



Product / Process Change Notification (PCN)

☒ Major change

☐ Minor change

PCN #: PCN_WCAP-FTXX_20231101

Affected Series: WCAP-FTXX

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-FTXX 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:

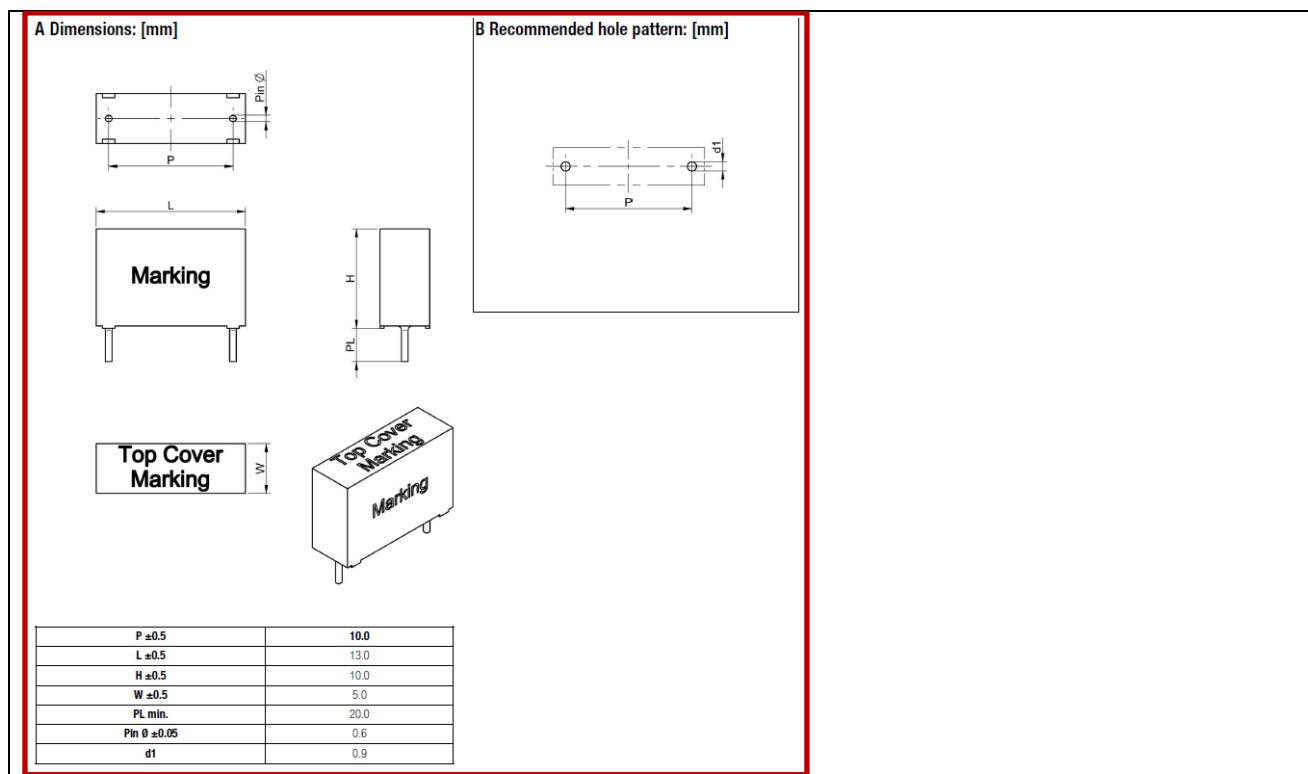
Datasheet Update

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

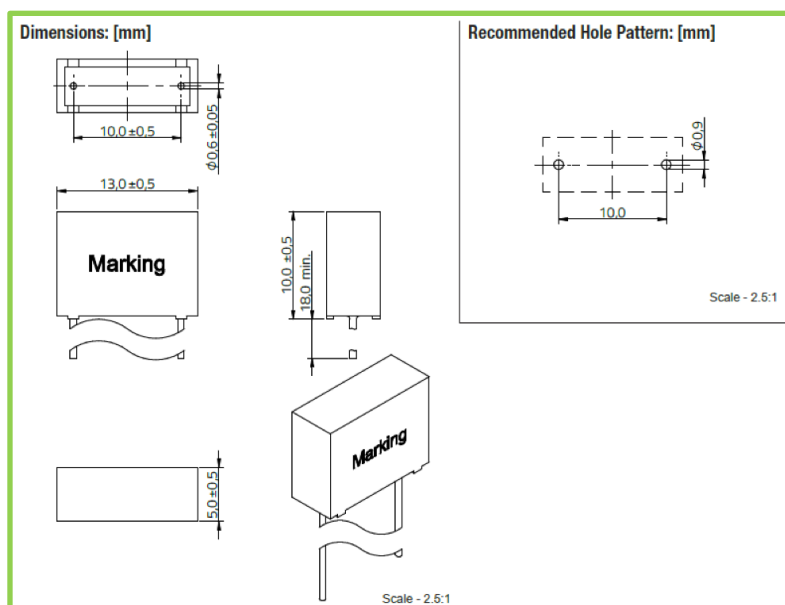
Furthermore with this layout update Würth Elektronik will correct the electrical and mechanical characteristics. All corrections in terms of electrical characteristics are shown below. They will also be clearly visible in the new datasheets which Würth Elektronik will provide on the website shortly.

· 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:

890334022017	890334023006	890334023007	890334023008	890334023010
890334023011	890334023015	890334023017	890334023019	890334023021
890334023023	890334023023RP	890334023024	890334023025	890334023028
890334024001	890334024002	890334024003	890334024005	890334025004
890334025006	890334025007	890334025009	890334025009RP	890334025011
890334025013	890334025015	890334025015AP	890334025015RP	890334025017
890334025017AP	890334025017RP	890334025020	890334025022	890334025022RP
890334025025	890334025027RP	890334025031	890334025033	890334025034
890334025039	890334025039RP	890334025043	890334025043AP	890334025043RP
890334025045	890334025045RP	890334026003	890334026007	890334026014
890334026018	890334026020	890334026024	890334026027	890334026030
890334026030RP	890334026034	890334027006	890334027009	890334027012
890334027025	5890334025043			

· 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-FTXX 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-FTXX with a capacitance between 0.1 μ F < C $\leq$ 0.47 μ F.

· 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 M Ω** to **30.00 G Ω**

890334022002	890334022003	890334022004	890334022005	890334022006
890334022007	890334022008	890334022009	890334022010	890334022011
890334022012	890334022013	890334022014	890334022015	890334022016
890334022017	890334022018	890334022019	890334023001	890334023002
890334023003	890334023004	890334023005	890334023006	890334023007
890334023008	890334023009	890334023010	890334023011	890334023012
890334023013	890334023014	890334023015	890334023016	890334023017
890334023018	890334023019	890334023020	890334023021	890334023022
890334023023	890334023024	890334023025	890334023026	890334023027
890334023028	890334023029	890334024001	890334024002	890334024003
890334025001	890334025002	890334025003	890334025004	890334025005
890334025006	890334025007	890334025008	890334025009	890334025010
890334025011	890334025012	890334025013	890334025014	890334025015
890334025016	890334025017	890334025018	890334025019	890334025020
890334025021	890334025022	890334025023	890334025024	890334025025
890334025026	890334025027	890334025028	890334025029	890334025030
890334025031	890334025032	890334025033	890334025034	890334025035
890334025036	890334026001	890334026002	890334026003	890334026004
890334026005	890334026006	890334026007	890334026008	890334026009
890334026010	890334026011	890334022002CS	890334022003CS	890334022004CS
890334022005CS	890334022006CS	890334022007CS	890334022008CS	890334022009CS
890334022010CS	890334022011CS	890334022012CS	890334022013CS	890334022014CS
890334022015CS	890334022016CS	890334022017CS	890334022018CS	890334022019CS
890334023001CS	890334023002CS	890334023003CS	890334023004CS	890334023005CS
890334023006CS	890334023007CS	890334023008CS	890334023009CS	890334023010CS
890334023011CS	890334023012CS	890334023013CS	890334023014CS	890334023015CS
890334023016CS	890334023017CS	890334023017RP	890334023018CS	890334023019CS
890334023020CS	890334023021CS	890334023022CS	890334023023CS	890334023023RP
890334023024CS	890334023025AP	890334023025CS	890334023026CS	890334023027CS
890334023028CS	890334023029CS	890334024001CS	890334024002CS	890334024003CS
890334025001CS	890334025002CS	890334025003CS	890334025004CS	890334025005CS
890334025006CS	890334025007CS	890334025008CS	890334025009CS	890334025009RP



890334025010CS	890334025011CS	890334025012CS	890334025013CS	890334025014CS
890334025015AP	890334025015CS	890334025015RP	890334025016CS	890334025017AP
890334025017CS	890334025017RP	890334025018CS	890334025019CS	890334025020CS
890334025021CS	890334025022CS	890334025022RP	890334025023CS	890334025024CS
890334025025CS	890334025026CS	890334025027CS	890334025027RP	890334025028CS
890334025029CS	890334025030CS	890334025031CS	890334025032CS	890334025033CS
890334025034CS	890334025035CS	890334025036CS	890334026001CS	890334026002CS
890334026003CS	890334026004CS	890334026005CS	890334026006CS	890334026007CS
890334026008CS	890334026009CS	890334026010CS	890334026011CS	S890334024001
S890334025027	S890334025027CS			

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

Part number	New display	Part number	New display	Part number	New display
890334022001	3.33 GΩ	890334023030	21.28 GΩ	890334024004	25.64 GΩ
890334024005	21.28 GΩ	890334024006	17.86 GΩ	890334025037	25.64 GΩ
890334025038	25.64 GΩ	890334025039	21.28 GΩ	890334025040	21.28 GΩ
890334025041	21.28 GΩ	890334025042	21.28 GΩ	890334025043	17.86 GΩ
890334025044	17.86 GΩ	890334025045	14.71 GΩ	890334025046	14.71 GΩ
890334025047	12.2 GΩ	890334025048	10.00 GΩ	890334025049	10.00 GΩ
890334026012	25.64 GΩ	890334026013	25.64 GΩ	890334026014	21.28 GΩ
890334026015	21.28 GΩ	890334026016	21.28 GΩ	890334026017	17.86 GΩ
890334026018	17.86 GΩ	890334026019	17.86 GΩ	890334026020	14.71 GΩ
890334026021	14.71 GΩ	890334026022	14.71 GΩ	890334026023	12.20 GΩ
890334026024	12.2 GΩ	890334026025	12.20 GΩ	890334026026	10.00 GΩ
890334026027	10.00 GΩ	890334026028	10.00 GΩ	890334026029	8.33 GΩ
890334026030	6.67 GΩ	890334026031	6.67 GΩ	890334026032	5.56 GΩ
890334026033	4.55 GΩ	890334026034	4.55 GΩ	890334027001	21.28 GΩ
890334027002	21.28 GΩ	890334027003	17.86 GΩ	890334027004	17.86 GΩ
890334027005	14.71 GΩ	890334027006	14.71 GΩ	890334027007	12.20 GΩ
890334027008	12.2 GΩ	890334027009	10.00 GΩ	890334027010	10.00 GΩ
890334027011	8.33 GΩ	890334027012	8.33 GΩ	890334027013	8.33 GΩ
890334027014	6.67 GΩ	890334027015	6.67 GΩ	890334027016	6.67 GΩ
890334027017	6.67 GΩ	890334027018	6.67 GΩ	890334027019	5.56 GΩ
890334027020	5.56 GΩ	890334027021	4.55 GΩ	890334027022	4.55 GΩ
890334027023	4.55 GΩ	890334027024	4.55 GΩ	890334027025	3.03 GΩ
890334027026	3.03 GΩ	890334027027	3.03 GΩ	890334027028	2.56 GΩ
890334027029	2.13 GΩ	890334027030	2.13 GΩ	890334027031	1.79 GΩ
890334028001	3.03 GΩ	890334028002	3.03 GΩ	890334028003	2.56 GΩ



Part number	New display	Part number	New display	Part number	New display
890334028004	2.13 GΩ	890334028005	2.13 GΩ	890334028006	1.79 GΩ
890334028007	1.79 GΩ	890334028008	1.47 GΩ	890334028009	1.47 GΩ
890334028010	1.22 GΩ	890334028011	1.22 GΩ	890334028012	1.00 GΩ
890334028013	1.00 GΩ	890334022001CS	3.33 GΩ	890334023030CS	21.28 GΩ
890334024004CS	25.64 GΩ	890334024005CS	21.28 GΩ	890334024006CS	17.86 GΩ
890334025037CS	25.64 GΩ	890334025038CS	25.64 GΩ	890334025039BP	21.28 GΩ
890334025039CS	21.28 GΩ	890334025039RP	21.28 GΩ	890334025040CS	21.28 GΩ
890334025041CS	21.28 GΩ	890334025042CS	21.28 GΩ	890334025043AP	17.86 GΩ
890334025043CS	17.86 GΩ	890334025043RP	17.86 GΩ	890334025044CS	17.86 GΩ
890334025044CSB	17.86 GΩ	890334025045CS	14.71 GΩ	890334025045CSB	14.71 GΩ
890334025045RP	14.71 GΩ	890334025046CS	14.71 GΩ	890334025047CS	12.20 GΩ
890334025048CS	10.00 GΩ	890334025049CS	10.00 GΩ	890334026012CS	25.64 GΩ
890334026013CS	25.64 GΩ	890334026014CS	21.28 GΩ	890334026015CS	21.28 GΩ
890334026016CS	21.28 GΩ	890334026017CS	17.86 GΩ	890334026018CS	17.86 GΩ
890334026019CS	17.86 GΩ	890334026020CS	14.71 GΩ	890334026021CS	14.71 GΩ
890334026021CSB	14.71 GΩ	890334026022CS	14.71 GΩ	890334026023CS	12.20 GΩ
890334026024CS	12.2 GΩ	890334026025CS	12.20 GΩ	890334026026CS	10.00 GΩ
890334026027CS	10.00 GΩ	890334026028CS	10.00 GΩ	890334026029CS	8.33 GΩ
890334026030CS	6.67 GΩ	890334026030CSB	6.67 GΩ	890334026030RP	6.67 GΩ
890334026031CS	6.67 GΩ	890334026031CSB	6.67 GΩ	890334026032CS	5.56 GΩ
890334026033CS	4.55 GΩ	890334026034CS	4.55 GΩ	890334027001CS	21.28 GΩ
890334027002CS	21.28 GΩ	890334027003CS	17.86 GΩ	890334027004CS	17.86 GΩ
890334027005CS	14.71 GΩ	890334027006CS	14.71 GΩ	890334027007CS	12.20 GΩ
890334027008CS	12.2 GΩ	890334027009CS	10.00 GΩ	890334027010CS	10.00 GΩ
890334027011CS	8.33 GΩ	890334027012CS	8.33 GΩ	890334027013CS	8.33 GΩ
890334027014CS	6.67 GΩ	890334027015CS	6.67 GΩ	890334027016CS	6.67 GΩ
890334027017CS	6.67 GΩ	890334027018CS	6.67 GΩ	890334027019CS	5.56 GΩ
890334027020CS	5.56 GΩ	890334027021CS	4.55 GΩ	890334027022CS	4.55 GΩ
890334027023CS	4.55 GΩ	890334027024CS	4.55 GΩ	890334027025CS	3.03 GΩ
890334027025CSB	3.03 GΩ	890334027026CS	3.03 GΩ	890334027027CS	3.03 GΩ
890334027028CS	2.56 GΩ	890334027029CS	2.13 GΩ	890334027030CS	2.13 GΩ
890334027031CS	1.79 GΩ	890334028001CS	3.03 GΩ	890334028002CS	3.03 GΩ
890334028003CS	2.56 GΩ	890334028004CS	2.13 GΩ	890334028005CS	2.13 GΩ
890334028006CS	1.79 GΩ	890334028007CS	1.79 GΩ	890334028008CS	1.47 GΩ
890334028009CS	1.47 GΩ	890334028010CS	1.22 GΩ	890334028011CS	1.22 GΩ
890334028012CS	1.00 GΩ	890334028013CS	1.00 GΩ	S890334025039	21.28 GΩ
S890334025043	17.86 GΩ	S890334025043CS	17.86 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 Number of reels per Outside box (pcs.)	Old Qty. in outer box (pcs.)	Old outer box dimension (L*W*H, mm)	New Number of reels per Outside box (pcs.)	New Qty. in outer box (pcs.)	New outer box dimension (L*W*H, mm)
890334023017RP	10	12000	520x496x496	6	7200	520x500x331
890334025009RP	9	9900	520x496x496	5	5500	520x500x331
890334025015RP	9	7650	520x496x496	5	4250	520x500x331
890334025017RP	9	7650	520x496x496	5	4250	520x500x331
890334025022RP	9	7650	520x496x496	5	4250	520x500x331
890334025027RP	9	7650	520x496x496	5	4250	520x500x331
890334025039RP	9	5850	520x496x496	5	3250	520x500x331
890334025043RP	9	5400	520x496x496	5	3000	520x500x331
890334025045RP	9	5400	520x496x496	5	3000	520x500x331
890334026030RP	8	3200	520x496x496	5	2000	520x500x331
890334023023RP	9	5400	520x496x496	5	3000	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)
890334025017AP	330x308x55	350x330x300	330x312x55	645x345x308
890334023025AP	330x308x55	645x345x312	330x312x55	645x345x308
890334025015AP	308x330x55	645x345x312	330x312x55	645x345x308
890334025043AP	330x308x55	650x345x312	330x312x55	645x345x308

Part number	Old Number of Polybags in inner box (pcs.)	Old Qty. in inner box (pcs.)	Old Qty. in outer box (pcs.)	New Number of Polybags in inner box (pcs.)	New Qty. in inner box (pcs.)	New Qty. in outer box (pcs.)
890334026007	10	2000	4000	13	2600	5200

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.)
890334025016CS	2200	13200	2080	12480
890334025019CS	2200	13200	2080	12480
890334023026CS	1408	8448	1536	9216
890334023028CS	1408	8448	1536	9216
890334026007CS	960	5760	1032	6192
890334026012CS	960	5760	1032	6192

Product Marking

Due to process optimization the printing of the match code WCAP-FTXX 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	13001104050

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	13001104050 [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	$\sqrt{2} \times U_N$ @ 100 V/ μ s
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	$\sqrt{2} \times V_N$ @ 100 V/ μ s
Surge Test	IEC 60384 - 14	2.5 kV Surge impulses
Endurance Test	IEC 60384 - 14	1.25 x 310 V(A) through a 47 Ω $\pm$ 5 % Resistor, once every hour increase to 1000 V (A) for 0.1 seconds, 1000 hours @ 105°C $\pm$ 3°C

Example of new Test items and standards table

· Würth Elektronik will update the data and marks of the **Certification** for the following part numbers:

Part number	Old Title	Old ENEC Certification	New Title	New ENEC Certification
S890334027009CS	ENEC15 Approval	ENEC - 02986 [EN 60384 - 14]	ENEC10 Approval	40038405 [IEC 60384 - 14]
890334025022RP	ENEC15 Approval	ENEC - 02986 [EN 60384 - 14]	ENEC10 Approval	40038405 [IEC 60384 - 14]

From



To



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.