

# HKF 系列 Series

## 特点 Features

- 5mm高度, 105°C。5mmL, 105°C。
- 适用于移动通讯、袖珍对讲机、汽车音响等电路。  
Used in locomotive communication, pocked intercom telephone and car audio circuits, etc.
- RoHS指令已对应完毕。Adapted to the RoHS directive.



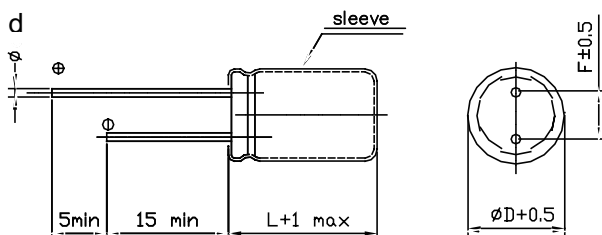
## 主要技术性能 Specifications

项目 Items	特性 Performance Characteristics																								
使用温度范围 Operating Temperature Range	-40~+105°C																								
额定电压范围 Rated Voltage Range	4~50V																								
标称电容容量范围 Nominal Capacitance Range	0.1~220μF																								
标称电容容量允许偏差 Capacitance Tolerance	±20% (120Hz, +20°C)																								
漏电流 Leakage Current	$I \leq 0.01CV$ or $3(\mu A)$ 2分钟(at 20°C, after 2 minutes) 取最大者 (whichever is greater)																								
损耗角正切值 (tgδ) Dissipation Factor (+20°C, 120Hz)	<table border="1"> <thead> <tr> <th><math>U_r</math> (V)</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>tgδ</td> <td>0.35</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> </tr> </tbody> </table>	$U_r$ (V)	4	6.3	10	16	25	35	50	tgδ	0.35	0.24	0.20	0.16	0.14	0.12	0.10								
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温度特性 Temperature Characteristics (Impedance ratio at 120Hz)	<table border="1"> <thead> <tr> <th><math>U_r</math> (V)</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>Z-25°C / Z+20°C</td> <td>7</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>15</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	$U_r$ (V)	4	6.3	10	16	25	35	50	Z-25°C / Z+20°C	7	4	3	2	2	2	2	Z-40°C / Z+20°C	15	10	8	6	4	3	3
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耐久性 Load Life	<p>+105°C加额定电压1000小时, 恢复16小时后: After applying rated voltage for 1000 hours at +105°C and then resumed for 16 hours:                      电容容量变化率 Capacitance change : ±25%初始测量值以内 ±25% of the initial measured value (4V: ≤±30%)                      漏电流 Leakage current : ≤初始规定值 ≤the initial specified value                      损耗角正切值 Dissipation factor : ≤2倍初始规定值 ≤2times of the initial specified value</p>																								
高温贮存 Shelf Life	<p>+105°C, 1000小时贮存后, 恢复16小时后: After storage for 1000 hours at +105°C and then resumed for 16 hours:                      电容容量变化率 Capacitance change : ±25%初始测量值以内 ±25% of the initial measured value (4V: ≤±30%)                      漏电流 Leakage current : ≤2倍初始规定值 ≤2times of the initial specified value                      损耗角正切值 Dissipation factor : ≤2倍初始规定值 ≤2times of the initial specified value</p>																								

## 频率修正系数 Frequency Coefficient

F(Hz) \ CAP(μF)	F(Hz)			
	60	120	1K	≥10K
0.1~68	0.8	1	1.3	1.5
100~220	0.8	1	1.15	1.2

## 外形图及尺寸表 Cases Size et ble



单位 Unit: mm

D	4	5	6.3	8
F	1.5	2.0	2.5	3.5
d	0.45			

尺寸 Dimensions

CAP(μF) \ WV		4V(0G)		6.3V(0J)		10V(1A)		16V(1C)		25V(1E)		35V(1V)		50V(1H)	
		Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.1	0R1													4×5	1.0
0.22	R22													4×5	2.6
0.33	R33													4×5	3.2
0.47	R47													4×5	3.8
1	010													4×5	6.2
2.2	2R2													4×5	11
3.3	3R3													4×5	14
4.7	4R7									4×5	13	4×5	15	5×5	19
10	100			4×5	13	4×5	15	4×5	18	5×5	23	5×5	25	6.3×5	30
22	220	4×5	22	4×5	22	5×5	27	5×5	30	6.3×5	38	6.3×5	48	8×5	60
33	330	5×5	30	5×5	30	5×5	35	6.3×5	40	6.3×5	48				
47	470	5×5	36	5×5	36	6.3×5	46	6.3×5	50	6.3×5	55				
100	101	6.3×5	60	6.3×5	60	6.3×5	65	6.3×5	75	8×5	80				
220	221	8×5	100	8×5	110	8×5	120								

Size φD×L(mm)

Maximum Allowable Ripple Current (mA rms) at 105°C 120Hz