

Interference Suppression Capacitor – Class X2



WINDAY (AC310V)

1. Scope :

The specification specified the construction, dimension and electrical characteristics of Winday radio interference suppression capacitors type MPX. For the use of across-the-line, antenna - coupling, EMI filter, spark killer and line-by-pass circuits where safety requirements are critical.

2. Operation Temperature :

-40°C ~ +110°C

3. Capacitance Range :

0.001 μ F ~ 2.2 μ F

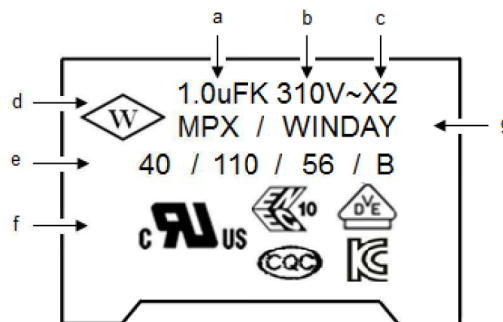
4. Capacitance Tolerance :

\pm 10% (K)

5. Rated Voltage :

310Vac(50 ~ 60 Hz)

6. Mark :



a. Nominal capacitance in μ F, such as 1.0

b. Rated voltage in AC volts, such as 310V~

c. Capacitors class, such as X2

d. Winday Logo

e. Climatic category, such as 40/110/56/B

f. Recognized approval mark

g.MPX for Type, and Winday for company name

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7. Specifications (IEC 60384-14)

Test items	Performance	Test Method
Withstand voltage (Between Terminals)	Shall be no abnormality	1200Vdc Test of 60sec.
Between terminal and Enclosure	Shall be no abnormality	UR×200%+1500Vac, 60sec.
Insulation resistance (Between Terminals)	$C_R \leq 0.33\mu F$ IR $\geq 15,000M\Omega$ $C_R > 0.33\mu F$ IR $\geq 5,000 M\Omega \div C(\mu F)$	Measured at 100±15Vdc, For 60sec / 25 °C
Capacitance	Within the tolerance specified	1KHz, 1Vrms Max. at 25 °C
Dissipation Factor	0.001 (0.1%) Max.	1KHz, 1Vrms Max. at 25 °C
Tense Strength of Terminal	No wire breakage and no damage of capacitor	1. Load Force : 1.0 Kg 2. Holding Time : 10 ± 1sec
Bending Strength of Terminal	No wire breakage and no damage of capacitor	1. Load Force : 0.5 Kg 2. Bending Time : 4 x 90 ° in 5sec
Vibration	(1) Appearance : No visible damage (2) Withstand voltage : normal	1. Frequency change : 1min. per cycle 10~55~10Hz 2. Vibration distance : 1.5mm 3. Course: X · Y · Z (axis) 4. Time : 2h / axis (6h in total)
Solder-ability	95% Of the surface tinning	1. Solder temperature: 270±5 °C 2. Solder time: 2±0.5sec
Heat Shock test	(1) Appearance : No visible damage (2) Withstand voltage : Normal (3) Capacitance change : ≤±3% of the initial value	The terminal of capacitor shall be immersed in the melting solder. 1. Solder temperature: 270±5 °C 2. Solder time: 3±0.5sec
Cold Resistance	(1) Appearance : No visible damage (2) Capacitance change : ≤0~ -10% of the initial value	1. Test temperature: -40 °C 2. Test times: 2Hrs

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<p><i>Dry Heat Resistance</i></p>	<p>(1) <i>Appearance : No visible damage</i> (2) <i>Withstand voltage : Normal</i> (3) <i>Capacitance change : $\leq +5\sim -2\%$ of the initial value</i> (4) <i>Insulation resistance: $\geq 50\%$ of the rated value</i></p>	<p>1. <i>Test Temperature: $110\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$</i> 2. <i>Test times: 2Hrs</i></p>
<p><i>Humidity Resistance</i></p>	<p>(1) <i>Appearance : No visible damage</i> (2) <i>Withstand Voltage : Normal</i> (3) <i>Capacitance change : $\leq \pm 1\%$ of the Initial value</i> (4) <i>Insulation resistance: $\geq 50\%$ of the rated value</i> (5) <i>DF ($\tan\delta$) ≤ 0.001</i></p>	<p>1. <i>Test Temperature: $40\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$</i> 2. <i>Relative Humidity: 90 ~ 95%</i> 3. <i>Test Times: 500 ± 24 Hrs</i></p>
<p><i>Heat Resistance (Charge & Discharge)</i></p>	<p>(1) <i>Appearance : No visible damage</i> (2) <i>DF ($\tan\delta$) ≤ 0.001</i> (3) <i>Capacitance change : $\pm 10\%$ of the initial value</i> (4) <i>Insulation resistance: $\geq 50\%$ of the rated value</i></p>	<p>1. <i>Test voltage : Rated voltage charge for 2 sec. Discharge for 2 sec. repeated for 1000 ± 100 cycles</i> 2. <i>Test temperature: $110\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$</i></p>
<p><i>Heat Resistance (Continuous)</i></p>	<p>(1) <i>Appearance : No Visible Damage</i> (2) <i>DF ($\tan\delta$) ≤ 0.002</i> (3) <i>Capacitance Change : $\pm 10\%$ of the initial value</i> (4) <i>Insulation Resistance: $\geq 50\%$ of the rated value</i></p>	<p>1. <i>Test Voltage: 125% of the rated voltage for $1000V_{rms}$ for 0.1s every one hour during test.</i> 2. <i>Test temperature: $110\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$</i> 3. <i>Test times: 1008 ± 24 Hrs</i></p>

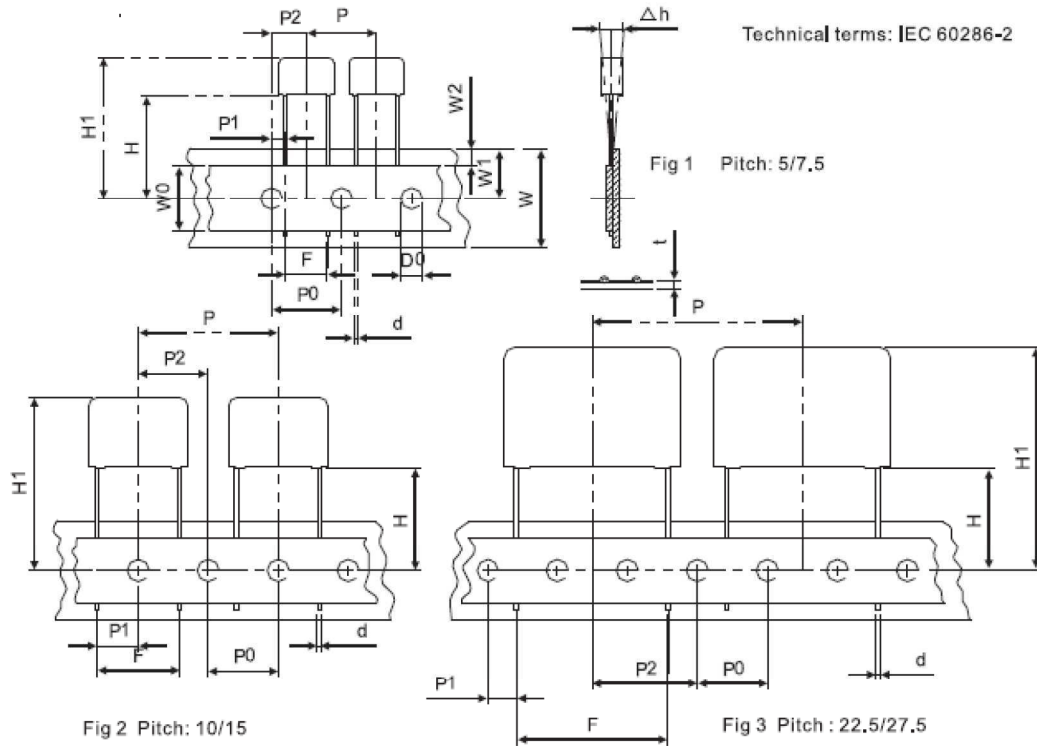
8. Storage conditions and duration

Packaged capacitors should be kept in clean, ventilated, dry coffers, not near the heat source, not subject to direct sunlight, is strictly prohibited and chemical reagents, acid and harmful gas storage together.

Capacitor at a temperature within the range $20 \sim 25\text{ }^{\circ}\text{C}$, humidity less than 50% of the state of storage for one year.

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Table II



Technical terms: IEC 60286-2

Description	Symbol	Pitch:5	Pitch: 7.5	Pitch:10	Pitch:15	Pitch:22.5	Pitch:27.5
Carrier tape width	W	18+/-0.5	18+/-0.5	18+/-0.5	18+/-0.5	18+/-0.5	18+/-0.5
Hold down tape width	$W0$	9.5min	9.5min	9.5min	9.5min	9.5min	9.5min
Hole position	$W1$	9.0+/-0.5	9.0+/-0.5	9.0+/-0.5	9.0+/-0.5	9.0+/-0.5	9.0+/-0.5
Hold down tape position	$W2$	0-3.0	0-3.0	0-3.0	0-3.0	0-3.0	0-3.0
Feed hole diameter	$D0$	4.0+/-0.2	4.0+/-0.2	4.0+/-0.2	4.0+/-0.2	4.0+/-0.2	4.0+/-0.2
Taping pitch	P	12.7+/-1.0	12.7+/-1.0	25.4+/-1.0	25.4+/-1.0	38.1+/-1.0	38.1+/-1.0
Feed hole pitch	$P0$	12.7+/-0.2	12.7+/-0.2	12.7+/-0.2	12.7+/-0.2	12.7+/-0.2	12.7+/-0.2
Centering of the lead wire	$P1$	3.85+/-1.3	2.6+/-0.7	7.7+/-0.7	5.2+/-0.7	7.8+/-0.7	5.3+/-0.7
Centering of the body	$P2$	6.35+/-0.3	6.35+/-0.3	12.7+/-1.3	12.7+/-1.3	19.05+/-1.3	19.05+/-1.3
Height of component from tape center	$H\Delta$	16.5+/-0.3	16.5+/-0.5	16.5+/-0.5	16.5+/-0.5	16.5+/-0.5	16.5+/-0.5
		18.5+/-0.5	18.5+/-0.5	18.5+/-0.5	18.5+/-0.5	18.5+/-0.5	18.5+/-0.5
Top edge of component	$H1$	32.2max	32.2max	39.0max	39.0max	44.0max	44.0max
Lead spacing(pitch)	F	5.0+0.8-0.2	7.5+0.8-0.2	10.0+0.8-0.2	15.0+0.8-0.2	22.5+0.8-0.2	27.5+0.8-0.2
Lead wire diameter	d	0.5+/-0.05	0.6+/-0.05	0.6+/-0.05	0.8+/-0.05	0.8+/-0.05	0.8+/-0.05
Component alignment	Δh	0+/-2.0	0+/-2.0	0+/-2.0	0+/-2.0	0+/-3.0	0+/-3.0
Tape thickness	t	0.7+/-0.2	0.7+/-0.2	0.7+/-0.2	0.7+/-0.2	0.7+/-0.2	0.7+/-0.2

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APPROVAL SHEETS FOR SAFETY STANDARD OF TYPE MPX-X2

Approval marks	Standards	Certificate	Climatic Category	Rated Cap.	Rated Voltage
	UL 60384-14	E302125	40/110/56/B	.001 ~2.2 μ F	275/310Vac
	EN60384-14:09	E302125	40/110/56/B	.001 ~2.2 μ F	275/310Vac
	EN 60384-14:2005-08 IEC 60384-14:(Ed 3)	40030283	40/110/56/B	.001 ~2.2 μ F	275/310Vac
	GB/T14472-1998	CQC05001012269 CQC13001096493	40/110/56/B	.001 ~3.3 μ F	275Vac 310Vac
	K60384-14	SU03034-12001 SU03034-12002 SU03034-12003 SU03034-12004	40/110/56/B	.001 ~2.2 μ F	275/310Vac

For technical questions, contact :

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