# JWCO® KM Series

### KM Series 105℃

#### **Fearures**

- ♦ Used in communication equipments, switching power supply, etc
- ◆ Load life 2000 hours at 105℃
- Safety vent construction design •

#### Specifications





ltem	Performance Characteristics														
Operating Temperature Range	-40to+105°C					-40to+105℃									
Rated Voltage Range	6.3to100VD	С				160to450VDC									
Capacitance Range	0.1to4700µ	F				0.47to220μ F									
Capacitance Tolerance		±20% (100Hz or 120Hz, +20°C)													
Leakage Current (+20°C, max)	A) After1minutes, whichever i	I $\leqslant$ 0.01CV or 3( $\mu$ )After1minutes, whichever is greater measured ith rated working voltage applied $^{1}$ I $\leqslant$ 0.03CV+10( $\mu$ A)After 1minutes, whichever is greater measured working voltage applied											with	rated	
	WorkingVoltabe(VDC)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
Dissipation Factor	D.F(%)	22	20	16	14	12	10	9	8	12	12	12	15	15	17
(tgō )	For capacitance1000µ F,Add 2%per another 1000µ F (100Hz or 120Hz, +20°C)														
	Impedance ratio .max														
	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
Low Temperature Characteristics	Z - 25°C / Z+20 °C	4	3	2	2	2	2	2	2	2	2	3	5	6	15
(120Hz)	Z - 40°C / Z+20 °C	8	6	4	3	3	3	3	3	-	-	-	-	-	-
(12312)	capacitance>1000 $\mu$ F , and 0.5% per another 1000 $\mu$ F for Z-25 °C/Z+20 °C, add 1% per another 1000 $\mu$ F for Z-40 °C /Z+20 °C														
	Test conditions														
	Duration time: 2000hours														
	Ambient timperature: +105℃														
	Applied voltage: Rated Working Voltage(DVC)														
Load Life	After test requirements: Resumde 16 hours at normal temperature														
	Capacitance change: ≤20% of the initial measured value														
	Dissipation Factor:≤200% of the	initia	1 spec	ified 1	value										
	Leakage Current:≪The initial specified value														
	Test conditions														
	Duration time: 1000hours														
	Ambient temperature:+105℃														
	Applied voltage: None														
Shelt Life	After test requirements: Resumed normal timperature	16 hc	urs at	t											
	Capacitance change:≤20% of the	initia	1mea	sured	value										
	Dissipation Factor:≤200% of the	initia	1 spec	ified 1	value										
	Leakage Current:≤200% of the i	nitial :	specif	ied va	lue										

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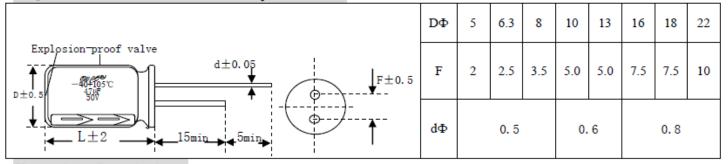
Multiplier for ripple current vs. frequency

(µ I	F) / Hz	60(50)	120	400	1K	10K	50K~100K
	≤10	0.8	1	1.30	1.30	1.65	1.70
	10~100	0.8	1	1.23	1.23	1.48	1.53
	100~1000	0.8	1	1.16	1.16	1.35	1.38
	>1000	0.8	1	1.11	1.11	1.25	1.28

Multiplier for ripple current vs. temperature

$^{\circ}$	45	60	70	85	105
	2.10	1.90	1.40	1.25	1.00

Diagram of Dimension (≥DΦ8 has proof valve)



Sleeve logo Description:

JWCO®	 -40+105℃	47UF	50V	-	-
LOGO	 Temperature	Nominal	Operating	_	_
2000	remperature	capacity	Voltage		

Case S	ize											DxL(	mm)	
ψv μ F	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
0. 1						5x11	5x11	5x11						
0. 22						5x11	5x11	5x11						
0. 33						5x11	5x11	5x11						
0. 47						5x11	5x11	5x11	5x11	5x11	5x11	6.3x11	63x11	8x12
1						5x11	5x11	5x11	6.3x12	6.3x12	6.3x12	8x12	6.3x12	8x12
2. 2						5x11	5x11	5x11	6.3x12	6.3x12	6.3x12	8x12	8x12	8x12
3. 3						5x11	5x11	5x11	6.3x12	6.3x12	8x12	8x12	8x12	8x16
4.7						5x11	5x11	5x11	63x12	8x12	8x12	8x12	10x13	10x13
6.8						5x11	5x11	5x11	63x12	8x12	8x12	8x12	10x13	10x17
10			5x11	5x11	5x11	5x11	6.3x12	63x11	8x12	10x13	10x17	10x17	10x17	10x20
15			5x11	5x11	5x11	5x11	6.3x12	6.3x12	8x12	10x13	10x17	10x15	10x17	10x20
22		5x11	5x11	5x11	5x11	6.3x11	6.3x12	8x12	10x20	10x17	10x20	13x21	13x21	16x25
33	5x11	5x11	5x11	5x11	5x11	6.3x12	8x12	10x13	10x20	13x20	13x25	16x25	16x18	16x30
47	5x11	5x11	5x11	6.3x12	6.3x12	6.3 x12	8x12	10x16	13x25	13x25	13x25	13x25	16x25	16x30
68	5x11	5x11	5x11	6.3x12	6.3x12	6.3x12	8x12	10x16	13x25	13x25	13x25	13x25	16x25	16x30
82	5x11	5x11	5x11	6.3x12	6.3x12	8x12	10x16	13x20	16x25	16x32	16x32	18x36	18x32	
100	5x11	5x11	5x11	6.3x12	6.3x12	8x12	10x16	13x20	16x25	16x32	16x32	18x36	18x32	
120	5x11	6.3x12	6.3x12	6.3x12	8x12	10x13	10x16	13x20	16x25	16x32	16x32	18x36	18x36	
150	6.3x12	6.3x12	6.3x12	8x12	8x12	10x14	10x20	13x25	13x36	16x36	18x36	22x26	22x36	
220	6.3x12	6.3x12	6.3x12	8x12	8x12	10x16	10x20	16x25	16x36	18x41	18x41			
330	8x12	8x12	8x12	8x12	10x16	10x20	13x20	16x32						
470	8x12	8x12	8x12	10x16	10x17	13x20	13x25	16x36						
820	8x12	8x12	8x14	10x16	10x25	13x25	16x25	18x41						
1000	8x12	8x12	8x16	10x17	13x25	13x25	16x32	18x41						
2200	10x20	10x20	13x20	13x21	16x32	18x36	18x41							
3300	10x25	13x20	13x25	16x26	18x36	18x30								

4500								l			l
4700	13x25	16x25	16x26	16x26	18x40			l			l
1.00	10.110	20.20	10020	20.20	101110			l			l

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Maximum Ripple Current

(mA 120 Hz at 105°C)

VW V														
UF	6. 3	10	16	25	35	50	63	100	160	200	250	350	400	450
0. 1						1. 3	1. 3	1. 9						
0. 22						2. 9	2. 9	3. 4						
0. 33						4	4. 5	5						
0. 47						7	7	10	11	12	12	14	15	17
1						12	12	15	16	16	17	20	20	22
2. 2						18	20	25	25	25	28	35	35	36
3. 3						25	26	35	35	40	45	45	48	48
4. 7				26	28	30	35	45	45	50	52	55	57	60
6. 8				26	30	34	35	50	50	52	55	60	62	72
10			35	38	45	50	50	56	59	59	64	79	79	87
15			42	45	50	52	60	64	79	84	89	92	95	98
22		49	54	57	60	68	82	96	96	96	110	130	145	165
33	54	60	64	69	75	90	100	120	125	140	140	175	185	210
47	65	70	99	105	110	125	135	160	165	165	180	230	240	260
68	70	80	105	112	120	135	150	180	195	195	210	240	260	290
82	75	85	110	115	135	145	178	210	225	248	265	285	310	320
100	95	105	125	135	170	180	225	245	270	285	310	335	350	380
120	115	125	130	162	205	216	270	294	325	342	375	405	420	
150	135	140	170	205	255	270	340	365	405	430	465	500	525	
220	160	175	215	230	300	345	400	450	480	625	680			
330	195	245	260	335	400	460	540	700	890	940				
470	270	290	370	440	520	610	700	880	960					
820	390	420	535	635	752	880	1010							
1000	460	550	640	770	920	1080	1210							
2200	810	860	1000	1170	1340	1530								
3300	960	1100	1300	1460	1650	1750								
4700	1330	1400	1600	1780	1900									

## **Precautions**

# Note the use of electrolytic capacitors:

### 1 Polarity

Aluminum electrolytic capacitors generally have polarity reverse polarity electrolytic capacitor is a short circuit caused damage and leakage, and therefore does not recognize when the polarity of the electrical loop or converted for use in the design of the loop polarity, please Optional polar electrolytic capacitors.

#### 2 Overload

Do not over-voltage is applied continuously. When the voltage overload electrolytic capacitor leakage current will rapidly increase, so electrolytic capacitors should not exceed the rated working voltage.

## 3 temperature and lifetime

Temperature electrolytic capacitors do not exceed the maximum temperature of the setting range. Life electrolytic capacitors depends on the temperature of the electrolytic capacitors in general use when the temperature decreases 1 0 °C, its life is doubled, so the electrolytic capacitor should be used at lower temperatures as much as possible.

#### 4. Proof Kong

An electrolytic capacitor using explosion proof design hole opening side space should be maintained at least 3 mm and the distance on the other institutions, such conditions are not satisfied,

Explosion hole will not work properly.

#### 5. Ripple current

Do not apply more than the rated maximum allowable ripple current value of ripple current.

When applied to a large electrolytic capacitor ripple current of a large increase in the temperature will cause degradation of the electrical characteristics of electrolytic capacitors and breakage, if necessary, impose more of a fixed value of ripple current requirements, consult factory staff.

#### 6 discharge

Frequent and rapid charging and discharging the capacitor will make the abnormal temperature rise, causing leakage current increases, reduced capacity, and sometimes cause damage to the product, consult factory workers such as charge and discharge characteristics when there are special requirements.

#### 7 electrolytic storage capacitor

When the electrolytic capacitor after a long period after the placement, which usually tends to increase the leakage current. Therefore, the use of electrolytic capacitors place a long time after the previous post, you must first make the electrical characteristics applying a fixed voltage returns to normal; such as when stored for longer than six months or more, please protect the resistance of 1 k $\Omega$  series of row after it sustained load fixed Operating voltage 30 minutes. Also electrolytic capacitors should be stored at room temperature and normal humidity of the environment.

#### 8 Solder

Improper soldering temperature and time can cause abnormal contraction of the surface of the

hose rupture, and sometimes also by high-temperature thermal conductivity to the terminal pin and internal sub-prime adversely affect the product, and therefore must be taken to avoid excessive temperatures and too long for the solder.

### 9. Mechanical strength of the guide pin and terminal

Do not apply excessive force on the outside of the guide pin and terminals. Do not flip electrolytic capacitors have been soldered to the PC board, not to lift or move the entire PC board as a springboard to electrolytic capacitors.

#### 10 The substrate cleaning after soldering

Such as the use of halogenated organic solvents to wash the substrate, the solvent may penetrate into the interior of electrolytic capacitors cause corrosion.

## 11 Casing material

General use of plastic materials, mostly plastic sleeve (PVC), such as plastic tubes immersed in xylene or toluene and then placed under high temperatures, will produce rupture phenomenon also lost the insulation function.

12 of the Company's product quality according to JIS -. C - 5 1 4 1 W standard assessment test methods according to their reliability specification JIS-C-5102's as a benchmark.

13. The Company in accordance with the provisions of the Montreal agreement, on the production process does not use drugs destroy the ozone layer.