DITTO™ WIRE TO WIRE INTERCONNECTS

DITTO POSITIVE LOCK TPA V-0	DITTO POSITIVE LOCK TPA V-2
	
Series: 150212	Series: 150213

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REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
D	EC No: 618339 DATE: 7/22/2019	PRODUCT SPECIFICATION POSITIVE LOCK WITH TPA DITTO™ INTERCONNECTS	1 of 9

DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-150212-0000	MBN02	SMAHAJANSHET	NCSR

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1.0 SCOPE

This Product Specification covers the TPA retainer parts of the 3.0 mm (.118 inch) centerline (pitch) Ditto Positive Lock connector series Terminated with 20 to 26 AWG wire using Crimp technology with Tin plating.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER (S)

Description	Series Number
DITTO POSITIVE LOCK TPA 1X2 V-0	150212*
DITTO POSITIVE LOCK TPA 1X3 V-0	
DITTO POSITIVE LOCK TPA 1X4 V-0	
DITTO POSITIVE LOCK TPA 1X5 V-0	
DITTO POSITIVE LOCK TPA 1X6 V-0	
DITTO POSITIVE LOCK TPA 1X7 V-0	
DITTO POSITIVE LOCK TPA 1X8 V-0	
DITTO POSITIVE LOCK TPA 1X2 V-2	150213*
DITTO POSITIVE LOCK TPA 1X3 V-2	
DITTO POSITIVE LOCK TPA 1X4 V-2	
DITTO POSITIVE LOCK TPA 1X5 V-2	
DITTO POSITIVE LOCK TPA 1X6 V-2	
DITTO POSITIVE LOCK TPA 1X7 V-2	
DITTO POSITIVE LOCK TPA 1X8 V-2	

*Used with 150170 and 150201 series housings

2.2 DIMENSIONS, MATERIALS, PLATING AND MARKINGS

REFER SD-150212-0000, SD-150213-0000.
Material: RoHS compliant materials*.
**Refer to the "Product Environmental Compliance" section in Molex.com to know the individual PN RoHS compliance status*

2.3 SAFETY AGENCY APPROVALS

UL FILE NUMBER: E29179
VDE FILE REFERENCE: 219127

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3.0 APPLICABLE DOCUMENTS AND SPECIFICATION

3.1 MOLEX DOCUMENTS

Ditto Interconnects Test summary TS-150212-0000-001
Ditto Application Specification 1502120000-AS-000
Molex Moisture Technical Advisory AS-45499-001
Molex Package Handling Specification 454990100-PK

3.2 INDUSTRY DOCUMENTS

EIA-364-1000
UL-60950-1
IEC-6695-2-11
IEC-60335-1

4.0 ELECTRICAL PERFORMANCE RATINGS

4.1 TEMPERATURE

Operating: -40°C to + 105°C

5.0 QUALIFICATION

Laboratory conditions and sample selection are in accordance with EIA-364-1000

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6.0 PERFORMANCE

6.1 MECHANICAL PERFORMANCE

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	**TPA installation to housing**	Install the TPA to the Housings at a rate of **25 ± 6** mm (**1 ± ¼** inch) per minute.	**4** N MAX. / circuit
2	**TPA Latch strength test**	Axial Pullout force at a rate of 13 mm/ minute (0.5 inch per minute)	**60** N MINIMUM
3	**Shock (Mechanical)** EIA-364-1000 Test Group 3	Mate connectors and shock at **50** g's with ½ sine wave (11 milliseconds) shocks in the ±X,±Y,±Z axes (**18** shocks total). EIA-364-27, Test condition A	**10** milliohms MAXIMUM (change from initial) & Discontinuity < **1** microsecond
4	**Vibration (Random)** EIA-364-1000 Test Group 3	Mate connectors and vibrate per EIA 364-28, test condition VII. Letter D. (Acceleration 3.1 g)	**10** milliohms MAXIMUM (change from initial) & Discontinuity < **1** microsecond

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6.2 ENVIRONMENTAL PERFORMANCE

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5	**Shock (Thermal)** Thermal Shock EIA-364-32 Test Condition I Test Group 2	Mate connectors; expose to **5** cycles of: Temperature °C — Duration (Minutes) **-40 +0/-3** — **30** **+25 +10/-5** — **5** MAXIMUM **+105 +3/-0** — **30** **+25 +10/-5** — **5** MAXIMUM	**10** milliohms MAXIMUM (change from initial) & Visual: No Damage
6	**Cyclic Temperature & Humidity** EIA-364-1000 Test Group 2	Mate connectors: cycle per EIA-364-31: **24** cycles at temperature **25 ± 3**°C at **80 ± 5**% relative humidity and **65 ± 3**°C at **50 ± 5**% relative humidity; dwell time of **1.0** hour; ramp time of **0.5** hours.	**10** milliohms MAXIMUM (change from initial) & Dielectric Withstanding Voltage: No Breakdown at **500** VAC & Insulation Resistance: **1000** Megohms MINIMUM & Visual: No Damage
7	**Thermal Cycling** EIA-364-1000 Test Group 5	Cycle the connector between 15 °C ± 3°C and 85 °C ± 3 °C. Humidity is not controlled. EIA-364-1000, Table 5	**10** milliohms MAXIMUM (change from initial) & Visual: No Damage

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7.0 TEST SEQUENCE GROUPS

Reliability Test Sequences Per EIA-364-1000

Group II Thermal Shock	Group III Vibration	Group V Thermal Cycling
Contact Resistance (Low Level)	Contact Resistance (Low Level)	Contact Resistance (Low level)
Durability (Preconditioning)	Durability (Preconditioning)	Durability (Preconditioning)
Thermal Shock	Contact Resistance (Low level)	Temperature Life (Preconditioning)
Contact Resistance (Low level)	Temperature Life	Contact Resistance (Low level)
Cyclic Temperature and Humidity	Contact Resistance (Low level)	Thermal Cycling
Contact Resistance (Low level)	Vibration	Contact Resistance (Low level)
Reseating	Contact Resistance (Low level)	Reseating
Contact Resistance (Low level)	Mechanical Shock	Contact Resistance (Low level)
	Contact Resistance (Low level)	

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Individual Tests

TPA installation to housing

TPA Latch Strength test

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8.0 PACKAGING

Parts shall be packaged to protect against damage during normal handling, transit and storage. Refer Molex.com specific part number webpage to get the exact packaging document for that item

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