



Product / Process Change Notification (PCN)

- ☒ Major change
☐ Minor change

PCN #: PCN_WCAP-FTX2_20231101

Affected Series: WCAP-FTX2

PCN Date: August 01, 2023

Effective Date: November 01, 2023

Change Category:

- ☐ Equipment / Location
☒ General Data
☐ Material
☐ Process
☒ Product Design
☒ Shipping / Packaging
☐ Supplier
☐ Software

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Data Sheet Change:

- ☒ Yes ☐ No

Attachment:

- ☐ Yes ☒ No

Description and purpose of change:

Because of a database mismatch, Würth Elektronik will update datasheets for **WCAP-FTX2 products with $0.01 \mu F \leq C \leq 4.7 \mu F$** .

The component Marking will be changed to the current state of art.

There will be no change in fit, function, quality or reliability of the product.

Detail of Change:

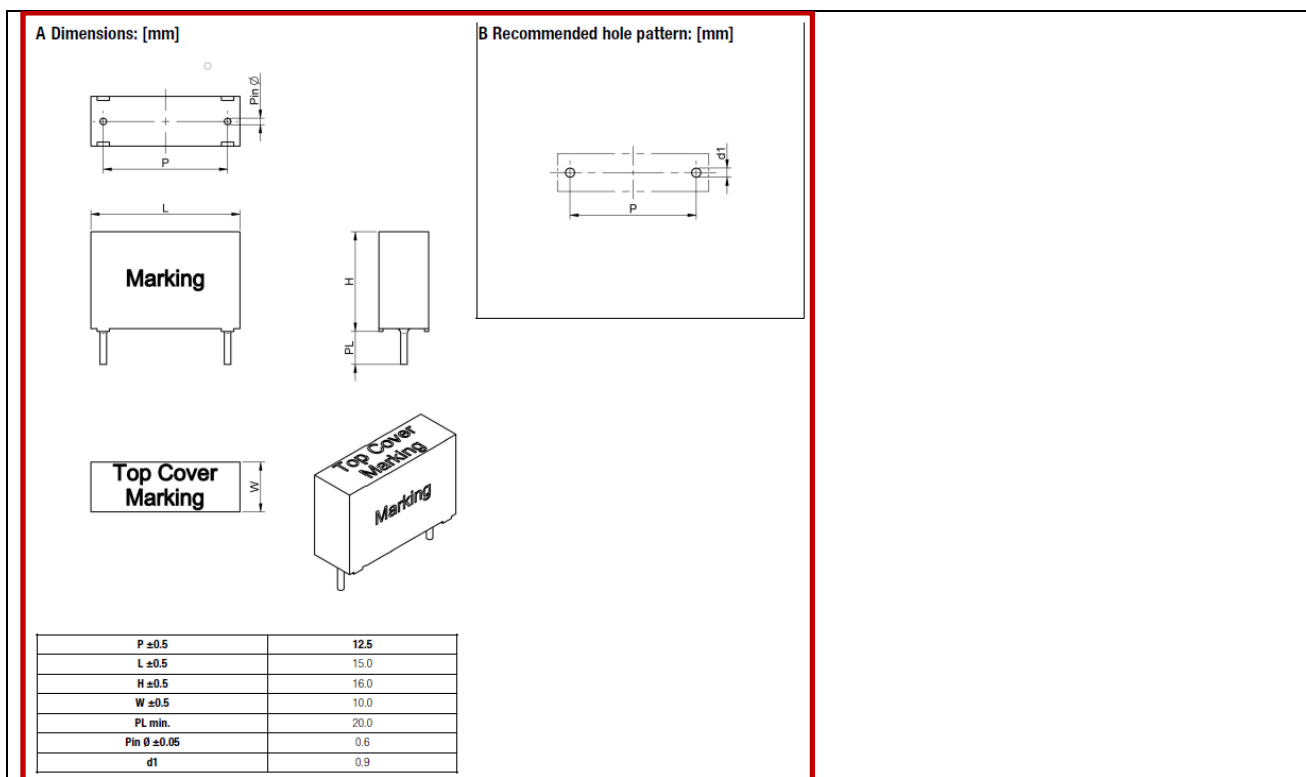
Datasheet Update

Würth Elektronik will update the datasheet layout in general for **WCAP-FTX2 products with $0.01 \mu F \leq C \leq 4.7 \mu F$** .

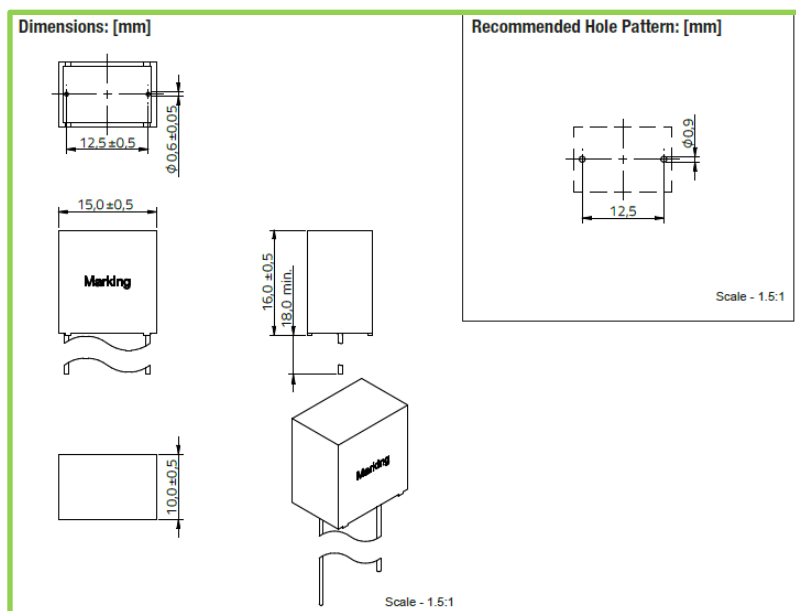
Furthermore with this layout update Würth Elektronik will correct the electrical and mechanical characteristics. All corrections in terms of electrical characteristics are shown below. They will also be clearly visible in the new datasheets which Würth Elektronik will provide on the website shortly.

· Würth Elektronik will update the dimensioning from an **indirect dimensioning** to **direct dimensioning**.

All corrections in terms of mechanical characteristics are shown. In order to visualize the corrections of the dimensions, an example of the old and the new drawings is shown below.



Example old drawings with indirect dimensioning



Example new drawings with direct dimensioning

In the course of the update from indirect to direct dimensioning, the values for the dimensions and tolerances will be updated. The upcoming corrections can be seen more detailed in the pictures above.



· Würth Elektronik will correct the data of **Pin Length** from "**20 mm min.**" to "**18 mm min.**" for the following part numbers:

890324022017	890324023006	890324023007	890324023008	890324023010
890324023011	890324023015	890324023017	890324023019	890324023021
890324023023	890324023024	890324023025	890324023028	890324024001
890324024002	890324024003	890324024005	890324025004	890324025006
890324025007	890324025009	890324025011	890324025013	890324025015
890324025017	890324025020	890324025022	890324025025	890324025027
890324025031	890324025033	890324025034	890324025039	890324025043
890324025045	890324025047	890324026003	890324026007	890324026014
890324026018	890324026020	890324026024	890324026027	890324026030
890324026034	890324027009	890324027012	890324027021	890324027025
890324027030	890324023025RP	890324023028AP	890324024002RP	890324025017AP
890324025027AP	890324025034AP			

· Würth Elektronik will update the format of how **the General Information** is displayed (including Temperature Coefficient, Storage Conditions, etc.) for all parts in this PCN. Especially, we added the application here, all parts of WCAP-FTX2 are only designed to be used across the mains, and are not approved for series applications.

Würth Elektronik will update the General Information from:

E General information:

X2-Safety Class Capacitor
 Storage Conditions: 35°C, <45% RH
 Operating Temperature: -40°C to +105°C
 Climate category: 40/ 105/ 56/ B
 Maximum Selfheating (rated): 7°C
 Test conditions of Electrical Properties: 20°C, 33% RH
 if not specified differently
 FIT according to separate documentation

To:

General Information:

X2-Safety Class Capacitor; MKP - Metallized Polypropylene	
Operating Temperature	-40 up to +105 °C
Storage Conditions (in original packaging)	5 °C up to + 35 °C; 10 % up to 75 % RH
Maximum Selfheating (Rated)	7 °C
Moisture Sensitivity Level (MSL)	1
Climatic Category	40/105/56/B
Application	Across the mains
Only designed to be used across the mains, not approved for series applications.	
Test conditions of electrical properties: +20 °C, 35 % RH if not specified differently	
FIT according to separate documentation	

· Würth Elektronik will update the **Dissipation Factor@10 kHz** from "**0.2%**" to "**0.3 %**" for all products of WCAP-FTX2 with a capacitance between **0.1 µF < C ≤ 0.47 µF**.



· Würth Elektronik will update the **Dissipation Factor@100 kHz** to **"3 %"** for all parts in this PCN.

· Würth Elektronik will update the display of the **Insulation Resistance** for the following part numbers:

1. From **30,000 MΩ** to **30.00 GΩ**

890324022001	890324022002	890324022003	890324022004	890324022005
890324022006	890324022007	890324022008	890324022009	890324022010
890324022011	890324022012	890324022013	890324022014	890324022015
890324022016	890324022017	890324022018	890324022019	890324023001
890324023002	890324023003	890324023004	890324023005	890324023006
890324023007	890324023008	890324023009	890324023010	890324023011
890324023012	890324023013	890324023014	890324023015	890324023016
890324023017	890324023018	890324023019	890324023020	890324023021
890324023022	890324023023	890324023024	890324023025	890324023026
890324023027	890324023028	890324023029	890324024001	890324024002
890324024003	890324025001	890324025002	890324025003	890324025004
890324025005	890324025006	890324025007	890324025008	890324025009
890324025010	890324025011	890324025012	890324025013	890324025014
890324025015	890324025016	890324025017	890324025018	890324025019
890324025020	890324025021	890324025022	890324025023	890324025024
890324025025	890324025026	890324025027	890324025028	890324025029
890324025030	890324025031	890324025032	890324025033	890324025034
890324025035	890324025036	890324026001	890324026002	890324026003
890324026004	890324026005	890324026006	890324026007	890324026008
890324026009	890324026010	890324026011	890324022001CS	890324022002CS
890324022003CS	890324022004CS	890324022005CS	890324022006CS	890324022007CS
890324022008CS	890324022009CS	890324022010CS	890324022011CS	890324022012CS
890324022013CS	890324022014CS	890324022015CS	890324022016CS	890324022017CS
890324022018CS	890324022019CS	890324023001CS	890324023002CS	890324023003CS
890324023004CS	890324023005CS	890324023006CS	890324023007CS	890324023008CS
890324023009CS	890324023010CS	890324023011CS	890324023012CS	890324023013CS
890324023014CS	890324023015CS	890324023016CS	890324023017CS	890324023018CS
890324023019CS	890324023020CS	890324023021CS	890324023022CS	890324023023CS
890324023023RP	890324023024CS	890324023025CS	890324023025RP	890324023026CS
890324023027CS	890324023028AP	890324023028CS	890324023029CS	890324024001CS
890324024002CS	890324024002RP	890324024003CS	890324025001CS	890324025002CS
890324025003CS	890324025004CS	890324025005CS	890324025006CS	890324025007CS
890324025008CS	890324025009CS	890324025010CS	890324025011CS	890324025012CS
890324025013CS	890324025014CS	890324025015CS	890324025016CS	890324025017AP
890324025017CS	890324025018CS	890324025019CS	890324025020CS	890324025021CS
890324025022CS	890324025023CS	890324025024CS	890324025025CS	890324025026CS



890324025027AP	890324025027CS	890324025028CS	890324025029CS	890324025030CS
890324025031CS	890324025032CS	890324025033CS	890324025034AP	890324025034CS
890324025035CS	890324025036CS	890324026001CS	890324026002CS	890324026003CS
890324026004CS	890324026005CS	890324026006CS	890324026007CS	890324026008CS
890324026009CS	890324026010CS	890324026011CS	S890324023028CS	S890324025017CS
S890324025027CS				

2. From old display "**10,000 Ω x F**" to new display:

Part number	New display	Part number	New display	Part number	New display
890324023030	21.28 GΩ	890324024004	25.64 GΩ	890324024005	21.28 GΩ
890324024006	17.86 GΩ	890324025037	25.64 GΩ	890324025038	25.64 GΩ
890324025039	21.28 GΩ	890324025040	21.28 GΩ	890324025041	21.28 GΩ
890324025042	21.28 GΩ	890324025043	17.86 GΩ	890324025044	17.86 GΩ
890324025045	14.71 GΩ	890324025046	14.71 GΩ	890324025047	12.20 GΩ
890324025048	10.00 GΩ	890324025049	10.00 GΩ	890324026012	25.64 GΩ
890324026013	25.64 GΩ	890324026014	21.28 GΩ	890324026015	21.28 GΩ
890324026016	21.28 GΩ	890324026017	17.86 GΩ	890324026018	17.86 GΩ
890324026019	17.86 GΩ	890324026020	14.71 GΩ	890324026021	14.71 GΩ
890324026022	14.71 GΩ	890324026023	12.20 GΩ	890324026024	12.20 GΩ
890324026025	12.20 GΩ	890324026026	10.00 GΩ	890324026027	10.00 GΩ
890324026028	10.00 GΩ	890324026029	8.33 GΩ	890324026030	6.67 GΩ
890324026031	6.67 GΩ	890324026032	5.56 GΩ	890324026033	4.55 GΩ
890324026034	4.55 GΩ	890324027001	21.28 GΩ	890324027002	21.28 GΩ
890324027003	17.86 GΩ	890324027004	17.86 GΩ	890324027005	14.71 GΩ
890324027006	14.71 GΩ	890324027007	12.20 GΩ	890324027008	12.20 GΩ
890324027009	10.00 GΩ	890324027010	10.00 GΩ	890324027011	8.33 GΩ
890324027012	8.33 GΩ	890324027013	8.33 GΩ	890324027014	6.67 GΩ
890324027015	6.67 GΩ	890324027016	6.67 GΩ	890324027017	6.67 GΩ
890324027018	6.67 GΩ	890324027019	5.56 GΩ	890324027020	5.56 GΩ
890324027021	4.55 GΩ	890324027022	4.55 GΩ	890324027023	4.55 GΩ
890324027024	4.55 GΩ	890324027025	3.03 GΩ	890324027026	3.03 GΩ
890324027027	3.03 GΩ	890324027028	2.56 GΩ	890324027029	2.13 GΩ
890324027030	2.13 GΩ	890324027031	1.79 GΩ	890324028001	3.03 GΩ
890324028002	3.03 GΩ	890324028003	2.56 GΩ	890324028004	2.13 GΩ
890324028005	2.13 GΩ	890324028006	1.79 GΩ	890324028007	1.79 GΩ
890324028008	1.47 GΩ	890324028009	1.47 GΩ	890324028010	1.22 GΩ
890324028011	1.22 GΩ	890324028012	1.00 GΩ	890324028013	1.00 GΩ
890324023030CS	21.28 GΩ	890324024004CS	25.64 GΩ	890324024005CS	21.28 GΩ
890324024005RP	21.28 GΩ	890324024006CS	17.86 GΩ	890324025037CS	25.64 GΩ
890324025038CS	25.64 GΩ	890324025039CS	21.28 GΩ	890324025040CS	21.28 GΩ
890324025041CS	21.28 GΩ	890324025042CS	21.28 GΩ	890324025043CS	17.86 GΩ



Part number	New display	Part number	New display	Part number	New display
890324025044CS	17.86 GΩ	890324025045CS	14.71 GΩ	890324025046CS	14.71 GΩ
890324025047CS	12.20 GΩ	890324025048CS	10.00 GΩ	890324025049CS	10.00 GΩ
890324026012CS	25.64 GΩ	890324026013CS	25.64 GΩ	890324026014CS	21.28 GΩ
890324026015CS	21.28 GΩ	890324026016CS	21.28 GΩ	890324026017CS	17.86 GΩ
890324026018CS	17.86 GΩ	890324026019CS	17.86 GΩ	890324026020CS	14.71 GΩ
890324026021CS	14.71 GΩ	890324026022CS	14.71 GΩ	890324026023CS	12.20 GΩ
890324026024CS	12.20 GΩ	890324026025CS	12.20 GΩ	890324026026CS	10.00 GΩ
890324026027CS	10.00 GΩ	890324026027RP	10.00 GΩ	890324026028CS	10.00 GΩ
890324026029CS	8.33 GΩ	890324026030CS	6.67 GΩ	890324026031CS	6.67 GΩ
890324026032CS	5.56 GΩ	890324026033CS	4.55 GΩ	890324026034CS	4.55 GΩ
890324027001CS	21.28 GΩ	890324027002CS	21.28 GΩ	890324027003CS	17.86 GΩ
890324027004CS	17.86 GΩ	890324027005CS	14.71 GΩ	890324027006CS	14.71 GΩ
890324027007CS	12.20 GΩ	890324027008CS	12.20 GΩ	890324027009CS	10.00 GΩ
890324027010CS	10.00 GΩ	890324027011CS	8.33 GΩ	890324027012CS	8.33 GΩ
890324027013CS	8.33 GΩ	890324027014CS	6.67 GΩ	890324027015CS	6.67 GΩ
890324027016CS	6.67 GΩ	890324027017CS	6.67 GΩ	890324027018CS	6.67 GΩ
890324027019CS	5.56 GΩ	890324027020CS	5.56 GΩ	890324027021CS	4.55 GΩ
890324027022CS	4.55 GΩ	890324027023CS	4.55 GΩ	890324027024CS	4.55 GΩ
890324027025CS	3.03 GΩ	890324027026CS	3.03 GΩ	890324027027CS	3.03 GΩ
890324027028CS	2.56 GΩ	890324027029CS	2.13 GΩ	890324027030CS	2.13 GΩ
890324027031CS	1.79 GΩ	890324027032CS	2.13 GΩ	890324028001CS	3.03 GΩ
890324028002CS	3.03 GΩ	890324028003CS	2.56 GΩ	890324028004CS	2.13 GΩ
890324028005CS	2.13 GΩ	890324028006CS	1.79 GΩ	890324028007CS	1.79 GΩ
890324028008CS	1.47 GΩ	890324028009CS	1.47 GΩ	890324028010CS	1.22 GΩ
890324028011CS	1.22 GΩ	890324028012CS	1.00 GΩ	890324028013CS	1.00 GΩ
S890324025045CS	14.71 GΩ				

· Würth Elektronik will update the **Storage Conditions** to “**5 °C up to + 35 °C; 10 % up to 75 % RH**” for all parts in this PCN.

· Würth Elektronik will update the **Dielectric Strength** (pin to pin) to “**1 min./ +20° C**” for all parts in this PCN.

· Würth Elektronik will update the **Moisture Sensitive Level** to “**1**” for all parts in this PCN.

· Würth Elektronik will add the test conditions for the **Rated Voltage (DC)** for all parts in this PCN.

· Würth Elektronik will update the general **Cautions and Warnings**. Please refer to datasheet for details.



· Würth Elektronik will update the data of the **Packaging Specification** for the following part numbers:

Part number	Old No. of Reel (pcs.)	Old Qty. in outer box (pcs.)	Old outer box dimension (L*W*H, mm)	New No. of Reel (pcs.)	New Qty. in outer box (pcs.)	New outer box dimension (L*W*H, mm)
890324023023RP	9	5400	520x496x496	5	3000	520x500x331
890324024002RP	9	7200	520x496x496	5	4000	520x500x331
890324024005RP	9	4950	520x496x496	5	2750	520x500x331
890324026027RP	8	2800	520x496x496	5	1500	520x500x331

Part number	Old inner box dimension (L*W*H, mm)	Old outer box dimension (L*W*H, mm)	New inner box dimension (L*W*H, mm)	New outer box dimension (L*W*H, mm)
890324023028AP	330x308x55	645x345x312	330x312x55	645x345x308
890324025017AP	330x308x55	645x312x345	330x312x55	645x345x308
890324025027AP	330x308x55	645x312x345	330x312x55	645x345x308
890324025034AP	330x308x55	650x312x345	330x312x55	645x345x308

Part number	Old Qty. in inner box (pcs.)	Old Qty. in outer box (pcs.)	New Qty. in inner box (pcs.)	New Qty. in outer box (pcs.)
890324025016CS	2200	13200	2080	12480
890324025019CS	2200	13200	2080	12480
890324023026CS	1408	8448	1536	9216
890324023028CS	1408	8448	1536	9216
890324026007CS	960	5760	1032	6192
890324026012CS	960	5760	1032	6192

· Product Marking

Due to process optimization the printing of the match code WCAP-FTX2 will be changed. After the applied change with date code of February 18, 2022 or later, products can be shipped with new laser printing.

The product marking will change in the following points:

- The "2nd Line right" of the product marking will now show the classification of "X2" capacitor in front of the rated voltage value.
- The top marking for the date code will now be moved to the side marking. (see example Code "J01")
- The side marking will be laser printing to ensure best readability over long time periods of operation, even under temperature influences and humidity.



Example of old side Marking



Example of old top Marking



Example of new side Marking

· Würth Elektronik will update the “**Approvals**” to “**Certification information**” for all parts in this PCN and update information from:

D2 Approvals:

Properties	Standard	File
ENEC10 by VDE	IEC 60384 - 14	40038405
cULus	UL 60384 - 14 / CAN/CSA - E60384 - 14	E345659
CQC	IEC 60384 - 14	13001104051

Example of old approvals

To:

Certification:

RoHS Approval	Compliant [2011/65/EU&2015/863]
REACH Approval	Conform or declared [(EC)1907/2006]
ENEC 10 Approval	40038405 [IEC 60384-14]
cULus Approval	E345659 [UL 60384-14&CSA E60384-1&CSA E60384-14]
CQC Approval	13001104051 [GB/T6346.14]

Example of new Certification

· Würth Elektronik will replace the topic “**Environmental test**” with “**Test items and standards**” for all parts in this PCN and update information from:

D4 Environmental Tests:

Properties	Standard	
Active Flammability	IEC 60384-14	max. 24 surge pulses @ 2.5 kV (one pulse every 5 seconds)
Passive Flammability	IEC 60384-14	in combination with IEC 60381 - 1 & IEC 60695 - 11 - 5
Vibration	IEC 60068 - 2 - 6	all 3 directions, 2 hours each @ 10 - 55 - 10 Hz, amplitude 0.75 mm or 10 g
Damp Heat	IEC 60068 - 2 - 78	40°C, 95% RH, 56 days
Temperature Cycles	IEC 60068 - 2 - 14	5 cycles, upper and lower temperature 30 min. each, 30 sec. transfer time
Charge/ Discharge Test	IEC 60384 - 14	$\sqrt{2} \times U_R$ @ 100 V/μs
Surge Test	IEC 60384 - 14	2.5 kV Surge impulses

Example of old Environmental Tests

To:

Test items and standards:

Properties	Standard	
Active Flammability	IEC 60384 - 14	20 surge pulses @ 2.5 kV (one pulse every 5 seconds)
Passive Flammability	IEC 60384 - 14	in combination with IEC 60384 - 1 & IEC 60695 - 11 - 5
Vibration	IEC 60068 - 2 - 6	all 3 directions, 2 hours each @ 10 - 55 - 10 Hz, amplitude 0.75 mm or 10 g
Damp Heat	IEC 60068 - 2 - 78	40 °C, 95 % RH, 56 days
Temperature Cycles	IEC 60068 - 2 - 14	5 cycles, upper and lower temperature 30 minutes each, 3 minutes Max transfer time
Charge/ Discharge Test	IEC 60384 - 14	$\sqrt{2} \times U_R$ @ 100 V/ μs
Surge Test	IEC 60384 - 14	2.5 kV Surge impulses
Endurance Test	IEC 60384 - 14	1.25 x 275 V (AC) through a 47 Ω ± 5 % Resistor, once every hour increase to 1000 V (AC) for 0.1 seconds, 1000 hours @ 105 °C ± 3 °C

Example of new Test items and standards table

Reliability / Qualification Summary:

There will be no change of any technical impact of the product, therefore no additional reliability or qualification testing will be performed. The endurance test has always been part of the environmental test (old) / test items and standards (new) and is newly listed here.