Product Change Notification

TE Connectivity

Product Change Notification: P-22-022210 **PCN Date:** 21-FEB-22

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:
DYNAMIC D-5200M ALPHA HDR ASSY 4P AG

Description of Changes
Mating/un-mating force specification are changed as shown in page 2 of attached document. To achieve the required low mate/un-mating force, concentration of lubricant applied to the terminal surface in the manufacturing process are changed. **Other attachments:** CCR-22-005

Reason for Changes:	
Product improvement.Due to the demand from the market for low mating/un-mating force, design changes and specification will be made to improve performance.	
Estimated Dates:	
Last Order Date (Obsolete Parts Only):	**First Date To Ship** (Changed Parts Only):
	01-SEP-2022
Last Ship Date (Obsolete Parts Only):	**Last Date for Mixed Shipments:** (Changed Parts Only):
	No Mixed Shipments

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
1-1318983-6	NO						
3-1318983-6	NO						

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
1-1318983-6	NO						

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
1-1318983-6	NO						

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
1-1318983-6	NO						

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
3-1318983-6	NO						

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
1-1318983-6	NO						

Rev. A

CCR-22-005
Change the concentration of lubricant and specification
Dynamic 5200 ALPHA HEADER

21FEB2022
Tyco Electronics Japan G.K.
Industrial
Board Connectivity Engineering PDE
Prepared by : Ito Ryo
Approved by : Ikematsu Eiji

EVERY CONNECTION COUNTS

- Objective product : DYNAMIC 5200 ALPHA HEADER ASSY Ag H Type 4P : *-1318983-6, 1-2134124-6

- Purpose : Due to the demand from the market for low mating/un-mating force, design changes and specification will be made to improve performance for DYNAMIC 5200 ALPHA HEADER Ag product.

- Changed contents : Change the concentration of lubricant applied to the terminal surface in the manufacturing process. Along with that mating/un-mating force specification are changed as below table shown.

  ・Changes in mating/un-mating Force specification

Unit : N	Series	Existing	Changed
Mating	D5000 Series	Gold plated product: 9.8 Max./contact Silver plated product: 19.6 Max./contact	No change
	D5000 alpha Series		Gold plated product: 9.8N Max./contact Silver plated product: 12.0N Max./contact 40.0N Max./connector
Un-mating	D5000 Series	Gold/Silver plated product: 1.96 - 19.6 Max./contact	No change
	D5000 alpha Series		Gold plated product: 1.96N - 9.8N/contact Silver plated product: 1.96N - 12.0N/contact 1.96N - 40.0N/connector

To be changed

- Test Content and result

Based on the test results, changed product can meet the spec 108-5453.

Test Content	108-5453 Test Group	Result
Mating/Un-mating Force	1	Meet the new specification of mating/un-mating force. See page 3 for detailed result.
Environmental Test	3	No failure occurred during environmental test. See page 5 for detailed result.
Solderability	10	Confirmed that there is no difference from existing product. See page 6 for detailed result.

Test Sequence for test group 1, 3 and 10 (108-5453)

TEST OR EXAMINATION	TEST GROUP		
	1	3	10
Examination of product	1	1	1
Contact Resistance (Low Level)		2,4,6 8,10	
Dielectric Withstanding Voltage			
Insulation Resistance			
Temperature Rising			
Vibration			
Physical Shock			
Conn. Mating Force	2,5		
Conn. Unmating Force	3,6		
Conn. Locking Strength			
Cont. Insertion Force			
Cont. Retention Force			
Crimp Tensile Strength			
Durability (Repeated Mate/Unmating)	4	3	
Solderability			2
Resistance to Soldering heat			
Thermal Shock		7	
Humidity-Temperature Cycling		9	
Industrial SO_2 gas			
Temperature Life		5	
Industrial H_2S gas			

Mating/Un-mating Force (108-5453 Test Group 1)

Test Requirements and Procedure Summary

Para	TEST DESCRIPTION	REQUIREMENT	PROCEDURE
3.5.13	Durability (Repeated Mate/Unmating	Meet requirement of Contact resistance (2mΩ Max.).	Operation Speed: 100mm/min No. of cycles: Gold(0.38μm):25 Gold(0.76μm):50 Silver(2.54μm):25 EIA364-9

For existing product

3.5.9	Connector Mating Force	9.8N Max per 1 contact (Initial) Silver plated product: 19.6N Max per 1 contact (Initial)	Operation Speed: 100mm/min. Measure the force required to mate connector. EIA364-13
3.5.10	Connector Unmating Force	1.96N – 19.6N per 1 contact (Initial)	Operation Speed: 100mm/min. Measure the force required to unmate connector. EIA364-13

For changed product

3.5.9	Connector Mating Force		Initial/Final	Operation Speed: 100mm/min. Measure the force required to mate connector. EIA364-13
		D5000 Series	Gold plated product: 9.8N Max./contact Silver plated product: 19.6N Max./contact	
		D5000 alpha Series	Gold plated product: 9.8N Max./contact Silver plated product: 12.0N Max./contact 40.0N Max./connector	
3.5.10	Connector Unmating Force		Initial/Final	Operation Speed: 100mm/min. Measure the force required to unmate connector. EIA364-13
		D5000 Series	Gold plated product: 1.96N - 9.8N/contact Silver plated product: 1.96N - 19.6N/contact	
		D5000 alpha Series	Gold plated product: 1.96N - 9.8N/contact Silver plated product: 1.96N - 12.0N/contact 7.84N - 40.0N/connector	

Mating/Un-mating Force (108-5453 Test Group 1)

Result

Mating force/Connector (N=50)

Unit : N	Existing product		Changed product	
	Initial	Final	Initial	Final
Max.	25.5	43.2	18.7	22.6
Min.	19.0	27.0	13.5	11.6
Ave.	22.3	35.4	15.8	15.6
Spec	78.4 Max./Connector (19.6 Max./Contact)		40 Max./Connector	
Judgement	Acceptable	Acceptable	Acceptable	Acceptable

Un-mating force/1 Connector (N=50)

Unit : N	Existing product		Changed product	
	Initial	Final	Initial	Final
Max.	29.4	47.8	14.1	22.6
Min.	18.9	29.8	9.2	9.9
Ave.	24.0	39.0	11.4	14.5
Spec	7.84 - 78.4 Max./Connector (1.96 - 19.6 Max./Contact)		7.84 – 40.0 Max./Connector	
Judgement	Acceptable	Acceptable	Acceptable	Acceptable

Environmental Test (108-5453 Test Group 3)

Test Requirements and Procedure Summary

Para	TEST DESCRIPTION	REQUIREMENT	PROCEDURE
3.5.2	Contact Resistance (Low Level)	2mΩMax	Subject mated contacts assembled in housing to 50mV Max open circuit at 50mA. Refer to Figure 6 EIA364-23
3.5.13	Durability (Repeated Mate/Unmating	Meet requirement of Contact resistance (2mΩ Max.).	Operation Speed: 100mm/min No. of cycles: Gold(0.38μm):25 Gold(0.76μm):50 Silver(2.54μm):25 EIA364-9
3.5.20	Temperature Life (Heat Aging)	Meet requirement of Contact resistance (2mΩ Max).	Mated connector 105 ℃, Duration: 250hours MIL-STD-202 Method 108
3.5.17	Thermal Shock	Meet requirement of Contact resistance (2mΩ Max).	Mated connector −55℃ / 30min., 85℃ / 30min. Making this a cycle, repeat 25 cycles. MIL-STD-202 Method 107, condition A-1
3.5.18	Humidity-Temperature Cycling	Meet requirement of Contact resistance (2mΩ Max).	Mated/Unmated connector, 25～65℃, 90～95% R.H. 10 cycles Cold shock –10℃ not performed MIL-STD-202 Method 106

Result

Existing product (N=20)

Unit : mOhm	Initial	After Durability	After Temp. Life	After Thermal Shock	After Humidity-Temp. Cycling
Max.	0.44	0.49	0.60	0.57	0.67
Min.	0.29	0.22	0.24	0.25	0.38
Ave.	0.34	0.33	0.37	0.40	0.54
Spec	2 Max.				
Judgement	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

Changed product (N=20)

Unit : mOhm	Initial	After Durability	After Temp. Life	After Thermal Shock	After Humidity-Temp. Cycling
Max.	0.54	0.69	0.48	0.78	0.77
Min.	0.20	0.26	0.23	0.26	0.27
Ave.	0.32	0.45	0.37	0.51	0.38
Spec	2 Max.				
Judgement	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

Solderability (108-5453 Test Group 10)

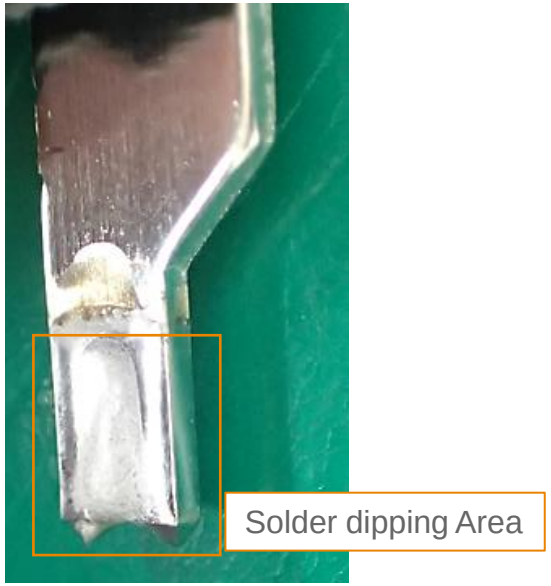
Test Requirements and Procedure Summary

Para	TEST DESCRIPTION	REQUIREMENT	PROCEDURE
3.5.15	Solderability	Wet Solder Coverage: 95% Min.	Solder Temperature: 235 ± 5°C Immersion Duration: 5 ± 0.5seconds Flux: Alpha 100 MIL-STD-202 Method 208

Result

Confirmed that meet the specification for requirement of wet solder coverage.

Existing product (N=12)



Changed process product (N=12)