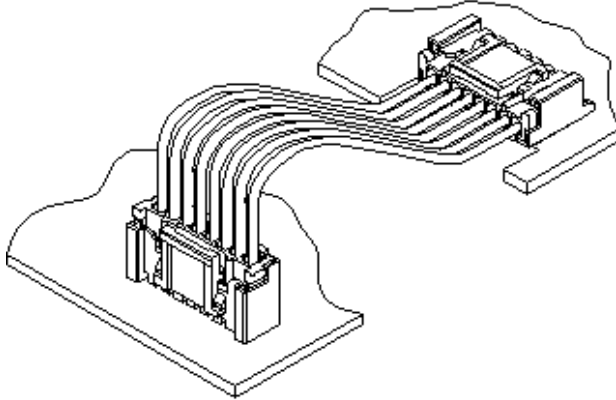


## TITLE : 2.0 PITCH W/B CONN. (P-LOCK)

### 1.0 적용범위 (SCOPE)

이 사양서는 2.0 mm pitch connector(Positive Lock) LEAD FREE series에 대하여 규정한다.  
This Product Specification covers the 2.0 mm pitch connector(Positive Lock) LEAD FREE series.



### 2.0 제품사양 (PRODUCT DESCRIPTION)

#### 2.1 제품명 및 제품번호 (PRODUCT NAME AND SERIES NUMBERS)

제품명 (PRODUCT NAME)	제품번호 (PART NUMBER)
HOUSING	35507-**0*
WAFER ASSY – ST	35362-**0*, -**5*, -**6*, -**7*, -**8* 104065-1670, 104065-1676
WAFER ASSY – RA	35363-**6*
TERMINAL	50212-8000

#### 2.2 SAFETY AGENCY APPROVALS

UL / CSA 인증 (UL/CSA APPROVALS)

### 3.0 RATINGS

항 목 (ITEM))	규 격 (STANDARD)	
최대허용전압 [RATED VOLTAGE (MAX.)]	125V	
최대허용전류 및 사용 전선 [RATED CURRENT (MAX.) AND APPLICABLE WIRES	AWG #24	2.0 A
	AWG #26	1.5 A
	AWG #28	1.0 A
	AWG #30	0.5 A
사용온도범위 (AMBIENT TEMP. RANGE)	-40°C ~ 105°C	
저장온도범위(Non-operating Temperature)	-20°C ~ 60°C	

REVISION: <b>B2</b>	ECR/ECN INFORMATION: EC No: KOR2013-0018 DATE: 2012/ 08/ 16	TITLE: <b>2.0 W/B CONN. (Positive Lock) (2-20P, 6Kinds of color version)</b>	SHEET No. <b>1 of 6</b>
DOCUMENT NUMBER: <b>PS-35507-003</b>	CREATED / REVISED BY: <b>HJEONG/SKCHO</b>	CHECKED BY: <b>SHCHU</b>	APPROVED BY: <b>YSOOKIM</b>

## 4.0 성능 (PERFORMANCE)

### 4.1 전기적 성능 (ELECTRICAL REQUIREMENTS)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
4.1.1	접촉저항 <b>Contact Resistance</b>	결합된 Connector를 개방전압 20mV이하, 단락전류 10mA에서 측정	20 mΩ MAX.
		Mate connectors measure by dry circuit, 20mV Max. 10mA	
4.1.2	압착상태의 접촉저항 <b>Contact Resistance of Wire Termination</b>	Wire를 사용하여 터미널을 압착한 상태에서 개방전압 20mV이하, 단락전류 10mA에서 측정한다.	5 mΩ MAX.
		Crimp the applicable connectors at the speed rated of 25±3mm per minute	
4.1.3	절연저항 <b>Insulation Resistance</b>	결합된 Connector를 인접 Terminal사이 및 Terminal과 GND간에 DC500V를 인가하여 측정한다.	1000 MΩ MIN.
		Mate connectors: apply a voltage of 500 VDC between adjacent terminals and between terminals to ground.	
4.1.4	내전압 <b>Dielectric Withstanding Voltage</b>	결합된 Connector를 인접 Terminal사이 및 Terminal과 GND간에 AC500V를 1분간 인가한다.	No breakdown
		Mate connectors: apply 500VAC for 1 minute between adjacent terminals and between terminals to ground.	
4.1.5	온도상승 Temperature Rise	결합된 커넥터의 최대허용전류를 통전하고 커넥터의 온도 상승 분을 측정한다.	30°C MAXIMUM
		Mate connectors: measure the temperature rise at the rated current	

### 4.2 기계적 성능 (MECHANICAL REQUIREMENTS)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
4.2.1	커넥터삽입력 및 발거력 Connector Mate and Unmate Forces	Connector를 25 ± 3 mm/분의 속도로 삽, 발거를 실시한다	제 6항 참조 (REFER TO PARAGRAPH 6)
		Mate and unmate connector at a rate of 25 ± 3 mm per minute.	

REVISION: <b>B2</b>	ECR/ECN INFORMATION: EC No: KOR2013-0018 DATE: 2012/ 08/ 16	TITLE: <b>2.0 W/B CONN. (Positive Lock) (2-20P, 6Kinds of color version)</b>	SHEET No. <b>2 of 6</b>
DOCUMENT NUMBER: <b>PS-35507-003</b>	CREATED / REVISED BY: <b>HJEONG/SKCHO</b>	CHECKED BY: <b>SHCHU</b>	APPROVED BY: <b>YSOOKIM</b>

## 4.2 MECHANICAL REQUIREMENTS (continued)

4.2.2	전선 압착강도 Crimping Pullout Forces	압착된 터미널을 매분 25±3mm의 속도로 WIRE를 축방향으로 당긴다.	AWG#24	3.0Kgf/MIN
			AWG#26	2.0Kgf/MIN.
		Fix the crimped terminal, apply axial pullout force on the wire at a rate of 25 ± 3 mm per minute.	AWG#28	1.0Kgf/MIN.
			AWG#30	0.5Kgf/MIN.
4.2.3	단자 삽입력 Terminal Insertion Force (into Housing)	하우징에 압착된 단자를 25 ± 6 mm/분의 속도로 삽입한다.	1.0 kgf MAXIMUM	
		Apply an axial insertion force on the terminal at a rate of 25 ± 3 mm per minute		
4.2.4	단자 유지력 Terminal Retention Force (in Housing)	하우징과 단자를 조립한 상태에서 매분 25±3mm의 속도로 축 방향으로 당긴다.	1.5 kgf MINIMUM	
		Apply axial pullout force on the terminal in the housing at a rate of 25 ± 3 mm per minute.		
4.2.5	PIN 유지력 Pin Retention Force	하우징과 터미널을 조립한 상태에서 매분 25±3mm의 속도로 축 방향으로 당긴다.	1.0 kgf MINIMUM	
		Apply an axial push force on the pin at a rate of 25 ± 3 mm per minute		
4.2.6	Connector 결합력 Locking Strength	단자간 결합이 제외된 결합된 커넥터를 매분 25±3mm의 속도로 축방향으로 당긴다.	2~3ckts	2 kgf MINIMUM
		Mated connector (Only mold part), apply axial pullout force at the speed rate of 25±3mm per minute	4~20ckts	3 kgf MINIMUM
4.2.7	내구성 Durability	커넥터를 최대 10회/1분의 속도로 삽,발거를 30회 실시한다.	접촉저항	40 mΩ MAX.
		Mate connectors up to 30 cycles at a maximum rate of 10 cycles per minute.	Contact Resistance	

REVISION: <b>B2</b>	ECR/ECN INFORMATION: EC No: KOR2013-0018 DATE: 2012/ 08/ 16	TITLE: <b>2.0 W/B CONN. (Positive Lock) (2-20P, 6Kinds of color version)</b>	SHEET No. <b>3 of 6</b>
DOCUMENT NUMBER: <b>PS-35507-003</b>	CREATED / REVISED BY: <b>HJEONG/SKCHO</b>	CHECKED BY: <b>SHCHU</b>	APPROVED BY: <b>YSOOKIM</b>

## 4.2 MECHANICAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	
4.2.8	내진동성 VIBRATION	커넥터를 결합하여 아래 진동상태를 가한다. 진 폭 : 1.5mm P-P 진동수 : 10-55-10 Hz/분 진동시간 : X.Y.Z축 각 2시간	외관	이상 없을 것
			접촉저항	40 mΩ MAX.
			순간단락	1 μs MAX.
	Mate connectors and subject to the following vibration conditions: Amplitude : 1.5mm P-P Sweep Time : 10-55-10 Hz in 1 minute Duration : 2 Hours in each X.Y.Z axes	Appearance	No Damage	
		Contact Resistance	40 mΩ MAX.	
		Discontinuity	1 μs MAX.	
4.2.9	내충격성 SHOCK	커넥터를 결합하여 반정현파 50G (490ms)의 충격을 ±X,±Y,±Z축 방향에 3회 가한다.(총 18회)	외관	이상 없을 것
			접촉저항	40 mΩ MAX.
			순간단락	1 μs MAX.
	Mate connectors and shock at 50 g's with ½ sine wave (11 milliseconds) shocks in the ±X,±Y,±Z axes (18 shocks total).	Appearance	No Damage	
		Contact Resistance	40 mΩ MAX.	
		Discontinuity	1 μs MAX.	

## 4.3 환경적 특성(ENVIRONMENTAL REQUIREMENTS)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	
4.3.1	내열성 Heat Resistance	커넥터를 결합하여 주위온도 105 ± 2°C에서 96시간 방치 후 꺼내어 측정한다.	외관	No Damage.
			접촉저항변화	40mΩ MAX
	Mate connectors; expose to: 96 hours at 105 ± 2°C	Appearance	No Damage	
		Contact Resistance	40mΩ MAX	
4.3.2	내한성 Cold Resistance	주위온도 -40 ± 3°C에서 96시간 방치 후 꺼내어 측정한다.	외관	No Damage.
			접촉저항변화	40mΩ MAX
	Mate connectors: Duration: 96 hours; Temperature: -40 ± 3°C	Appearance	No Damage	
		Contact Resistance	40mΩ MAX	

REVISION: <b>B2</b>	ECR/ECN INFORMATION: EC No: KOR2013-0018 DATE: 2012/ 08/ 16	TITLE: <b>2.0 W/B CONN. (Positive Lock) (2-20P, 6Kinds of color version)</b>	SHEET No. <b>4 of 6</b>
DOCUMENT NUMBER: <b>PS-35507-003</b>	CREATED / REVISED BY: <b>HJEONG/SKCHO</b>	CHECKED BY: <b>SHCHU</b>	APPROVED BY: <b>YSOOKIM</b>

### 4.3 ENVIRONMENTAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	
4.3.3	열충격 <b>Thermal Shock</b>	커넥터를 결합하고, 아래의 방법으로 5Cycle 적용 온도 °C                      시간 (분) <b>-40 +0/-3                      30</b> <b>+25 ±10                        5 MAXIMUM</b> <b>+105 +3/-0                    30</b> <b>+25 ±10                        5 MAXIMUM</b>	외관	이상없을것
			접촉저항	40mΩ MAX
		Mate connectors; expose to 5 cycles of: <u>Temperature °C</u> <u>Duration (Minutes)</u> <b>-40 +0/-3                      30</b> <b>+25 ±10                        5 MAXIMUM</b> <b>+105 +3/-0                    30</b> <b>+25 ±10                        5 MAXIMUM</b>	Appearance	No Damage
			Contact Resistance	40mΩ MAX
4.3.4	내습성 <b>Humidity (Steady State)</b>	커넥터를 결합하여 상대습도 <b>90-95%</b> , 온도 <b>60 ± 2°C</b> 상태에서 <b>96</b> 시간 방치한다. 측정 전 수분을 제거하고 대기 에서 1시간 건조한다	외관	이상없을것
			접촉저항	40mΩ MAX
			내전압	4.1.4항 만족
			절연저항	100MΩ MAX
		Mate connectors: expose to a temperature of <b>60 ± 2°C</b> with a relative humidity of <b>90-95%</b> for <b>96</b> hours.  Note: Remove surface moisture and air dry for <b>1</b> hour prior to measurements.	Appearance	No Damage
			Contact Resistance	40mΩ MAX
4.3.5	염수분무 <b>Salt Spray</b>	결합된 커넥터를 <b>35 ± 2°C</b> 에서 <b>5 ± 1%</b> 중량비의 염수를 48시간 분무하고 시험 후 상온에서 물로 씻은후 실온에서 건조시킨다.	외관	이상없을것
			접촉저항	40mΩ MAX
		48hours exposure to a salt spray from <b>5 ± 1%</b> solution at <b>35 ± 2°C</b>	Appearance	No Damage
			Contact Resistance	40mΩ MAX
4.3.6	아황산가스 <b>Corrosive Atmosphere: Sulfur Dioxide Gas (SO<sub>2</sub>)</b>	결합된 커넥터를 <b>40 ± 2°C</b> 의 온도에서 <b>50 ± 2 ppm</b> 의 아황산가스에 24시간 방치한다.	외관	이상없을것
			접촉저항	40mΩ MAX
		Mate connectors: Duration: <b>24</b> hours exposure; Atmosphere: <b>50</b> parts per million (ppm) SO <sub>2</sub> gas; Temperature: <b>40 ± 2°C</b>	Appearance	No Damage
			Contact Resistance	40mΩ MAX

REVISION: <b>B2</b>	ECR/ECN INFORMATION: EC No: <b>KOR2013-0018</b> DATE: <b>2012/ 08/ 16</b>	TITLE: <b>2.0 W/B CONN. (Positive Lock) (2-20P, 6Kinds of color version)</b>	SHEET No. <b>5 of 6</b>
DOCUMENT NUMBER: <b>PS-35507-003</b>	CREATED / REVISED BY: <b>HJEONG/SKCHO</b>	CHECKED BY: <b>SHCHU</b>	APPROVED BY: <b>YSOOKIM</b>

### 4.3 ENVIRONMENTAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
4.3.7	납땀성	납땀시간 : $3 \pm 0.5$ sec 납땀온도 : $245 \pm 5$ °C	침적면적 95%이상
	Solder ability	Soldering time : $3 \pm 0.5$ sec Solder temperature : $245 \pm 5$ °C	Solder coverage: <b>95% MIN.</b> (Must be no voids, pin holes)
4.3.8	납땀내열성	납땀시간 : $5 \pm 0.5$ sec 납땀온도 : $260 \pm 5$ °C	이상없을것
	Solder Resistance	Dip connector terminal tails in solder: Solder Duration: $5 \pm 0.5$ seconds; Solder Temperature: $260 \pm 5$ °C	Visual: No Damage to insulator material

### 5.0 외관, 형상, 치수 및 재질 (PRODUCT SHAPE, DIMENSION & MATERIAL)

→ 도면참조 (Refer to the drawing)

### 6.0 삽입력 및 발거력 (INSERTION / WITHDRAWAL FORCE)

극 수 (Ckt size)	삽입력[최대] INSERTION[MAX.]			발거력[최소] WITHDRAWAL[MIN.]		
	1회 (INITIAL)	6회 (6th)	30회 (30th)	1회 (INITIAL)	6회 (6th)	30회 (30th)
2	3.6	3.4	3.4	0.1	0.07	0.07
3	4.4	4.1	4.1	0.1	0.07	0.07
4	5.2	4.8	4.8	0.1	0.07	0.07
5	6.0	5.5	5.5	0.25	0.15	0.15
6	6.6	6.0	6.0	0.25	0.15	0.15
7	7.2	6.5	6.5	0.25	0.15	0.15
8	7.8	7.0	7.0	0.25	0.15	0.15
9	8.4	7.5	7.5	0.45	0.30	0.30
10	9.0	8.0	8.0	0.45	0.30	0.30
11	9.6	8.5	8.5	0.45	0.30	0.30
12	10.2	9.0	9.0	0.45	0.30	0.30
13	10.8	9.5	9.5	0.65	0.45	0.45
14	11.4	10.0	10.0	0.65	0.45	0.45
15	12.0	10.5	10.5	0.65	0.45	0.45
16	12.6	11.0	11.0	0.65	0.45	0.45
17	13.2	11.5	11.5	0.85	0.60	0.60
18	13.8	12.0	12.0	0.85	0.60	0.60
19	14.4	12.5	12.5	0.85	0.60	0.60
20	15.0	13.0	13.0	0.85	0.60	0.60

REVISION: <b>B2</b>	ECR/ECN INFORMATION: EC No: KOR2013-0018 DATE: 2012/ 08/ 16	TITLE: <b>2.0 W/B CONN. (Positive Lock) (2-20P, 6Kinds of color version)</b>	SHEET No. <b>6 of 6</b>
DOCUMENT NUMBER: <b>PS-35507-003</b>	CREATED / REVISED BY: <b>HJEONG/SKCHO</b>	CHECKED BY: <b>SHCHU</b>	APPROVED BY: <b>YSOOKIM</b>