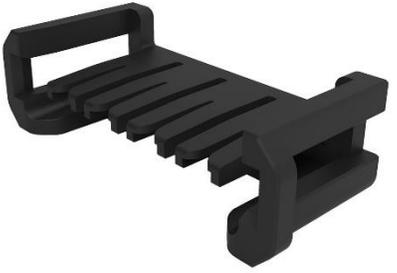


DITTO™ WIRE TO WIRE INTERCONNECTS

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

PENDING APPROVAL

[DITTO INTERCONNECTS Web Page](#)



TABLE OF CONTENTS

REVISION: D	ECR/ECN INFORMATION: EC No: 618339 DATE: 7/22/2019	TITLE: PRODUCT SPECIFICATION POSITIVE LOCK WITH TPA DITTO™ INTERCONNECTS		SHEET No. 1 of 9
DOCUMENT NUMBER: PS-150212-0000		CREATED / REVISED BY: MBN02	CHECKED BY: SMAHAJANSHET	APPROVED BY: NCSR

Table of Contents

<u>ITEMS</u>	<u>PAGE</u>
1.0 SCOPE	3
2.0 PRODUCT DESCRIPTION	3
2.1 PRODUCT NAME AND SERIES NUMBER (S)	3
2.2 DIMENSIONS, MATERIALS, PLATING AND MARKINGS	3
2.3 SAFETY AGENCY APPROVALS	3
3.0 APPLICABLE DOCUMENTS AND SPECIFICATION	4
3.1 MOLEX DOCUMENTS	4
3.2 INDUSTRY DOCUMENTS	4
4.0 ELECTRICAL PERFORMANCE RATINGS	4
4.1 TEMPERATURE	4
5.0 QUALIFICATION	4
6.0 PERFORMANCE	5
6.1 MECHANICAL PERFORMANCE	5
6.2 ENVIRONMENTAL PERFORMANCE	6
7.0 TEST SEQUENCE GROUPS	7
8.0 PACKAGING	9

PENDING
APPROVAL

[DITTO INTERCONNECTS Web Page](#)



TABLE OF CONTENTS TOC

REVISION:	ECR/ECN INFORMATION:	TITLE:		SHEET No.
D	EC No: 618339 DATE: 7/22/2019	PRODUCT SPECIFICATION POSITIVE LOCK WITH TPA DITTO™ INTERCONNECTS		2 of 9
DOCUMENT NUMBER:		CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-150212-0000		MBN02	SMAHAJANSHET	NCSR

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

PENDING
APPROVAL

[DITTO INTERCONNECTS Web Page](#)



TABLE OF CONTENTS

REVISION: D	ECR/ECN INFORMATION: EC No: 618339 DATE: 7/22/2019	TITLE: PRODUCT SPECIFICATION POSITIVE LOCK WITH TPA DITTO™ INTERCONNECTS	SHEET No. 3 of 9
DOCUMENT NUMBER: PS-150212-0000	CREATED / REVISED BY: MBN02	CHECKED BY: SMAHAJANSHET	APPROVED BY: NCSR

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

PENDING
APPROVAL

[DITTO INTERCONNECTS Web Page](#)



TABLE OF CONTENTS

REVISION: D	ECR/ECN INFORMATION: EC No: 618339 DATE: 7/22/2019	TITLE: PRODUCT SPECIFICATION POSITIVE LOCK WITH TPA DITTO™ INTERCONNECTS	SHEET No. 4 of 9
DOCUMENT NUMBER: PS-150212-0000	CREATED / REVISED BY: MBN02	CHECKED BY: SMAHAJANSHET	APPROVED BY: NCSR

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 ($1 \pm \frac{1}{4}$ 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 $\frac{1}{2}$ sine wave (11 milliseconds) shocks in the $\pm X, \pm Y, \pm Z$ 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

PENDING APPROVAL

[DITTO INTERCONNECTS Web Page](#)



[TABLE OF CONTENTS](#) [STOC](#)

REVISION: D	ECR/ECN INFORMATION: EC No: 618339 DATE: 7/22/2019	TITLE: PRODUCT SPECIFICATION POSITIVE LOCK WITH TPA DITTO™ INTERCONNECTS	SHEET No. 5 of 9
DOCUMENT NUMBER: PS-150212-0000	CREATED / REVISED BY: MBN02	CHECKED BY: SMAHAJANSHET	APPROVED BY: NCSR

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: <table border="1"> <thead> <tr> <th>Temperature °C</th> <th>Duration (Minutes)</th> </tr> </thead> <tbody> <tr> <td>-40 +0/-3</td> <td>30</td> </tr> <tr> <td>+25 +10/-5</td> <td>5 MAXIMUM</td> </tr> <tr> <td>+105 +3/-0</td> <td>30</td> </tr> <tr> <td>+25 +10/-5</td> <td>5 MAXIMUM</td> </tr> </tbody> </table>	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
Temperature °C	Duration (Minutes)												
-40 +0/-3	30												
+25 +10/-5	5 MAXIMUM												
+105 +3/-0	30												
+25 +10/-5	5 MAXIMUM												
6	Cyclic Temperature & Humidity EIA-364-1000 Test Group 2	Mate connectors: cycle per EIA-364-31: 24 cycles at temperature $25 \pm 3^{\circ}\text{C}$ at $80 \pm 5\%$ relative humidity and $65 \pm 3^{\circ}\text{C}$ at $50 \pm 5\%$ 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 $15^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and $85^{\circ}\text{C} \pm 3^{\circ}\text{C}$. Humidity is not controlled. EIA-364-1000, Table 5	10 milliohms MAXIMUM (change from initial) & Visual: No Damage										

PENDING APPROVAL

[DITTO INTERCONNECTS Web Page](#)

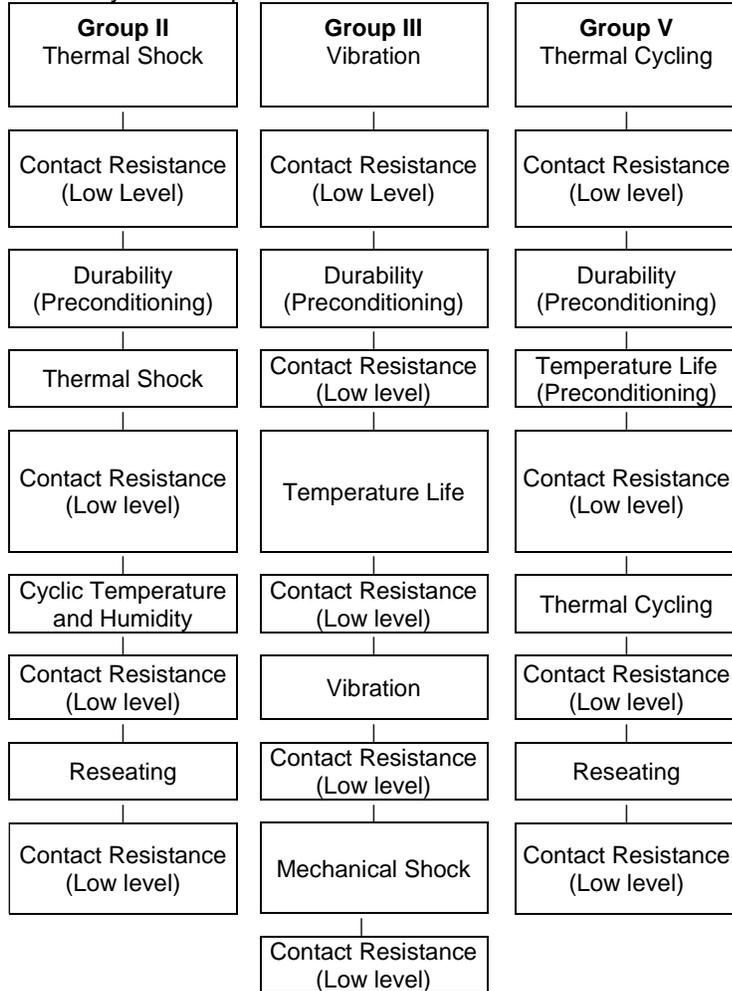


TABLE OF CONTENTS **STOC**

REVISION: D	ECR/ECN INFORMATION: EC No: 618339 DATE: 7/22/2019	TITLE: PRODUCT SPECIFICATION POSITIVE LOCK WITH TPA DITTO™ INTERCONNECTS	SHEET No. 6 of 9
DOCUMENT NUMBER: PS-150212-0000	CREATED / REVISED BY: MBN02	CHECKED BY: SMAHAJANSHET	APPROVED BY: NCSR

7.0 TEST SEQUENCE GROUPS

Reliability Test Sequences Per EIA-364-1000



PENDING APPROVAL

[DITTO INTERCONNECTS Web Page](#)



TABLE OF CONTENTS TOC

REVISION: D	ECR/ECN INFORMATION: EC No: 618339 DATE: 7/22/2019	TITLE: PRODUCT SPECIFICATION POSITIVE LOCK WITH TPA DITTO™ INTERCONNECTS	SHEET No. 7 of 9
DOCUMENT NUMBER: PS-150212-0000	CREATED / REVISED BY: MBN02	CHECKED BY: SMAHAJANSHET	APPROVED BY: NCSR

Individual Tests

TPA installation to housing

TPA Latch Strength test

PENDING
APPROVAL

[DITTO INTERCONNECTS Web Page](#)



TABLE OF CONTENTS TOC

REVISION: D	ECR/ECN INFORMATION: EC No: 618339 DATE: 7/22/2019	TITLE: PRODUCT SPECIFICATION POSITIVE LOCK WITH TPA DITTO™ INTERCONNECTS	SHEET No. 8 of 9
DOCUMENT NUMBER: PS-150212-0000	CREATED / REVISED BY: MBN02	CHECKED BY: SMAHAJANSHET	APPROVED BY: NCSR

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

PENDING APPROVAL

[DITTO INTERCONNECTS Web Page](#)



TABLE OF CONTENTS

REVISION: D	ECR/ECN INFORMATION: EC No: 618339 DATE: 7/22/2019	TITLE: PRODUCT SPECIFICATION POSITIVE LOCK WITH TPA DITTO™ INTERCONNECTS	SHEET No. 9 of 9
DOCUMENT NUMBER: PS-150212-0000	CREATED / REVISED BY: MBN02	CHECKED BY: SMAHAJANSHET	APPROVED BY: NCSR