



# PRODUCT SPECIFICATION



## 1. SCOPE(적용범위)

This Product Specification covers the 2.5 Pitch W-t-B Connector(P-Lock) series  
(이 Spec.은 2.5 Pitch W-t-B Connector(P-Lock) series에 대하여 규정한다)

## 2. PRODUCT DESCRIPTION(제품구성)

### 2.1 PRODUCT NAME AND SERIES NUMBER(제품명 & 제품번호)

Product Name	Parts Number
Housing	35155-**1*
Wafer Ass'y(ST) for RoHS compatible	35312-**6*,**4*,**5*
Terminal	5103-PBT9

### 2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS(치수,재질,도금)

Refer to the attached product Drawings (제품도 참조)

## 3. RATINGS(정격)

### 3.1 VOLTAGE(전압) : 250 VOLTS AC (RMS) {OR 250 VOLTS DC}

### 3.2 CURRENT AND APPLICABLE WIRES(허용전류 및 적용 WIRES)

AWG	Amps	Outside Insulation Diameter
#22	3.0A	
#24	2.5A	φ 1.15 ~ φ 1.9 mm
#26	2.0A	
#28	1.5A	

### 3.3 TEMPERATURE(사용온도)

Operating: - 40°C to + 105°C

## 4. PERFORMANCE(성능)

### 4.1 ELECTRICAL REQUIREMENTS(전기적 특성)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	접촉저항	결합된 Connector를 개방전압 20mV이하, 단락전류 10mA에서 측정한다 (JIS C5402 5.4)	20 milliohms MAXIMUM
	Contact Resistance	Mate Connectors measure by dry circuit, 20mV MAX. 10mA (Based upon JIS C5402 5.4)	
2	절연저항	결합된 Connector를 인접 Ter'   사이 및 Ter'   과 GND간에 DC500V를 인가하여 측정한다.(MIL-STD-202 시험법302 조건B)	1,000 MΩ MIN.
	Insulation Resistance	Mate applicable cable & apply 500 V DC between adjacent terminal or ground.(MIL-STD-202 Method 302 COND.B)	
3	내전압	결합된 Connector를 인접 Ter'   사이 및 Ter'   과 GND간에 AC1000V를 1분간 가한다.(MIL-STD-202 시험법 301)	이상없을것 (No breakdown)
	Dielectric Withstanding Voltage	Mate Connectors, apply 1000V AC(rms) for 1 minute between adjacent terminals or ground.(MIL-STD-202 Method 301)	

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## 4.1 ELECTRICAL REQUIREMENTS(continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
4	압착상태의 접촉저항	Terminal을 wire를 사용하여 압착한 상태에서 개방전압 20mV 이하, 단락전류 10mA에서 측정한다.	5mΩ max.
	Contact resistance on crimped portion	Crimp the applicable wire on to the terminal, measure by dry circuit, 20mV MAX. 10mA	

## 4.2 MECHANICAL REQUIREMENTS (기계적 특성)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	
1	삽입력 및 발거력	Connector를 매분 25 ± 3 mm의 속도로 삽,발거를 실시한다.	제 5 항 참조 (Refer to paragraph 5)	
	Insertion and Withdrawal force	Insert & withdraw connectors at the speed rate of 25±3mm/minute.		
2	단자고착력	압착된 Ter'l을 매분 25±3 mm의 속도로 wire를 축방향으로 당긴다.(JIS C5402 6.8)	AWG #22	4.0 Kgf MIN.
	Crimping Pull Out Force	Fix the crimped ter'l, apply axial pull out force on the wire at speed rate of 25±3mm/minute.(JIS C5402 6.8)	AWG #24	3.0 Kgf MIN.
3	Terminal 삽입력	하우징에 압착된 Terminal을 삽입하여 측정한다	AWG #26	2.0 Kgf MIN.
	Terminal Insertion Force	Insert the crimped terminal into the housing.	AWG #28	1.0 Kgf MIN.
4	Terminal 유지력	하우징과 Terminal을 조립한 상태에서 매분 25 ± 3mm/min.의 속도로 축방향으로 잡아당겨 측정한다.	1.5 Kgf MIN.	
	Terminal/Housing Retention Force	Apply axial pull out force at the speed rate of 25 ± 3mm/min. on terminal assembled in the housing.		
5	Pin 유지력	매분 25 ± 3mm/min.의 속도로 Pin을 축방향으로 누른다.	1.0 Kgf MIN.	
	Pin Retention Force	Apply axial pull out force at the speed rate of 25 ± 3mm/min.		
6	CONNECTOR 결합력	결합된 Connector를 매분 25 ± 3 mm의 속도로 축방향으로 당긴다.	2~3 CKT	2.0 Kgf MIN.
	Lock Strength	Mated Connectors, apply axial pull out force at the speed rate of 25 ± 3mm/min.	4~15 CKT	4.0 Kgf MIN.

## 4.3 ENVIRONMENTAL REQUIREMENTS(환경적 특성)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	
1	반복 삽,발거력	1분간 10회의 속도로 삽,발거를 30회 반복한다.	접촉저항	40mΩ max.
	Repeated Insertion /Withdrawal	When wated up to 30 cycles repeatedly by the rate of 10 cycles/minute.	Contact Resistance	
2	온도상승	최대 허용전류를 통전후 온도 상승분을 측정한다.(UL498)	30°C MAX	
	Temperature Rise	Measure the temperature rise at the rated current. (UL498)		

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### 4.3 ENVIRONMENTAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	
3	내 진동성	진 폭 : 1.5mm P-P 진동수 : 10-55-10 Hz/분 진동시간 : X.Y.Z축 각 2시간 (MIL-STD-202 시험법 201A)	외관	이상 없을 것
			접촉저항	40mΩ Max.
			순간단락	1μ sec MAX.
	Vibration	Amplitude : 1.5mm P-P Sweep Time : 10-55-10 Hz in 1 minute Duration : 2 Hours in each X.Y.Z axes (Based upon MIL-STD-202 Method 201A)	Appearance	No Damage
			Contact Resistance	40mΩ Max.
			Discontinuity	1μ sec MAX.
4	내 충격성	50G의 충격을 각 X.Y.Z 축에 3회 가한다. (JIS C0041/MIL-STD-202, 시험법 213B, 조건 A)	외관	이상 없을 것
			접촉저항	40mΩ Max.
			순간단락	1μ sec MAX.
	Shock	50G, 3 strokes in each X.Y.Z axes. (Based upon JIS C0041/MIL-STD-202, Method 213B, Condition A)	Appearance	No Damage
			Contact Resistance	40mΩ Max.
			Discontinuity	1μ sec MAX.
5	내 한 성	주위온도 -40 ± 3°C에서 96시간 방치 후 꺼내어 측정한다.	외관	변형 없을 것
			접촉저항	40mΩ max.
	Cold Resistance	Duration: 96 hours; Temperature: -40 ± 3°C	Appearance	No Damage
			Contact Resistance	40mΩ max.
6	내 열 성	주위온도 105 ± 2°C에서 96시간 방치 후 꺼내어 측정한다.(MIL-STD-202, 시험법 108A, 조건 A)	외관	변형 없을 것
			접촉저항	40mΩ max.
	Heat Resistance	Duration: 96 hours Temperature: 105 ± 2°C (MIL-STD-202, Method 108A, Condition A)	Appearance	No Damage
			Contact Resistance	40mΩ max.
7	내 습 성	주위온도 : 60 ± 2°C 상대습도 : 90 ~ 95% 지속시간 : 96시간 (JIS C0022/MIL-STD-202 Method 103B COND.B)	외관	이상없을것
			접촉저항	40mΩ Max.
			절연저항	100 MΩ Min.
			내전압	4-1-3항 만족할 것
	Humidity	Temperature: 60 ± 2°C Relative humidity: 90 ~ 95% Duration: 96 hours. (JIS C0022/MIL-STD-202 Method 103B COND.B)	Appearance	No Damage
			Contact Resistance	40mΩ Max.
			Insulation Resistance	100 MΩ Min..
			Dielectric Strength	Must meet 4-1-3

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## 4.3 ENVIRONMENTAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	
8	온도 사이클	5 사이클 : a) -55°C 30분 b) +105°C 30분 (JIS C0025)	외관	이상없을것
			접촉저항	40mΩ Max.
	Temperature cycling	5 Cycle : a) -55°C 30 minute b) +105°C 30 Minute (JIS C0025)	Appearance	No Damage
			Contact Resistance	40mΩ Max.
9	염수분무	주위온도 : 35 ± 2°C에서 5± 1% 중량비의 염수를 48± 4시간 분무하고 시험후 상온에서 물로 씻은후 실온에서 건조시킨다.	외관	이상없을것
			접촉저항	40mΩ Max.
	Salt Spray	48± 4 hours exposure to a salt spray from the 5± 1% solution at 35 ± 2°C	Appearance	No Damage
			Contact Resistance	40mΩ Max.
10	내 아황산성	주위온도 40 ± 2°C에서 50± 5ppm의 아황산가스에 24시간 방치한다.	외관	이상없을것
			접촉저항	40mΩ Max.
	Corrosive Atmosphere: Sulfur Dioxide Gas (SO <sub>2</sub> )	24 hours exposure to 50± 5ppm SO <sub>2</sub> gas at 40 ± 2°C	Appearance	No Damage
			Contact Resistance	40mΩ Max.
11	납 땀 성	납땀시간 : 3 ± 0.5sec 납땀온도 General Items : 230 ± 5°C RoHS Items : 245 ± 5°C	75%min. 침적	
	Solderability	Solder Duration : 3 ± 0.5 seconds Solder Temperature General Items : 230 ± 5°C RoHS Items : 245 ± 5°C	Solder coverage: 75% MINIMUM	
12	납땀 내열성	납땀시간 : 5 ± 0.5sec 납땀온도 : 260 ± 5°C	외관	이상없을것
	Resistance to Soldering Heat	Solder Duration : 5 ± 0.5 seconds Solder Temperature : 260 ± 5°C	Appearance	No Damage

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## 5. 삽입력 및 발거력(INsertion/WITHDRAWAL FORCE)

[Unit : Kgf]

크 수 (CKT Size)	삽입력(최대) {INSERTION(MAX.)}			발거력(최소) {WITHDRAWAL(MIN.)}		
	1 회 (Initial)	6 회 (6th)	30 회 (30th)	1 회 (Initial)	6 회 (6th)	30 회 (30th)
2	3.6	3.4	3.4	0.65	0.55	0.55
3	4.4	4.1	4.1	0.70	0.60	0.60
4	5.2	4.8	4.8	0.75	0.65	0.65
5	6.0	5.5	5.5	0.80	0.70	0.70
6	6.6	6.0	6.0	0.90	0.80	0.80
7	7.2	6.5	6.5	1.00	0.90	0.90
8	7.8	7.0	7.0	1.15	1.00	1.00
9	8.4	7.5	7.5	1.30	1.15	1.15
10	9.0	8.0	8.0	1.45	1.30	1.30
11	9.6	8.5	8.5	1.60	1.45	1.45
12	10.2	9.0	9.0	1.85	1.60	1.60
13	10.8	9.5	9.5	2.00	1.75	1.75
14	11.4	10.0	10.0	2.15	1.90	1.90
15	12.0	10.5	10.5	2.20	2.05	2.05

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