



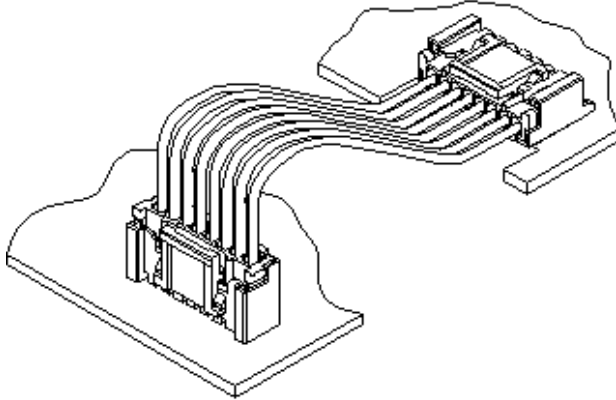
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TITLE : 2.0 PITCH W/B CONN. (P-LOCK)

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	

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DOCUMENT NUMBER: PS-35507-003	CREATED / REVISED BY: HJEONG/SKCHO	CHECKED BY: SHCHU	APPROVED BY: YSOOKIM

4.0 성능 (PERFORMANCE)

4.1 전기적 성능 (ELECTRICAL REQUIREMENTS)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
4.1.1	접촉저항 Contact Resistance	결합된 Connector를 개방전압 20mV이하, 단락전류 10mA에서 측정	20 mΩ MAX.
		Mate connectors measure by dry circuit, 20mV Max. 10mA	
4.1.2	압착상태의 접촉저항 Contact Resistance of Wire Termination	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 Insulation Resistance	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 Dielectric Withstanding Voltage	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.	

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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	

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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	

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4.3 ENVIRONMENTAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	
4.3.3	열충격 Thermal Shock	커넥터를 결합하고, 아래의 방법으로 5Cycle 적용 온도 °C 시간 (분) -40 +0/-3 30 +25 ±10 5 MAXIMUM +105 +3/-0 30 +25 ±10 5 MAXIMUM	외관	이상없을것
			접촉저항	40mΩ MAX
		Mate connectors; expose to 5 cycles of: <u>Temperature °C</u> <u>Duration (Minutes)</u> -40 +0/-3 30 +25 ±10 5 MAXIMUM +105 +3/-0 30 +25 ±10 5 MAXIMUM	Appearance	No Damage
			Contact Resistance	40mΩ MAX
4.3.4	내습성 Humidity (Steady State)	커넥터를 결합하여 상대습도 90-95% , 온도 60 ± 2°C 상태에서 96 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 60 ± 2°C with a relative humidity of 90-95% for 96 hours. Note: Remove surface moisture and air dry for 1 hour prior to measurements.	Appearance	No Damage
			Contact Resistance	40mΩ MAX
4.3.5	염수분무 Salt Spray	결합된 커넥터를 35 ± 2°C에서 5 ± 1% 중량비의 염수를 48시간 분무하고 시험 후 상온에서 물로 씻은후 실온에서 건조시킨다.	외관	이상없을것
			접촉저항	40mΩ MAX
		48hours exposure to a salt spray from 5 ± 1% solution at 35 ± 2°C	Appearance	No Damage
			Contact Resistance	40mΩ MAX
4.3.6	아황산가스 Corrosive Atmosphere: Sulfur Dioxide Gas (SO₂)	결합된 커넥터를 40 ± 2°C의 온도에서 50 ± 2 ppm의 아황산가스에 24시간 방치한다.	외관	이상없을것
			접촉저항	40mΩ MAX
		Mate connectors: Duration: 24 hours exposure; Atmosphere: 50 parts per million (ppm) SO ₂ gas; Temperature: 40 ± 2°C	Appearance	No Damage
			Contact Resistance	40mΩ MAX

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4.3 ENVIRONMENTAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
4.3.7	납땜성	납땜시간 : 3 ± 0.5 sec 납땜온도 : 245 ± 5 °C	침적면적 95%이상
	Solder ability	Soldering time : 3 ± 0.5 sec Solder temperature : 245 ± 5 °C	Solder coverage: 95% MIN. (Must be no voids, pin holes)
4.3.8	납땜내열성	납땜시간 : 5 ± 0.5 sec 납땜온도 : 260 ± 5 °C	이상없을것
	Solder Resistance	Dip connector terminal tails in solder: Solder Duration: 5 ± 0.5 seconds; Solder Temperature: 260 ± 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

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