

## KHT 50 Series

### Applications

- High DC Voltage filtering
- Voltage multipliers & dividers
- HF signal coupling
- Pulses / Fast discharges

### Main characteristics

- Compact
- $U_T \geq 2 \times U_N$
- High performance composite dielectric
- Lightweight
- Climatic category 40/070/21
- Low dielectric losses
- Compliant with SF6 environmental conditions

### Execution

- Insulated protective sleeve
- Axial leads with tinned copper wires
- Epoxy-resin end seal

### Mounting

- Can be mounted in any position
- Recommended fastening with collar/insulated wraps



## 1.0 Rated values and operational data

Nominal voltage $U_N$	[VDC]	10 k	
	[VAC]	500	50/60 Hz permanent
Acceptable HF voltage	[V <sub>rms</sub> ]	≤ 500	20 Hz ... 500 kHz lowering see graph
Test voltage $U_T$	[VDC]	20 k	1 min, 23 °C
	[VAC]	5 k	50 Hz, 10s
Impulse voltage	[V̂]	22 k	wave 1.2 / 50 μs
Test description at 2 impulses/min		10 x + 20 kV then 10 x -20 kV, wave 1.2 / 50 μs	

## 2.0 Capacitance range

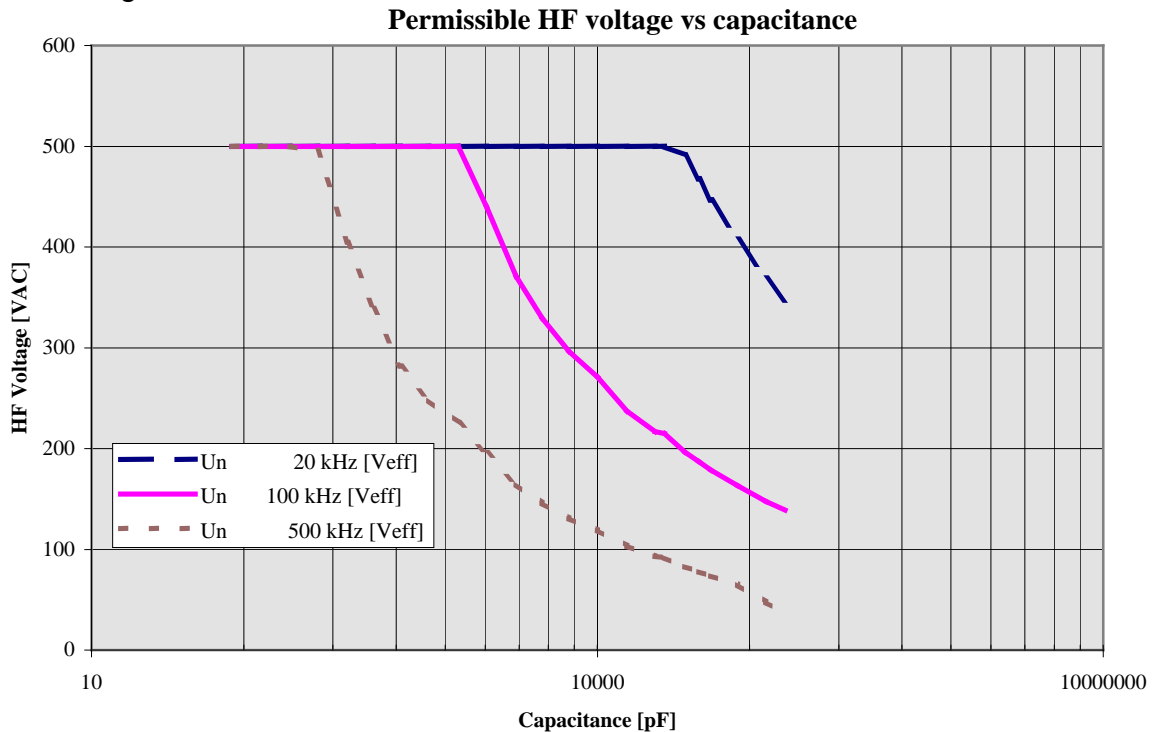
$C_n \Rightarrow$	68 pF	→	130 nF
10'000 VDC			

### 3.0 Characteristics

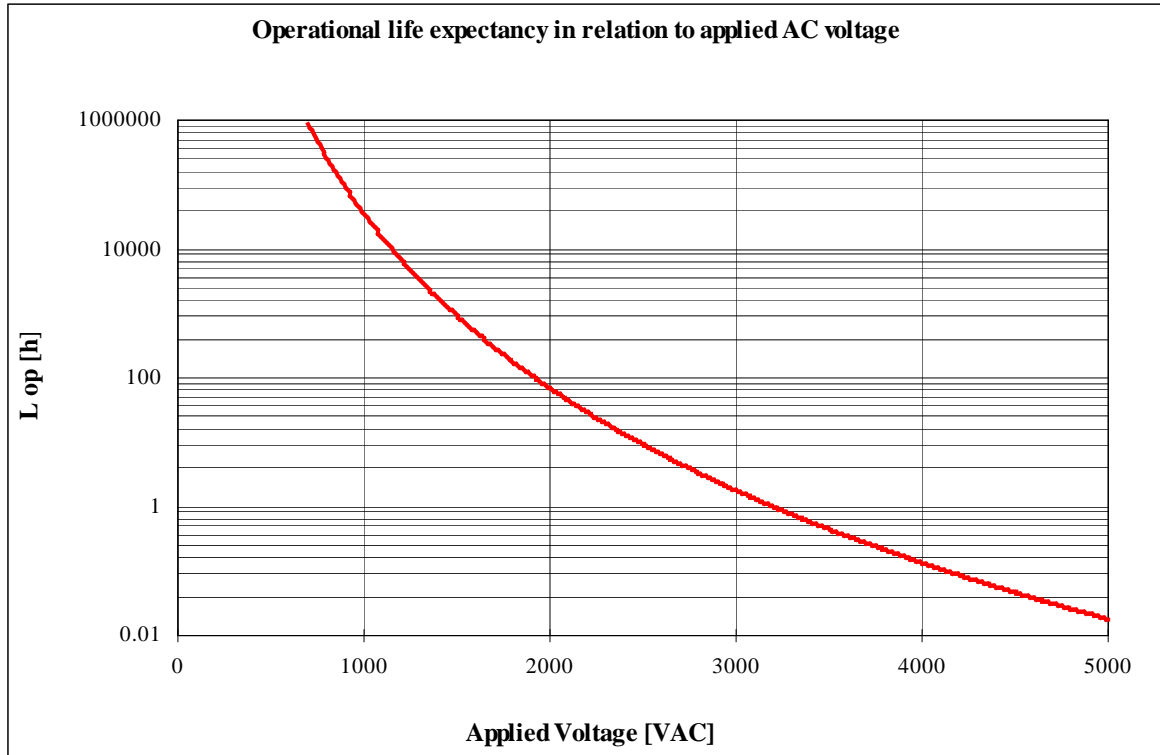
			Min	Typ	Max
Dissipation factor 1 VAC / 23 °C	$tg \delta$	100 Hz 1 kHz 10 kHz 100 kHz 500 kHz < 10 nF 500 kHz 10 nF to 68 nF 500 kHz > 68 nF			$5 \times 10^{-4}$ $10 \times 10^{-4}$ $20 \times 10^{-4}$ $25 \times 10^{-4}$ $25 \times 10^{-4}$ $30 \times 10^{-4}$ $40 \times 10^{-4}$
Insulation resistance	$R_i$	1 min, 500 VDC, 23°C [GΩ]	100		
Self inductance	ESL	[nH/mm]			1
Temperature coefficient	$\alpha_c$	-40 ... +70°C [ppm / °C]		-25±35	
Climatic category	IEC Standard	40/70/21			
Reliability		3200 VAC, 50Hz, time to failure	60 min		

### 4.0 Operating limits

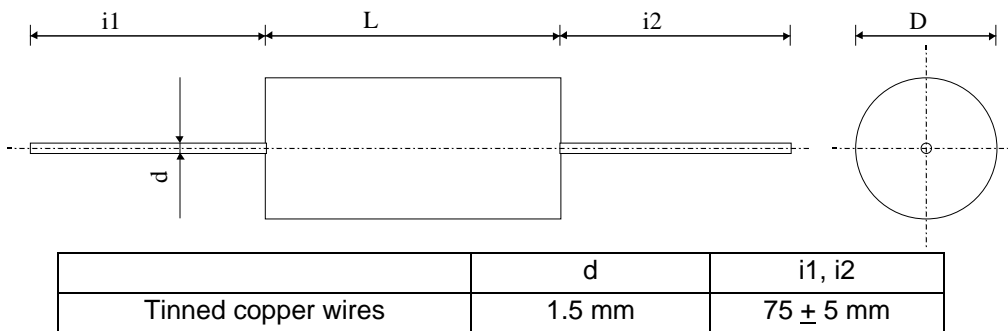
#### 4.1 RMS voltage limits



4.2 Operational lifetime



5.0 Dimensions, shape:



Capacitors delivered in bulk.

B4F1 Pos.	Type	Cn [pF]	Dimension		Un <sub>20</sub>	Un <sub>100</sub>	Un <sub>500 kHz</sub>	I <sub>RMS 500 kHz</sub>	ESR <sub>500kHz</sub>
			∅ [mm]	L [mm]	kHz [Veff]	kHz [Veff]	500 kHz [Veff]	kHz [A]	500kHz [Ω]
1	KHT 50 - 468	68	14.5	55	500	500	500	0.11	11.706
2	KHT 50 - 310	100	14.5	55	500	500	500	0.16	7.961
3	KHT 50 - 315	150	14.5	55	500	500	500	0.24	5.308
4	KHT 50 - 322	220	14.5	55	500	500	496	0.34	3.620
5	KHT 50 - 333	330	14.5	55	500	500	405	0.42	2.414
6	KHT 50 - 347	470	14.5	55	500	500	339	0.50	1.696
7	KHT 50 - 368	680	14.5	55	500	500	282	0.60	1.173
8	KHT 50 - 210	1000	16.3	55	500	500	248	0.78	0.799
9	KHT 50 - 215	1500	15.5	75	500	500	226	1.06	0.534
10	KHT 50 - 222	2200	17	75	500	440	196	1.35	0.365
11	KHT 50 - 233	3300	18	75	500	371	165	1.71	0.244
12	KHT 50 - 247	4700	20	75	500	329	146	2.16	0.172
13	KHT 50 - 268	6800	23	75	500	296	131	2.79	0.120
14	KHT 50 - 110	10000	27	77	500	271	119	3.73	0.083
15	KHT 50 - 115	15000	25	100	500	237	103	4.86	0.056
16	KHT 50 - 122	22000	30	100	500	217	93	6.44	0.039
17	KHT 50 - 125	25000	33	100	500	215	92	7.21	0.035
18	KHT 50 - 133	33000	36	100	491	197	83	8.59	0.027
19	KHT 50 - 140	40000	31	135	468	187	78	9.80	0.023
19	KHT 50 - 147	47000	33	135	447	179	74	10.87	0.020
20	KHT 50 - 168	68000	39	135	408	163	65	13.90	0.015
21	KHT 50 - 010	100000	46	135	369	148	48	15.00	0.011
22	KHT 50 - 013	130000	52	135	347	139	37	15.00	0.009