SPECIFICATION

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SPEC. NO.: PS-50237-XXXXX-XXX **REVISION:** B

PRODUCT NAME: 1.0mm WTW CONN S/R TYPE

PRODUCT NO: 50237-XXXXX

PREPARED:	CHECKED:	APPROVED:
TIANYINGHONG	XUZHIYONG	XUZHIYONG
DATE:2021/03/29	DATE: 2021/03/29	DATE: 2021/03/29

1 Revision History

Rev.	ECN #	Revision Description	Approved	Date
O	ECN-0812210	產品 RELEASE	JASON	2008.11.25
A	ECN-1401184	ADD WORKING VOLTAGE	XUFEI	2014.01.10
B	ECN-000821	ADD 11PIN Mating / Unmating Forces 規格	TIANYING HONG	2021.03.29

2 SCOPE

This specification covers performance, tests and quality requirements for 1.00mm pitch WTW connector.

3 APPLICABLE DOCUMENTS

EIA-364 **ELECTRONICS INDUSTRIES ASSOCIATION**

4 REQUIREMENTS

4.1 Design and Construction

4.1.1 Product shall be of design, construction and physical dimensions specified on applicable product drawing.
4.1.2 All materials conform to R.o.H.S. and the standard depends on TQ-WI-140101.

4.2 Materials and Finish

4.2.1 Contact: High performance copper alloy (Phosphor Bronze)
Finish: (a) Contact Area: Gold plated based on order information
(b) Under plate: Nickel-plated all over

4.2.2 Housing: Thermoplastic or Thermoplastic High Temp., UL94V-0

4.3 Ratings

4.3.1 Working voltage less than 36 volts (per pin)
4.3.2 Voltage: 125 Volts AC (MAX)
4.3.3 Rated Current (MAX)
And Applicable wires AWG#28 1 A【AC(rms)/DC】
AWG#30 1 A【AC(rms)/DC】
AWG#32 0.8 A【AC(rms)/DC】
4.3.4 Operating Temperature : -40℃ to +85℃

5 Performance

5.1. Test Requirements and Procedures Summary

Item	Requirement	Standard
Examination of Product	Product shall meet requirements of applicable product drawing and specification.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Item	**Requirement**	**Standard**
Low-signal Level Contact Resistance	20 m Ω Max.(initial)per contact △R 20 m Ω Max.	Mate connectors, measure by dry circuit, 20mV Max., 10mA Max. (EIA-364-23)
Insulation Resistance	100 M Ω Min.	Unmated connectors, apply 500 V DC between adjacent terminals. (EIA-364-21)
Dielectric Withstanding Voltage	300 VAC Min. at sea level for 1 minute. No discharge, flashover or breakdown. Current leakage: 1 mA max.	Test between adjacent contacts of unmated connectors. (EIA-364-20)
Temperature rise	30℃ Max. Change allowed.	Mate connector: measure the temperature rise at rated current after:1A/Power contact. The temperature rise above ambient shall not exceed 30℃ The ambient condition is still air at 25℃ (EIA-364-70 METHOD 2)
MECHANICAL		
Durability	30 cycles.	The sample should be mounted in the tester and fully mated and unmated the number of cycles specified at the rate of 25.4 ± 3mm/min. (EIA-364-09)
Mating / Unmating Forces	See item 7	Card mating/Unmating sequence: a.) Insert the card at the angle specified by the manufacturer b.) Rotate the card into position. c.) Reverse the installation sequence to unmated Operation Speed： 25.4 ± 3 mm/minute.. Measure the force required to mate/Unmate connector. (EIA-364-13)

Crimping Pull Out Force	AWG# 28：10N(1.0kgf) MIN AWG# 30：5N(0.5kgf) MIN AWG# 32：3N(0.3kgf) MIN	Operation Speed： 25.4 ± 3 mm/minute. Measure the contact retention force with Tensile strength tester.
MECHANICAL		
Item	**Requirement**	**Standard**
Terminal / Housing Retention Force	5N(0.5kgf) MIN.	Apply axial pull out force at the speed rate of 25.4 ± 3 mm/minute. On the terminal assembled in the housing.
Terminal Insertion Force	5N(0.5kgf) Max.	Apply axial pull out force at the speed rate of 25.4 ± 3 mm/minute. On the fitting nail assembled in the housing.
Vibration	1 μs Max.	The electrical load condition shall be 100 mA maximum for all contacts. Subject to a simple harmonic motion having amplitude of 0.76mm (1.52mm maximum total excursion) in frequency between the limits of 10 and 55 Hz. The entire frequency range, from 10 to 55 Hz and return to 10 Hz, shall be traversed in approximately 1 minute. This motion shall be applied for 2 hours in each of three mutually perpendicular directions. (EIA-364-28 Condition I)
Shock (Mechanical)	1 μs Max.	Subject mated connectors to 50 G's (peak value) half-sine shock pulses of 11 milliseconds duration. Three shocks in each direction shall be applied along the three mutually perpendicular axes of the test specimen (18 shocks). The electrical load condition shall be 100mA maximum for all contacts. (EIA-364-27, test condition A)
ENVIRONMENTAL		
Heat Resistance	See Product Qualification and Test Sequence Group 3	Subject mated connectors to temperature life at 85+/-2℃ for 96 hours. Measure Signal. (EIA-364-17, Test condition A)
Cold Resistance	See Product Qualification and Test	Subject mated connectors to

	Sequence Group 4	temperature life at -40+/-3℃ for 96 hours. Measure Signal. (EIA-364-17, Test condition A)
Humidity	See Product Qualification and Test Sequence Group 6	Mated Connector 40℃, 90~95% RH, Reefer to Method II. (EIA-364-31, Test condition A)
ENVIRONMENTAL		
Item	**Requirement**	**Standard**
Thermal Shock	See Product Qualification and Test Sequence Group 9	Mate module and subject to follow condition for 5 cycles. 1 cycles: -40 +0/-3 ℃, 30 minutes +85 +3/-0 ℃, 30 minutes (EIA-364-32, test condition A)
Salt Spray	See Product Qualification and Test Sequence Group 7	Subject mated/unmated connectors to 5% salt-solution concentration, 35℃ for 8 hours. (EIA-364-26,Test condition B)

Note. Flowing Mixed Gas shell be conduct by customer request.

6 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group											
	1	2	3	4	5	6	7	8	9	10	11	
	Test Sequence											
Examination of Product			1,6	1,4		1,4	1,4	1,3	1,4			
Low-signal Level Contact Resistance	1,5	1,4	2,9	2,5		2,5	2,5		2,5			
Insulation Resistance			3,8									
Dielectric Withstanding Voltage			4,7									
Temperature rise								2				
Mating / Unmating Forces	2,4											
Durability	3											
Crimping Pull Out Force					1							
Vibration		2										
Shock (Mechanical)		3										
Heat Resistance			5									
Cold Resistance				3								
Humidity						3						
Salt Spray							3					
Thermal Shock									3			
Terminal / Housing Retention Force										1		
Terminal Insertion Force											1	
Sample Size	4	4	4	4	2	4	4	2	4	2	2	

7 Mating / Unmating Forces

UNIT:N(kgf)

NO. OF Ckt.	Insertion (Max)		Withdrawal (Min)	
	1st	30th	1st	30th
2	20(2.0)	20(2.0)	2 (0.20)	2 (0.20)
3	20(2.0)	20(2.0)	2 (0.20)	2 (0.20)
4	20(2.0)	20(2.0)	2 (0.20)	2 (0.20)
5	30(3.1)	30(3.1)	3(0.31)	3(0.31)
6	30(3.1)	30(3.1)	3(0.31)	3(0.31)
7	30(3.1)	30(3.1)	3(0.31)	3(0.31)
8	40(4.1)	40(4.1)	4(0.41)	4(0.41)
9	40(4.1)	40(4.1)	4(0.41)	4(0.41)
10	40(4.1)	40(4.1)	4(0.41)	4(0.41)
11	45(4.4)	45(4.4)	4.5(0.44)	4.5(0.44)