



Product Change Notification

TE Connectivity

Product Change Notification: P-21-021569

PCN Date: 08-OCT-21

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:
CT POST HEADER SMT BOX TYPE ASSY CONNECTOR

Description of Changes
Manufacturing location change. 1.New manufacturing location(Shenzhen Guangdong) will be added for following parts. 2.New tooling will be used at the new manufacturing location, We will change pin hole from square to round on new tooling which is a best-practice in use on other parts.

tooling change points

1. Circle hole match with round pin		
2.Round makes contact inserting more smoothly.		
Change points	Square hole for current tooling	Circle hole and round for New tooling

New tooling is improved to avoid the occurrence of metal burr.

Other attachments:
[test report](#)

Reason for Changes:
Dear Customer, as a result of our continuous strive for improving our processes, we hereby inform you about new manufacturing location. The new manufacturing location is under a certified quality management system according the standard industry requirements. An internal release based on our specifications will be executed before any parts will be delivered, which guarantees the performance.

Estimated Dates:	
Last Order Date (Obsolete Parts Only):	First Date To Ship (Changed Parts Only):
	01-NOV-2021
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
1-292173-2	NO						
1-292173-4	NO						
1-292173-5	NO						
2-292173-2	NO						
2-292173-3	NO						
2-292173-4	NO						
2-292173-5	NO						
2-292173-6	NO						
2-292173-8	NO						
2-292175-2	NO						
292173-2	NO						
292173-3	NO						
292173-4	NO						

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
292173-5	NO						
292173-6	NO						
292173-7	NO						
292173-8	NO						
292174-2	NO						
292174-3	NO						
292174-4	NO						
292174-5	NO						
292174-6	NO						
292174-8	NO						
292175-2	NO						
292175-3	NO						
292175-4	NO						
292175-5	NO						
292175-6	NO						
292175-7	NO						
292175-8	NO						
3-292173-2	NO						
3-292173-3	NO			"1000923-F"			
3-292173-4	NO			"1000919-F"			

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
292175-2	NO						
3-292173-2	NO						
3-292173-3	NO			"1000923-F"			
3-292173-4	NO			"1000919-F"			

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
1-292173-4	NO						
2-292173-5	NO						
292173-6	NO						
292173-7	NO						
292174-8	NO						
292175-2	NO						
292175-3	NO						
292175-4	NO						
292175-6	NO						
292175-7	NO						
292175-8	NO						
3-292173-2	NO						
3-292173-3	NO			"1000923-F"			
3-292173-4	NO			"1000919-F"			

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
1-292173-4	NO						
2-292173-5	NO						
292173-6	NO						
292173-7	NO						
292174-8	NO						
292175-2	NO						
292175-3	NO						
292175-4	NO						
292175-6	NO						
292175-7	NO						
292175-8	NO						
3-292173-2	NO						
3-292173-3	NO			"1000923-F"			
3-292173-4	NO			"1000919-F"			

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
1-292173-2	NO						
1-292173-4	NO						
1-292173-5	NO						
2-292173-2	NO						
2-292173-3	NO						
2-292173-4	NO						
2-292173-5	NO						
2-292173-6	NO						
2-292173-8	NO						
2-292175-2	NO						
292173-2	NO						
292173-3	NO						
292173-4	NO						
292173-5	NO						
292173-7	NO						
292173-8	NO						
292174-2	NO						
292174-3	NO						
292174-4	NO						
292174-5	NO						
292174-6	NO						
292175-2	NO						

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
292175-3	NO						
292175-5	NO						
292175-6	NO						
292175-7	NO						
292175-8	NO						
3-292173-2	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
3-292173-2	NO						
3-292173-3	NO			"1000923-F"			
3-292173-4	NO			"1000919-F"			

AMP Common Termination(CT)Connector

2.0mm Pitch (M/T Type)

1. Purpose:

This is qualification test. The purpose of this test is to evaluate the performance of 2.0mm pitch CT Connector (M/T Type) with new location.

Testing was performed on 2.0mm pitch CT Connector (M/T Type) with new location. Connector to determine it compliance with the requirements of Spec 108-60016.

2. Scope:

This report covers the electrical, mechanical and environmental performance of DIP TYPE Mini CT Connector with new housing material PA10T.

Testing was performed at Shanghai Electrical Components Test Laboratory between Jul 01, 21 and Sep 29, 21.

3. Conclusion:

The product met the electrical, mechanical, and environmental performance requirements of TE product specification 108-60016.

4. Test samples:

Samples were taken randomly from current production. The following part numbers were used for test:

Description	Product Part No.
Rec Ass'y 9P #26 #28Type	2-173977-9
Post HDR Ass'y V 9P	292175-9

5. Test Contents

No.	Test Items	Requirements	Judgement
A-1	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
A-2	Insulation Resistance	In accordance with EIA-364-21C. 1000 MΩ min. Initial. Mated connectors; Apply a voltage of DC 500V, for 2 minute.	Acceptable
A-3	Dielectric Withstanding Voltage	In accordance with EIA-364-20B. 1000VAC (60 Seconds) between two adjacent contacts .No evidence of Breakdown and flashover nor leakage current exceeds 5mA	Acceptable
A-4	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
A-5	Humidity, Steady State	In accordance with MIL-STD-202, Method 103 Condition B. Subject mated samples to steady state humidity at 40°C and 90~95%RH for 96 hours. No damage.	Acceptable
A-6	Insulation Resistance	In accordance with EIA-364-21C. 1000 MΩ min. Initial. Mated connectors; Apply a voltage of DC 500V, for 2 minute.	Acceptable
A-7	Dielectric Withstanding Voltage	In accordance with EIA-364-20B. 1000VAC (60 Seconds) between two adjacent contacts .No evidence of Breakdown and flashover nor leakage current exceeds 5mA	Acceptable
A-8	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
B-1	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
B-2	Temperature rise vs current	In accordance with EIA-364-70, Method I Current: 2A (#26AWG)/1A (#28AWG) Connecting Type : All pins are connected in series. Monitoring point: The soldering point of middle pin of Connecting pins of single connector. 30°C maximum temperature rise at rated current.	Acceptable
B-3	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable

No.	Test Items	Requirements	Judgement
C-1	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
C-2	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A 10mΩ Max.	Acceptable
C-3	Vibration	In accordance with EIA-364-28D, Test Condition VII/Method 2005.1, test condition I of MILSTD-1344A Frequency: 10-55-10Hz, Amplitude: 1.52mm, Duration: 2hrs/axis (3 axis, 6 hrs total). Electrical discontinuity less than 1μs, No damage.	Acceptable
C-4	Mechanical Shock	In accordance with EIA-364-27, Condition H. Peak Value:50G Duration: 11mSec. Waveform: Half Sine No. of Shocks/Direction: 3 shocks/3 axes (18 total). Electrical discontinuity less than 1μs, No damage.	Acceptable
C-5	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A 20mΩ Max, Δ≤ 10mΩ	Acceptable
C-6	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
D-1	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
D-2	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A 10mΩ Max.	Acceptable
D-3	Insertion Force	In accordance with EIA-364-13B / Method 2013.1 of MIL-STD-1344A 63.7 N, at a rate of 25.4mm a minute.	Acceptable
D-4	Withdrawal Force	In accordance with EIA-364-13B 9.8 N, at a rate of 25.4mm a minute.	Acceptable
D-5	Durability	In accordance with EIA-364-09C / Method 2016 of MIL-STD-1344A.) 30 times Min.(Sn),at a rate of 25.4mm a minute. No physical damage in visual.	Acceptable
D-6	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A 20mΩ Max, Δ≤ 10mΩ	Acceptable
D-7	Humidity-Temperature Cycling	In accordance with EIA-364-31B, Method IV Subject mated samples to temperature change between 25°C and 65°C with 95%RH for 5cycles. No damage.	/
D-8	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A 20mΩ Max, Δ≤ 10mΩ	/
D-9	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	/

No.	Test Items	Requirements	Judgement
E-1	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
E-2	Contact Retention Force(Male)	In accordance with EIA-364-98. 9.8N Min. /per contact(before soldering)	Acceptable
E-3	Tail Retention Force	In accordance with EIA-364-13B 4.9N Min. /per tail(before soldering)	Acceptable
F-1	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
F-2	Solderability	In accordance with EIA-364-52A / Method 208F of MIL-STD-202F Temperature: $245 \pm 5^{\circ}\text{C}$, the dipping time: 5 ± 0.5 seconds. Solder Coverage >95%	Acceptable
F-3	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
G-1	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
G-2	Resistance to soldering heat	In accordance with EIA-364-56 208F of MIL-STD-202F SMT: 260°C ,30s. No damages on Sample under hot temperature, no deformation and melting on insulator.	Acceptable
G-3	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
H-1	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
H-2	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A $10\text{m}\Omega$ Max.	Acceptable
H-3	Thermal shock	In accordance with EIA-364-32C / Method 107G, test condition A of MIL-STD-202F Subject mated samples to 5 cycles between -55 and $85 +3/-0^{\circ}\text{C}$ with 30 minutes dwell at temperature extremes. No damage.	Acceptable
H-4	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A $20\text{m}\Omega$ Max, $\Delta \leq 10\text{m}\Omega$	Acceptable
H-5	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable

No.	Test Items	Requirements	Judgement
J-1	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
J-2	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A 10mΩ Max.	Acceptable
J-3	Humidity, Steady State	In accordance with MIL-STD-202, Method 103 Condition B. Subject mated samples to steady state humidity at 40°C and 90~95%RH for 96 hours. No damage.	Acceptable
J-4	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A 20mΩ Max, $\Delta \leq 10m\Omega$	Acceptable
J-5	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
K-1	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
K-2	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A 10mΩ Max.	Acceptable
K-3	Temperature life	In accordance with EIA-364-17, Method A, condition 4 / Method 1005.1, test condition 3 of MIL-STD-1344A Subject mated samples to 85±2°C for 96 hours. No damage.	Acceptable
K-4	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A 20mΩ Max, $\Delta \leq 10m\Omega$	Acceptable
K-5	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
L-1	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable
L-2	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A 10mΩ Max.	Acceptable
L-3	Salt Spray	In accordance with EIA-364-26 / Method 101D, test condition B of MIL-STD-202F Subject samples to 5±1% salt spray at 35°C for 48 hours. No oxidation and black on the plating layer of contact area of pins after test. Erode meet class 4.	Acceptable
L-4	Contact Resistance	In accordance with EIA-364-23 / Method 3002.1 of MIL-STD-1344A 20mΩ Max, $\Delta \leq 10m\Omega$	Acceptable
L-5	Examination of Product	In accordance with EIA-364-18. No physical damage in examination of product	Acceptable

Fig. 1 (End)

Product Qualification Test Sequence

(a)

Test or Examination	A	B	C	E	F	G	H	J	K	L
Examination of Product	1,4,8	1,3	1,6	1	1,3	1,3	1,5	1,5	1,5	1,5
Contact Resistance(Low Level)			2,5				2,4	2,4	2,4	2,4
Insulation Resistance	2,6									
Dielectric Withstanding Voltage	3,7									
Contact Retention Force(Male)				2						
Tail Retention Force				3						
Insertion Force										
Withdrawal Force										
Durability										
Vibration			3							
Mechanical Shock			4							
Salt Spray										3
Humidity-Temperature Cycling										
Humidity,Steady State	5							3		
Thermal shock							3			
Temperature life									3	
Resistance to Cold										
Solderability					2					
Soldering heat						2				
Temperature rise vs current		2								
Sample QTY	3	3	3	3	3	3	3	3	3	3
Test Result	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass

Numbers indicate sequence in which the tests are performed.

3.The Result of Evaluation Testing

3.1 Humidity, Steady State

Subject mated samples to steady state humidity at 40°C and 90~95%RH for 96 hours.

Examination of Product

No physical damage in examination of product , initially environmental testing.

Insultion Resistance

Apply test potential of 500V DC for 2 minute to test samples.

As a result of testing,all the samples withstood test potential of 1,000 MΩ MIN between the contact,initially environmental testing.

Dielectric strength

Apply test potential of 1,000V AC for 1 minute to the test samples.

As a result of testing,all the samples withstood test potential of 1,000V AC for 1 minute,Initially environmental testing,without flashover and dielectric break-down,and leakage current didn't exceed 5mA,meeting the requirement.

3.2 Temperature rise vs current

Measure the Temperature rise result by applying rated current to the test circuit.(specified current 2A:#26,1A:#28).

Temperature rise vs current

Unit: °C

Test Condition	Temperature rise vs current						Spec. limit (MAX)	Judgement
	N	POSITION	MAX	MIN	AVG	STD		
1.0 A(#28)	3	Male side	5.6	5.3	5.5	0.14	30°C	Acceptable
	3	Housing surface	4.6	4.1	4.4	0.24	30°C	Acceptable
	3	Female side	6.2	5.7	6.0	0.24	30°C	Acceptable
2.0 A(#26)	3	Male side	13.7	13.2	13.4	0.23	30°C	Acceptable
	3	Housing surface	10.8	10.5	10.6	0.14	30°C	Acceptable
	3	Female side	13.6	13.2	13.4	0.19	30°C	Acceptable

Examination of Product

No physical damage in examination of product , initially and after temperature rise vs current testing.

3.3 Vibration Test

Frequency: 10-55-10Hz, Amplitude: 1.52mm, Duration: 2hrs/axis (3 axis, 6 hrs total). Electrical discontinuity less than 1µs.

3.4 Mechanical Shock

Apply mechanical shock of 50G in 11 millisecond with waveform of Half Sine duration to the normal and reversed direction of three mutual axes(X,Y,Z) of the sample product for three drops each, totally 18 drops. Electrical discontinuity less than 1 μ s.

Electrical discontinuity

Electrical discontinuity less than 1 μ s after vibration test.

Electrical discontinuity less than 1 μ s after mechanical shock.

Examination of Product

No physical damage in examination of product, initially and after vibration testing/mechanical shock testing.

Contact Resistance

 Unite: m Ω

Test Condition	Contact Resistance					Spec. limit (MAX)	Judgement
	N	MAX	MIN	AVG	STD		
Initial	27	6.46	6.06	6.29	0.11	10	Acceptable
Final	27	6.91	6.26	6.56	0.19	20	Acceptable

3.5 Durability (Sn)

Fasten connector halves on mechanical operation tester and by operating the head at a rate of 25.4mm a minute for 30 cycles.

Contact Resistance

 Unite: m Ω

Test Condition	Contact Resistance					Spec. limit (MAX)	Judgement
	N	MAX	MIN	AVG	STD		
Initial	27	6.49	6.01	6.33	0.13	10	Acceptable
Final	27	6.62	6.15	6.39	0.18	20	Acceptable

Connector Insertion Force

Unit: N

Test Condition	Connector Insertion Force					Spec. limit (MAX)	Judgement
	N	MAX	MIN	AVG	STD		
Initial	3	23.44	22.66	22.94	0.24	63.7	Acceptable

Connector Withdrawal Force

Unit: N

Test Condition	Connector Withdrawal Force					Spec. limit (MAX)	Judgement
	N	MAX	MIN	AVG	STD		
Initial	3	19.44	18.76	19.13	0.21	9.8	Acceptable

3.6 Contact Retention Force(Male/per contact/before soldering)

Unit: N

Test Condition	Contact Retention Force					Spec. limit (Min)	Judgement
	N	MAX	MIN	AVG	STD		
Initial	15	26.15	24.51	25.21	0.58	9.8	Acceptable

3.7 Tail Retention Force(Male/per contact/before soldering)

Unit: N

Test Condition	Tail Retention Force					Spec. limit (Min)	Judgement
	N	MAX	MIN	AVG	STD		
Initial	15	36.11	32.90	34.60	0.92	4.9	Acceptable

3.8 Solderability

Subject contacts to solderability testing as specified solder temperature:245±5°C time:5±0.5 seconds.

Examination of Product

More than 95% of tested area was covered with fresh wet solder.

3.9 Resistance to soldering heat (SMT type)

Subject samples mounted on PCB at 260±5°C for 30±1 seconds (measure at housing surface).

Examination of Product

Test samples showed no evidense of effects such as deformation,melting etc,that are detrimental to connector function.

3.10 Thermal shock

Subject mated samples to 5 cycles between -55 and 85 +3/-0°C with 30 minutes dwell at temperature extremes.

Examination of Product

No physical damage in examination of product , initially environmental testing.

Contact Resistance

Unite: mΩ

Test Condition	Contact Resistance					Spec. limit (MAX)	Judgement
	N	MAX	MIN	AVG	STD		
Initial	27	6.47	6.05	6.25	0.16	10	Acceptable
Final	27	6.63	6.17	6.39	0.17	20	Acceptable

3.11 Humidity, Steady State

Subject mated samples to steady state humidity at 40°C and 90~95%RH for 96 hours.

Examination of Product

No physical damage in examination of product , initially environmental testing.

Contact Resistance

Unite: mΩ

Test Condition	Contact Resistance					Spec. limit (MAX)	Judgement
	N	MAX	MIN	AVG	STD		
Initial	27	6.42	5.98	6.27	0.19	10	Acceptable
Final	27	6.69	6.11	6.42	0.18	20	Acceptable

3.12 Temperature Life

Subject mated samples to 85±2°C for 96 hours.

Examination of Product

No physical damage in examination of product , initially environmental testing.

Contact Resistance

Unite: mΩ

Test Condition	Contact Resistance					Spec. limit (MAX)	Judgement
	N	MAX	MIN	AVG	STD		
Initial	27	6.39	5.93	6.20	0.13	10	Acceptable
Final	27	6.89	6.21	6.58	0.24	20	Acceptable

3.13 Salt Spray

Subject samples to 5±1% salt spray at 35°C for 48 hours.

Examination of Product

There are not oxidation on the plating layer of contact area of pins after testing. Erode meet class 4.

Contact Resistance

Unite: mΩ

Test Condition	Contact Resistance					Spec. limit (MAX)	Judgement
	N	MAX	MIN	AVG	STD		
Initial	27	6.46	6.10	6.31	0.09	10	Acceptable
Final	27	6.95	6.27	6.74	0.20	20	Acceptable