



Product Change Notification

Current Date: 04-Apr-2019

TE Connectivity

Product Change Notification: E-19-003134

PCN Date: 03-APR-19

Customer: Future Electronics(0000080100)

Location: WORLDWIDE

Agreement: Agreement Unknown

TE would like to inform you of the following change(s) to the listed TE Connectivity Product. In case of any further questions about this change(s), please contact your TE Connectivity Sales Engineer. Affected part, drawing and/or specification numbers are listed on the attached sheet(s).

General Product Description:

AMPMODU II VERTICAL AND HORIZONTAL RECEPTACLES

Description of Changes

Housing material change from current PCT to readily available equivalent PCT.

Other attachments:

[502-153338](#)

Reason for Changes:

Product Improvement. Current PCT resin is having availability issues which would increase lead times of the parts. No effect on functionality. Refer attached qualification test report 502-153338

Estimated Dates:

Last Order Date (Obsolete Parts Only):

First Date To Ship (Changed Parts Only):

10-OCT-2019

Last Ship Date (Obsolete Parts Only):

Last Date for Mixed Shipments: (Changed Parts Only):

10-NOV-2019

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-5535512-8	NO						
2-5535512-2	NO						
5-147102-8	NO						
5-534998-5	NO						
5-534998-8	NO						
5147722-3	NO						
6-534998-2	NO						
6-534998-3	NO						
6-534998-9	NO						
6-5535512-3	NO						
8-534998-0	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Customer Drawing(s) Being Modified:

Drawing Number	Related Part Number	Customer Part Number	Current Revision	New Revision
147424	1-147424-3		F7	
5147722	5147722-3		A3	
534998	534998-4, 6-534998-3, 6-534998-2, 5-534998-8, 5-534998-5		P7	
5535512	1-5535512-8, 2-5535512-2		A6	

Customer: Future Electronics Ltd (1273129)

Location: Egham

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2-5535512-2	NO						
5-147102-8	NO						
6-534998-3	NO						
8-534998-0	NO						

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Customer Drawing(s) Being Modified:

Drawing Number	Related Part Number	Customer Part Number	Current Revision	New Revision
534998	6-534998-3		P7	
5535512	2-5535512-2		A6	

Customer: Future Electronics Asia Pacific (2923061)

Location: Singapore

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2-5535512-2	NO						
6-534998-3	NO						
6-534998-9	NO						
8-534998-0	NO						

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Customer Drawing(s) Being Modified:

Drawing Number	Related Part Number	Customer Part Number	Current Revision	New Revision
534998	6-534998-3		P7	
5535512	2-5535512-2		A6	

Customer: Future Electronics Inc. (1319888)

Location: Singapore

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2-5535512-2	NO						
2-5535512-2	NO						
5-534998-5	NO						

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Customer Drawing(s) Being Modified:

Drawing Number	Related Part Number	Customer Part Number	Current Revision	New Revision
534998	5-534998-5		P7	
5535512	2-5535512-2		A6	

Customer: Future Electronics Inc. (2883079)

Location: Singapore

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2-5535512-2	NO						
5-534998-5	NO						

Customer: Future Electronics Inc. (1319888)

Location: Singapore

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2-5535512-2	NO						
2-5535512-2	NO						
5-534998-5	NO						

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Customer Drawing(s) Being Modified:

Drawing Number	Related Part Number	Customer Part Number	Current Revision	New Revision
534998	5-534998-5		P7	

Drawing Number	Related Part Number	Customer Part Number	Current Revision	New Revision
5535512	2-5535512-2		A6	

Customer: Future Electronics Inc (1290208)

Location: Southaven

Agreement Number: FUTAGR001

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-5535512-8	NO						
5-147102-8	NO						
5-534998-8	NO						
6-534998-2	NO						
6-534998-3	NO						
6-534998-9	NO						
6-5535512-3	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Customer Drawing(s) Being Modified:

Drawing Number	Related Part Number	Customer Part Number	Current Revision	New Revision
147424	1-147424-3		F7	
534998	5-534998-8		P7	
5535512	1-5535512-8		A6	

Customer: Future Electronics UK (2833922)

Location: Hayes

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
6-534998-2	NO						
6-534998-3	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Customer Drawing(s) Being Modified:

Drawing Number	Related Part Number	Customer Part Number	Current Revision	New Revision
534998	6-534998-2		P7	

Customer: Future Electronics Inc. (2883079)

Location: Singapore

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2-5535512-2	NO						
5-534998-5	NO						

Customer: Future Electronics Ltd (2895038)

Location: Leipzig

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2-5535512-2	NO						
5-147102-8	NO						
6-534998-3	NO						
8-534998-0	NO						

Customer: Future Electronics Inc (2914562)

Location: Grand Rapids

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
5147722-3	NO						

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Customer Drawing(s) Being Modified:

Drawing Number	Related Part Number	Customer Part Number	Current Revision	New Revision
5147722	5147722-3		A3	

Customer: Future Electronics Inc (184927)

Location: Pointe Claire

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-5535512-8	NO						
5-534998-8	NO						
6-534998-2	NO						
6-534998-3	NO						
6-534998-9	NO						
6-5535512-3	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Customer Drawing(s) Being Modified:

Drawing Number	Related Part Number	Customer Part Number	Current Revision	New Revision
534998	534998-4		P7	

Test Report



's-Hertogenbosch Environmental Testing Laboratory (IND)

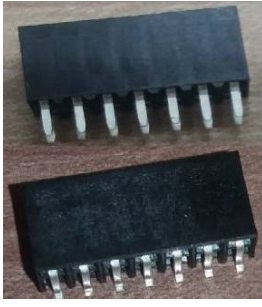
TE Connectivity Nederland BV, Rietveldeweg 32, 5222 AR 's-Hertogenbosch, The Netherlands

Report Title: AMPMODU MOD II Vertical and Horizontal receptacles

Report ID: 502-153338 rev. A

Date Issued: 13-Feb-2019

TE Data Classification (TEC-02-04) class I

Requestor: J.K. Karthik	
TE Project Number: PRJ-18-000900762	
Sample Name: AMPMODU MOD II Vertical and Horizontal	
TE Part number: 5-147424-7, 5147722-6	
Remarks: Samples returned to requester	

Test Scope: To determine the electrical and mechanical performance of the new housing material PCT Black (sourced from alternate supplier) of AMPMODU II Vertical & Horizontal Receptacles , when partially tested to TE product specification 108-25022 rev. C and 108-25026 rev. D.	
Performed Test or Analysis:	
1 Visual examination	4 Resistance to soldering heat
2 Electrical tests	5
3 Environmental tests	6
Requirement: TE Connectivity Product Specification 108-25022 rev. C and 108-25026 rev. D	
Conclusion: All tested samples from each test group met the relevant specified test requirements, no deviations have been observed that affect functionality of the product.	Result: OK

Lab Project ID (lab internal): E18.12.2659	Responsible Test Engineer: A. Verhoeven	Approver: K. Schepers
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Test Report



's-Hertogenbosch Environmental Testing Laboratory (IND)

TE Connectivity Nederland BV, Rietveldeweg 32, 5222 AR 's-Hertogenbosch, The Netherlands

SAMPLE DESCRIPTION

The AMPMODU MOD II vertical and horizontal receptacles were divided into 3 groups and subjected to the tests. Test group 2 is subjected to TEC-109-201 Method A Condition B and test group 3 is subjected to TEC-109-201 Method B Condition B.

Part number	Number of samples to be tested per test group		
	Test group 1	Test group 2	Test Group 3
5-147424-7	4	3	3
5147722-6	4	3	3

TEST PROCEDURES

EIA 364-18:

Visual Examination:

The test samples were visually inspected under a stereomicroscope, at a 10x magnification, with suitable illumination.

EIA 364-21:

Insulation Resistance:

This measurement was done with a programmable electrometer. The measuring voltage was 500 Volt during two minute.

EIA 364-20:

Dielectric Withstanding Voltage:

This measurement was done with a high voltage tester. The test duration was one minute at 750 V_{rms}.

EIA 364-32:

Thermal Shock:

Test cond. VII.

The Horizontal samples were subjected to a thermal shock test with the following parameters:

One cycle consists of:

Upper temperature : 125 °C for 30 minutes.

Lower temperature : -55 °C for 30 minutes.

Condition : unmated.

Number of cycles : 5

Test Report



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TE Connectivity Nederland BV, Rietveldenweg 32, 5222 AR 's-Hertogenbosch, The Netherlands

EIA 364-32:
Test cond. VII.

Thermal Shock:

The Vertical samples were subjected to a thermal shock test with the following parameters:

One cycle consists of:

Upper temperature : 125 °C for 30 minutes.

Lower temperature : -65 °C for 30 minutes.

Condition : unmated.

Number of cycles : 5

EIA-364-31:
Method IV.

Temperature Humidity Cycling:

The samples were subjected to a temperature humidity cycling with -10° C cold shock with the following parameters:

One cycle consists of:

Maximum temperature : 65°C

Minimum temperature : 25°C

Relative humidity : 90%

Cold shock : -10°

Condition : unmated

Number of cycles : 10

TEC-109-201:
§3.3 Method B, cond. B

Resistance to soldering heat:

Samples were 3 times subjected to a Hot air reflow soldering curve, under the following conditions:

- Average ramp rate: 3°C per second maximum

- Preheat temperature (minimum): 150°C

- Preheat temperature (maximum): 200°C

- Preheat time: 60 to 180 seconds

- Ramp to peak: 3°C per second maximum

- Time over liquidus (217°C): 60 to 150 seconds

- Peak temperature: 260 +0°-5°C

- Time within 5°C of peak: 20 to 40 seconds

- Ramp - cool down: 6°C per second maximum

- Time 25°C to peak: 8 minutes maximum

Test Report



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TE Connectivity Nederland BV, Rietveldenweg 32, 5222 AR, 's-Hertogenbosch, The Netherlands

TEST SEQUENCE

Test Group 1	Test Group 2
Visual examination	Visual examination
Insulation resistance	Component to heat resistance - Method A
Dielectric withstanding voltage	Visual examination
Thermal shock	
Temperature/humidity cycle	
Insulation resistance	
Dielectric withstanding voltage	
Visual examination	
	Test Group 3
	Visual examination
	Component to heat resistance - Method B
	Visual examination

EQUIPMENT USED

<u>Equipment</u>	<u>Manufacturer</u>	<u>Type</u>	<u>Series Nb</u>	<u>Cal. Due</u>
Electro meter 6517A2	Keithley	6517A	1215361	Jan-19
High voltage tester	Sefelec	DXS506	1109582	Mar-19
Climatic chamber	C.T.S.	CS-70/200-15	167209	Jan-20
Therm.shock chamber	C.T.S.	TSS-70/130	98170	Jan-19
Hot air reflow oven	A11SMT	EasyFlow	6/30	-

SUMMARY OF TESTRESULTS

Test Group 1	Measurements	Requirements	Results
Insulation resistance			
Initial, both receptacles	Min = 1.17E+13	Min > 5000MΩ	OK
Final, both receptacles	Min = 1.86E+09	Min > 1000MΩ	OK
Dielectric withstanding voltage			
Initial, both receptacles		No flash over or break down	OK
Final, both receptacles		No flash over or break down	OK

Resistance to soldering heat			Results
Test Group 2	after moisture soak	No blisters, deformation/warpage or physical damage .	OK
Test Group 3	no moisture soak	No blisters, deformation/warpage or physical damage .	OK

Test Report



's-Hertogenbosch Environmental Testing Laboratory (IND)

TE Connectivity Nederland BV, Rietveldenweg 32, 5222 AR 's-Hertogenbosch, The Netherlands

TESTRESULTS

Test group 1, Insulation resistance:

AMPMODU II dual row horizontal receptacle SMD with P/N: 5147722-6.

All values represented in Ohms.			
Column.	Group	Lot	Test
-1-	1	1-4	Initial
-2-	1	1-4	Final
	-1-	-2-	
1	2.60E+13	3.19E+09	
2	4.97E+13	2.13E+09	
3	3.12E+13	4.48E+09	
4	1.17E+13	1.86E+09	
Max.	4.97E+13	4.48E+09	
Min.	1.17E+13	1.86E+09	
Mean.	2.96E+13	2.91E+09	

AMPMODU II dual row vertical receptacle with P/N: 5-147424-7.

All values represented in Ohms.			
Column.	Group	Lot	Test
-1-	1	1-4	Initial
-2-	1	1-4	Final
	-1-	-2-	
1	2.68E+13	3.48E+09	
2	2.65E+13	3.78E+09	
3	2.41E+13	3.74E+09	
4	1.36E+14	1.91E+10	
Max.	1.36E+14	1.91E+10	
Min.	2.41E+13	3.48E+09	
Mean.	5.34E+13	7.53E+09	