SPECIFICATION

宏致電子股份有限公司

桃園縣中壢市東園路13號

No.13, Dongyuan Rd., Jhongli City,

Taoyuan County 320, Taiwan (R.O.C.)

TEL: +886-3-463-2808
FAX: +886-3-463-1800

SPEC. NO.: PS-50426-XXXXX-XXX **REVISION:** B

PRODUCT NAME: 2.0 mm PITCH WTB CONN.

PRODUCT NO: 50426 52239 SERIES.

PREPARED:	CHECKED:	APPROVED:
Huang,ShunSen	**Lu,JingQuan**	**Hsieh,FuYu**
DATE: **2021.08.21**	DATE: **2021.08.21**	DATE: **2021.08.21**

1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
O	ECN-1010159	NEW SPEC	XIAO	10/10/19
A	ECN-1401236	ADD WORKING VOLTAGE	XUFEI	14/01/14
B	ECN-003646	ADD 52239	Huang,Shun Sen	2021.08.21

2 SCOPE

This specification covers performance, tests and quality requirements for WTB connector.
ACES P/N:50426 52239 series.

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 (Brass)
Finish: (a) Contact Area: Refer to the drawing.
(b) Under plate: Refer to the drawing.
(c) Solder area: Refer to the drawing

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: 125Volts AC (per pin)
4.3.3 Current: 1.5 Amperes (per pin)
4.3.4 Operating Temperature : -40℃ to +85℃

5 Performance

5.1. Test Requirements and Procedures Summary

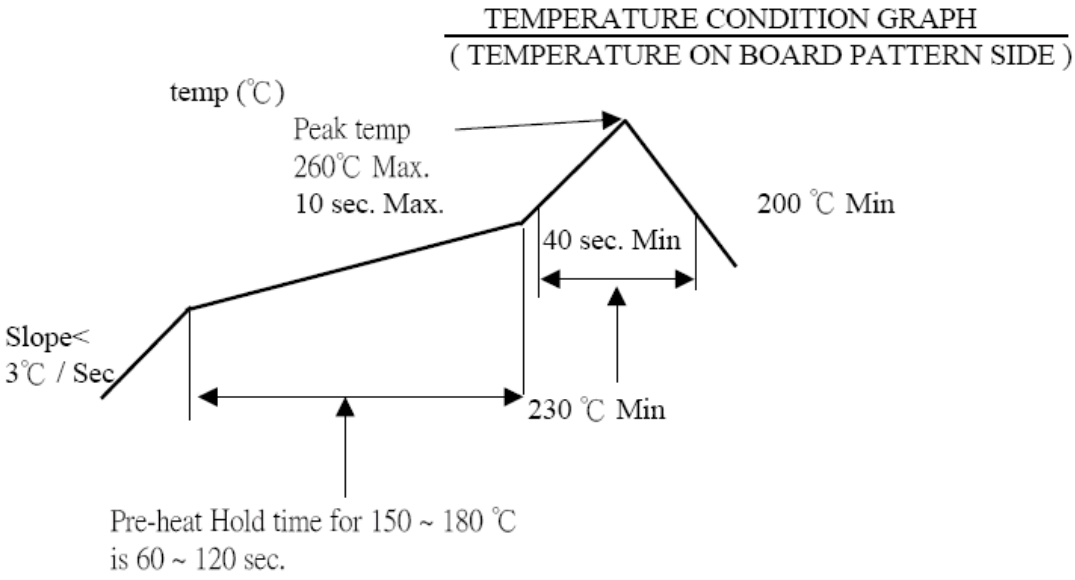
Item	Requirement	Standard
Examination of Product	Product shall meet requirements of applicable product drawing and specification.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Item	**Requirement**	**Standard**
Low Level Contact Resistance	20 m Ω Max.(initial)per contact 40 m Ω Max after test.	Mate connectors, measure by dry circuit, 20mV Max., 10mA Max. (EIA-364-23)
Insulation Resistance	1000 M Ω Min.	Unmated connectors, apply 500 V DC between adjacent terminals. (EIA-364-21)
Dielectric Withstanding Voltage	No discharge, flashover or breakdown. Current leakage: 1 mA max.	500V AC Min. at sea level for 1 minute. 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 until temperature stable. The ambient condition is still air at 25℃ (EIA-364-70 METHOD 1, CONDITION1)
MECHANICAL		
Item	**Requirement**	**Standard**
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	Mating Force: see Item 8 Unmating Force: see Item 8	Operation Speed： 25.4 ± 3 mm/minute.. Measure the force required to mate/unmate connector. (EIA-364-13)
Terminal / Housing Retention Force	500 gf min	Apply axial pull out force at the speed rate of 25.4 ± 3 mm/minute. On the terminal 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)
Item	**Requirement**	**Standard**
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		
Item	**Requirement**	**Standard**
Resistance to **Wave** Soldering Heat	See Product Qualification and Test Sequence Group 10 (Lead Free)	Solder Temp： 265±5℃，10±0.5 sec.
Resistance to **Reflow** Soldering Heat	See Product Qualification and Test Sequence Group 10 (Lead Free)	Pre Heat：150℃~180℃, 60~120sec. Heat：230℃ Min., 40sec Min. Peak Temp.：260℃Max, 10sec Max.
Thermal Shock	See Product Qualification and Test Sequence Group 4	Mate module and subject to follow condition for 5 cycles. 1 cycles: -55 +0/-3 ℃, 30 minutes +85 +3/-0 ℃, 30 minutes (EIA-364-32, test condition I)
Humidity	See Product Qualification and Test Sequence Group 4	Mated Connector 40℃, 90~95% RH, 96 hours (EIA-364-31,ConditionA,Method II)
Temperature life	See Product Qualification and Test Sequence Group 5	Subject mated connectors to temperature life at 85℃ for 96 hours (EIA-364-17 , Test condition A)

Salt Spray (Only For Gold Plating)	See Product Qualification and Test Sequence Group 6	Subject mated/unmated connectors to 5% salt-solution concentration, 35℃ (I) Gold flash for 8 hours. (II) Gold plating 5u" for 96 hours. (EIA-364-26)
Solder ability	Tin plating: Solder able area shall have minimum of 95% solder coverage. Gold plating: Solder able area shall have minimum of 75% solder coverage.	And then into solder bath, Temperature at 245 ±5℃, for 4-5 sec. (EIA-364-52)
Hand Soldering Temperature Resistance	Appearance : No damage	T≧350℃ , 3 sec at least

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

6 INFRARED REFLOW CONDITION



7 PRODUCT QUALIFICATION AND TEST SEQUENCE

est or Examination	Test Group									
	1	2	3	4	5	6	7	8	9	10
	Test Sequence									
Examination of Product				1、7	1、6	1、4			1	1
Low Level Contact Resistance		1、5	1、4	2、10	2、9	2、5			3	
Insulation Resistance				3、9	3、8					
Dielectric Withstanding Voltage				4、8	4、7					
Temperature rise	1									
Mating / Unmating Forces		2、4								
Durability		3								
Vibration			2							
Shock (Mechanical)			3							
Thermal Shock				5						
Humidity				6						
Temperature life					5					
Salt Spray						3				
Solder ability							1			
Terminal / Housing Retention Force								1		
Resistance to Soldering Heat									2	
Hand Soldering Temperature Resistance										2
Sample Size	2	4	4	4	4	4	2	4	4	4

8 INSERTION / WITHDRAWAL FORCE

極數 No. of CKT	單位 UNIT	插入力（最大值） Insertion Force (MAX)			拔去力（最小值） Withdrawal Force (MIN)		
		初回 1st	6 回 6th	30 回 30th	初回 1st	6 回 6th	30 回 30th
3	N Kgf	24.5 {2.50}	19.6 {2.00}	19.6 {2.00}	11.8 {1.20}	9.8 {1.00}	9.8 {1.00}
4	N Kgf	28.8 {2.94}	21.9 {2.24}	21.9 {2.24}	12.6 {1.28}	10.4 {1.06}	10.4 {1.06}
5	N Kgf	33.1 {3.38}	24.2 {2.47}	24.2 {2.47}	13.3 {1.35}	11.0 {1.12}	11.0 {1.12}
6	N Kgf	37.4 {3.82}	26.5 {2.71}	26.5 {2.71}	14.0 {1.50}	11.6 {1.18}	11.6 {1.18}
7	N Kgf	41.7 {4.26}	28.8 {2.94}	28.8 {2.94}	14.8 {1.50}	12.2 {1.24}	12.2 {1.24}
8	N Kgf	46.1 {4.71}	31.1 {3.18}	31.1 {3.18}	15.5 {1.58}	12.7 {1.29}	12.7 {1.29}
9	{	50.5 {5.15}	33.4 {3.41}	33.4 {3.41}	16.3 {1.66}	13.3 {1.35}	13.3 {1.35}
10	N Kgf	54.8 {5.59}	35.6 {3.64}	35.6 {3.64}	17.0 {1.73}	13.9 {1.41}	13.9 {1.41}
11	N Kgf	59.1 {6.03}	38.0 {3.88}	38.0 {3.88}	17.8 {1.81}	14.5 {1.47}	14.5 {1.47}
12	N Kgf	63.4 {6.47}	40.4 {4.12}	40.4 {4.12}	18.5 {1.88}	15.0 {1.53}	15.0 {1.53}
13	N Kgf	67.7 {6.91}	42.6 {4.35}	42.6 {4.35}	19.3 {1.96}	15.6 {1.59}	15.6 {1.59}
14	N Kgf	72.0 {7.35}	45.0 {4.59}	45.0 {4.59}	20.0 {2.04}	16.2 {1.65}	16.2 {1.65}
15	N Kgf	76.3 {7.79}	47.2 {4.82}	47.2 {4.82}	20.7 {2.11}	16.8 {1.71}	16.8 {1.71}
16	N Kgf	80.8 {8.24}	49.6 {5.06}	49.6 {5.06}	21.5 {2.19}	17.3 {1.76}	17.3 {1.76}
17	N Kgf	85.1 {8.68}	51.8 {5.29}	51.8 {5.29}	22.2 {2.26}	17.9 {1.82}	17.9 {1.82}
18	N Kgf	89.4 {9.12}	54.2 {5.53}	54.2 {5.53}	23.0 {2.34}	18.5 {1.88}	18.5 {1.88}
19	N Kgf	93.7 {9.56}	56.4 {5.76}	56.4 {5.76}	23.8 {2.42}	19.1 {1.94}	19.1 {1.94
20	N Kgf	98.0 {10.00}	58.8 {6.00}	58.8 {6.00}	24.6 {2.50}	19.7 {2.00}	19.7 {2.00}