30×50	0.15	168	2.31	HQL821M30050□VA	
	820	35×40	0.15	168	2.00	HQL821M35040□VA	
	1000	30×50	0.15	136	2.66	HQL102M30050□VA	
	1000	35×35	0.15	136	2.51	HQL102M35035□VA	
	1500	35×50	0.15	92	3.05	HQL152M35050□VA	
1800	30×70	0.15	75	3.54	HQL182M30070□VA		
1800	35×60	0.15	75	3.60	HQL182M35060□VA		
2200	35×60	0.15	62	3.85	HQL222M35060□VA		
3300	35×70	0.15	40	5.11	HQL332M35070□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.