SPECIFICATION

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SPEC. NO.: PS-92250-008XX-XXX **REVISION:** O

PRODUCT NAME: 2.2mm WTB Wafer Con.T/H R/A Type

PRODUCT NO: 92250SERIES

PREPARED:	CHECKED:	APPROVED:
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DATE: 2018/04/16	DATE: 2018/04/16	DATE: 2018/04/16

1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
O	1804168	NEW SPEC	Hsuyangyang	18'/04/16

2 SCOPE

This specification covers performance, tests and quality requirements for 2.2mm WTB Wafer Con.T/H R/A Type

3 APPLICABLE DOCUMENTS

EIA364

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: Tin plated.
(b) Under plate: Nickel-plated overall.
4.2.2 Housing: Thermoplastic or Thermoplastic High Temp., UL94V-HB

4.3 Ratings

4.3.1 Operating Temperature : -30℃ ~100℃
4.3.2 Current: 4 Amperes (per pin)

5 Performance

5.1. Test Requirements and Procedures Summary

Test Items	Requirements	Procedures
Examination of product	Meets requirements of product drawing	Visual inspection No physical damage.
ELECTRICAL		
Test Items	**Requirements**	**Procedures**
Termination Resistance (Specified Current)	5mΩ Max.(Initial) 10mΩ Max.(Final)	Measure mill drop of contact in mated connectors, Fig.4. Current:12V Voltagr:1A
Termination Resistance (Low Level)	5mΩ Max.(Initial) 10mΩ Max.(Final)	Subject mated contacts assembled in housing to 20mV MAX. open circuit at 10mA. Fig.4.
Dielectric Withstanding Voltage	No creeping discharge nor flashover shall occur.	1kV A.C. for 1 minute mated connector, Fig.5.
Insulation Resistance	100MΩMin.(Initial/Final)	Impressed voltage 500V D.C. mated connector, Fig.5.
Current Leakage	3mA Max.	14V D.C. for 1 minute, Fig.6.
Temperature Rising	Temperature Rising ; 60℃ Max.	Measure temperature rising at wire crimped by applied current to all positions. (per pin) (Rated Current ; See Fig. 11)
Over Current Loading	No ignition is allowed during the test.	Apply the current to only on position. Applied current; (per pin) Fig.7.

MECHANICAL		
Item	**Requirement**	**Procedures**
Vibration (High Frequency)	No electrical discontinuity greater then 1μsec. shall occur. To meet the requirements of test examination according to test sequence	Vibration frequency;20～200～20Hz/3 minutes Accreted Velocity;44.1m/s$_2$ Vibration Direction;X, Y and Z Duration;Each for 2 hours. Mounting; Fig.10
Physical Shock	No electrical discontinuity greater than 1 μsec. shall over.	Accelerated Velocity;980 m/s$_2$ Wave form;Half sine wave ; Fig. 7 Duration; 6 msec. Velocity Change;3.75 m/s Number of Drops; 6 drops each directions of X, Y and Z axes, totally 18 drops. Condition D Mounting; Fig. 10
Connector Mating Force	69N Max.	Operation Speed;20mm/min. Measure the force required to mate connectors.
Connector Unmating Force	69N Max.	Operation speed; 100mm/min. Measure the force required to unmate connectors. (Without housing lock)
Connector Locking Strength	100N Min.	Apply an axial pull-off load to one of the mated housing. Measure locking strength. Operation Speed; 100mm/min

Retention Force of Tab	20N min. (PBT Housing)	Measure the retention force between housing and tab contact. Operation speed:100mm/min
ENVIRONMENTAL		
Item	**Requirement**	**Procedures**
solderability	Tin plating: Solder able area shall have minimum of 95% solder coverage.	And then into solder bath, Temperature at 245 ±5℃, for 4-5 sec. (EIA-364-52)
Thermal Shock	To meet the requirements of test examination according to test sequence	Mated connector -30℃/30min., 80℃ /30min. Making this a cycle, repeat 1000 cycles with monitoring
Humidity (Steady State)	To meet the requirements of test examination according to test sequence	Mated connector,90-95% R.H 60℃ 96 hours,
Temperature Life (Heat Aging)	To meet the requirements of test examination according to test sequence	Mated connector 100℃, 120 hours
Resistance to Cold	To meet the requirements of test examination according to test sequence	Mated connector -30℃±3℃, 120 hours
Humidity-Temperature Cycling	To meet the requirements of test examination according to test sequence	Mated connector Fig.9, 10 cycles with monitoring the resistance fluctuation at 10mA.
Compound Environment Resistance	To meet the requirements of test examination according to test sequence	Test Current; See Fig.12, 300 cycles with monitoring the resistance fluctuation. Vibration Condition ;

		Temperature ; 80℃ Vibration frequency;20～200～20Hz/3 minutes Accreted Velocity;44.1m/s2 Vibration Direction;X, Y and Z Duration;Each for 2 hours. Mounting; Fig.10
Dew Formation Test	To meet the requirements of test examination according to test sequence	Mated connector 0℃/10min. 80℃ /30min. 90～95% R.H. Making this a cycle, repeat 48 cycles with monitoring the current leakage

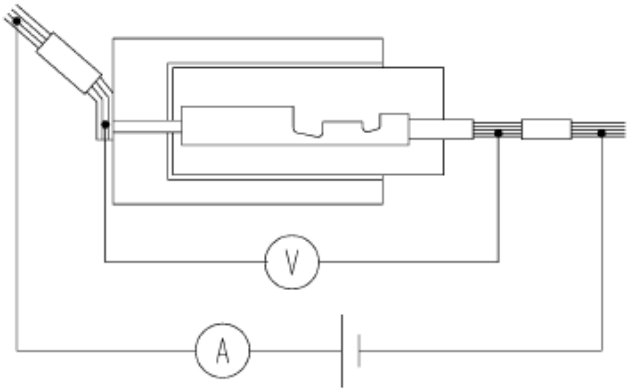
6 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Test Sequence												
Examination of product	1	1,5	1,5	1,5	1,8	1,8	1,3	1,6	1,3	1,5, 9	1,5	1,	1
Termination Resistance (Rated Current)	3	3,7	3,7	3,7	3,10	3,10		3,8		3,7, 11	3,7	3,7	
Termination Resistance (Low Level)	2	2,6	2,6	2,6	2,9	2,9		2,7		2,6, 10	2,6	2,6	
Dielectric Withstanding Voltage	5				5,12	5,12							
Insulation Resistance	4				4,11	4,11							
Current Leakage					7	7							
Temperature Rising		8								4	8		
Over Current Loading										8			
Vibration (High Frequency)								5					
Physical Shock									4				
Connector Mating Force	7												
Connector Unmating Force	6												
Retention Force of Tab													2
Solderability							2						
Thermal Shock			4										
Humidity (Steady State)						6							
Temperature Life (Heat Aging)		4						4	2			4	

Resistance to Cold				4									
Humidity Temperature Cycling					6								
Compound Environment Resistance											4		
Dew Formation Test												5	
Sample Size	5	5	5	5	5	5	5	5	5	5	5	5	5

Fig.3

7.Test procedure



Soldering wire on stripped area.
Remove the bulk resistance from the measured value.

Fig.4

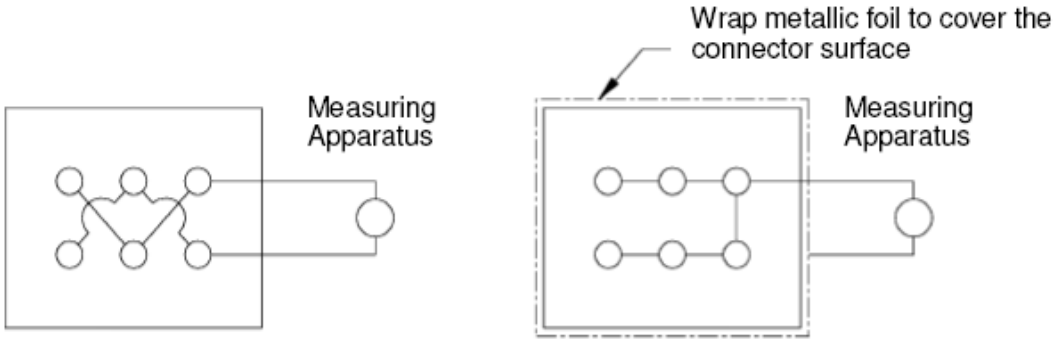


Fig.5

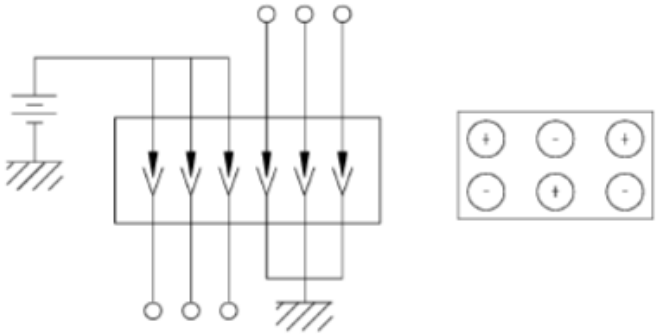


Fig.6

Wire Size (mm^2)	Test Current (A)	Duration	Wire Size (mm^2)	Test Current (A)	Duration
0.3	11	60 min.	0.85	16.5	60 min.
	13.5	10 sec.		20.2	100 sec.
	15	5 sec.		22.5	10sec.
	20	1 sec.		30	1 sec.
0.5	16.5	60 min.	1.25	16.5	60 min.
	20.2	200sec.		20.2	100sec.
	22.5	5sec.		22.5	10sec.
	30	1sec.		30	2sec.

Fig.7

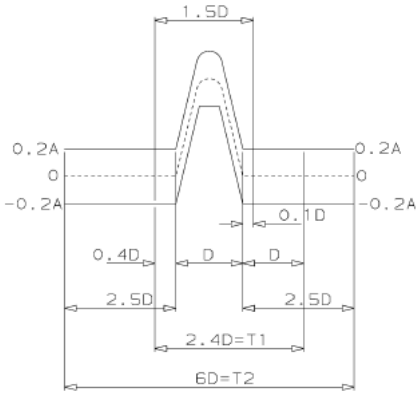
Para.	Test Condition
Peak acceleration	980m/s²
duration	6msec. Velocity
Waveform (Half sine wave)	 Ideal wave Permissible Limit Ideal wave duration A: Peak acceleration of ideal wave T1: In case of shock machine The minimum time to watch shock T2: In case of vibration machine The minimum time to watch shock
Directions	X, Y and Z axis (6 directions)
Number of drops	3 drops each

Fig.8

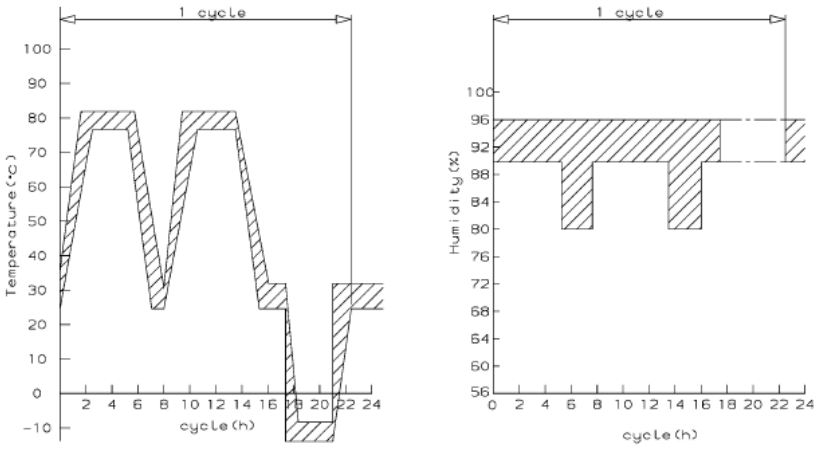


Fig.9

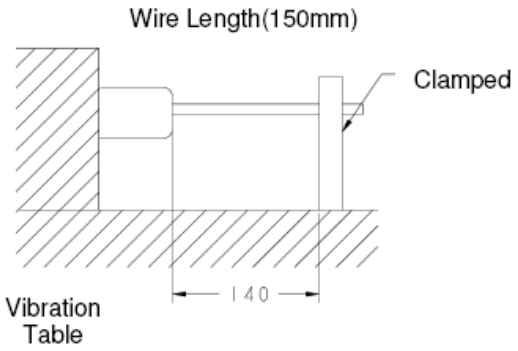


Fig.10

Terminal	Wire Size (mm²)	Test Current (A)	Temp. Rising
040III	1.25	10.4	60℃ Max.
	0.5	6.0	
025	0.3	2.2	

Fig.11

端子	電線サイズ(mm²)	試験電流(A)	通電時間
040Ⅲ	1.25	5.5A	45分 ON 15分 OFF
	0.5	3.3A	
025	0.3	2.2A	

Fig.12