

Lite-Trap Connector Vertical Type -1CKT

1. SCOPE (적용범위)

This Product Specification covers the Lite-Trap Connector Vertical Type -1P
(이 Spec'은 Lite-Trap Connector Vertical Type -1P 에 대하여 규정한다)

2. PRODUCT DESCRIPTION (제품구성)

2.1 PRODUCT NAME AND SERIES NUMBER (제품명 & 제품번호)

Product Name (제품명칭)	Parts Number (제품번호)
Lite-Trap Connector -1ckt Vertical Type (Embossed Packing)	202394-0110

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

See the appropriate Sales Drawings for information on dimensions, materials, platings, and markings. (관련도면 참조)

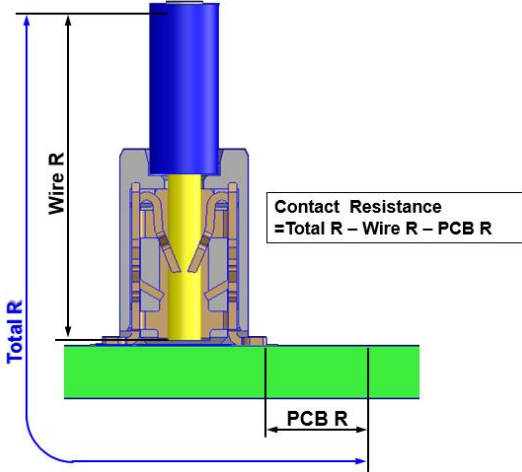
3. RATINGS (정격)

ITEM (항목)	STANDARD (규격)	
Rated Voltage (Max.) 최대허용전압 (Not According to IEC Test Condition) [Reference]	431V [AC (rms 실효치)/DC]	
Rated Current Ampere (Max.) 최대허용전류	Solid Wire AWG#18 (0.8mm ²)	3.0A Max.
Ambient Temp. Range (Operating and Non-operating) 사용온도 범위	-40°C ~ + 130°C Include Terminal Temperature Rise 통전에 의한 온도상승 포함.	
	Outside Insulation Dia. 절연피복외경 : Φ2.2 mm Max.	

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	CHECKED BY: SHCHU	APPROVED BY: YSKIM02	

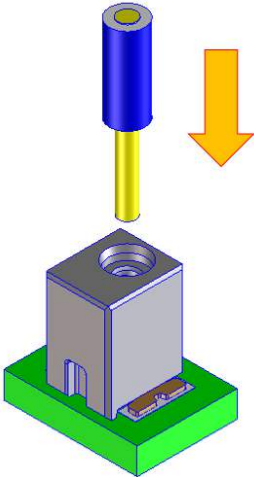
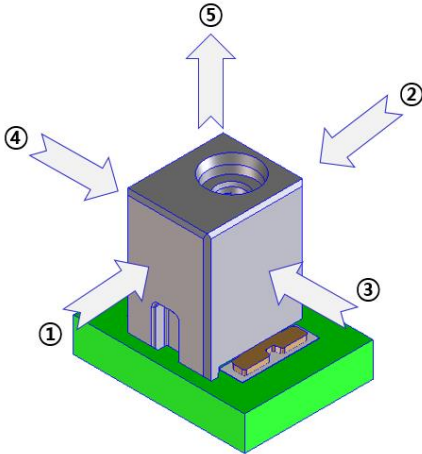
4. PERFORMANCE(성능)

4-1. ELECTRICAL REQUIREMENTS(전기적 특성)

ITEM 항 목	TEST CONDITION 시 험 조 건	REQUIREMENT 규 격
<p>1</p> <p>Contact Resistance 접촉 저항</p>	<p>Mate Connector & Wire : apply a maximum voltage of 20 mV and a current of 100mA. Wire and PCB resistance shall be removed from the measured value.</p>  <p>커넥터에 Wire를 결합하여, 20mV이하의 전압, 100mA이하의 전류를 인가한다. 저항 측정 값에서 전선 저항치는 제외한다</p>	<p>10 milliohms MAXIMUM</p>
<p>2</p> <p>Insulation Resistance 절연 저항</p>	<p>Mate connector & Wire : apply a voltage of 500 VDC between adjacent terminals and between terminals to ground.</p> <p>커넥터에 Wire를 결합하여, 인접단자 간 그리고 단자와 그라운드간에 DC500V를 인가한다</p>	<p>1,000 Mega ohms MINIMUM</p>
<p>3</p> <p>Temperature Rise 온도 상승</p>	<p>Mate connector & Wire : measure the temperature rise at the rated current. (by UL Test Condition)</p> <p>커넥터에 Wire를 결합하여, 정격 전류를 인가하여 온도 상승을 측정한다. (UL Test 조건)</p>	<p>+30°C MAXIMUM</p>

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4-2. MECHANICAL REQUIREMENTS(기계적 특성)

ITEM 항 목	TEST CONDITION 시 험 조 건	REQUIREMENT 규 격
<p>4</p> <p>Wire Insertion /Retention Forces Wire 삽입력 및 발거력</p>	<p>Insert Wire into the Connector and withdraw the wire from it at a rate of 25 ± 6 mm per minute in the axial direction.</p>  <p>Connector에 Wire를 축방향으로 각각 25 ± 6 mm/분의 속도로 삽/발거를 실시한다.</p>	<p>Initial (초기) Wire Insertion force (Wire삽입력) : 20.0 N MAX.</p> <p>Wire Retention force (Wire 인발력) : 50N MIN.</p>
<p>5</p> <p>PCB Retention Force PCB 접합력</p>	<p>After soldering the connector on PCB, measured the force to pull connector till connector solder part break away from PCB (Testing speed : 25 ± 6 mm per minute)</p>  <p>PCB에 커넥터를 솔더링 한 후, 25 ± 6 mm /분의 속도로 그림방향으로 힘을 가하여 PCB와 거넥터 솔더링부가 파손 될 때의 힘을 측정한다</p>	<p>For 5's Direction</p> <p>①,②,③,④Direction : 50 N MINIMUM</p> <p>⑤ Direction : 30 N MINIMUM</p>

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4-2. MECHANICAL REQUIREMENTS(기계적 특성)

ITEM 항 목		TEST CONDITION 시 험 조 건	REQUIREMENT 규 격
6	Vibration 내 진 동 성	Mate connector & Wire and subject to the following vibration conditions: Vibration Frequency : 20 -500Hz , 3.10G Peak Duration : 15 minutes in each X.Y.Z axes 커넥터와 Wire를 결합하여 아래 진동상태를 가한다. 진동수 : 20 -500Hz , 3.10G Peak 진동시간 : X.Y.Z축 각 15분 (EIA 3624-28 Test condition D)	No Damage 이상 없을 것 Contact Resistance (접촉저항) 30 milliohms MAXIMUM Discontinuity(순간단락) < 1 microsecond
7	Shock (Mechanical) 내 충 격 성	Mate connector & Wire and shock at 30 G's with 1/2 sine wave (11 milliseconds) shocks in the ±X,±Y,±Z axes (18 shocks total). 커넥터와 Wire를 결합하여 반정현파 30G's (490m/s²) 의 충격을 ±X,±Y,±Z축 방향에 3회 가한다. (총 18회) (EIA 364-27 ,Test Condition H.)	No Damage 이상 없을 것 Contact Resistance (접촉저항) 30 milliohms MAXIMUM Discontinuity(순간단락) < 1 microsecon
8	Thermal Aging 내 열 성	Mate connector & Wire : expose to: 648 hours at 105 ± 2°C 커넥터와 Wire를 결합하여 주위온도 105 ± 2°C에서 648시간 방치 후 꺼내어 측정한다. (EIA 364-17 Method A, Test Condition 4.)	No Damage 이상 없을 것 Contact Resistance (접촉저항) 30 milliohms MAXIMUM
9	Cold Resistance 내 한 성	Mate connector & Wire: Duration: 500 hours ; Temperature: -40 ± 3°C 주위온도 -40 ± 3°C에서 500시간 방치 후 꺼내어 측정한다. (EIA 364-59)	No Damage 이상 없을 것 Contact Resistance (접촉저항) 30 milliohms MAXIMUM

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4-3. ENVIRONMENTAL REQUIREMENTS(환경적 특성)

ITEM 항 목		TEST CONDITION 시 험 조 건	REQUIREMENT 규 격								
10	Humidity (Steady State) 내 습 성	<p>Mate connector & Wire : expose to a temperature of 60 ± 2°C with a relative humidity of 90-95% for 500 hours.</p> <p>Note: Remove surface moisture and air dry for 1 hour prior to measurements.</p> <p>커넥터에 Wire를 결합하여 상대습도 90-95% , 온도 60 ± 2°C 상태에서 500 시간 방치한다. 측정 전 수분을 제거하고 대기 에서 1시간 건조한다 (EIA 364-31)</p>	<p>No Damage 이상 없을 것</p> <p>Contact Resistance (접촉저항) : 30 milliohms MAXIMUM</p> <p>Insulation Resistance (절연저항) : 100 Mega-ohms MINIMUM</p>								
11	Temperature Cycling (Thermal) 열 충격	<p>Mate connector & Wire : expose to 25 cycles of: 커넥터에 Wire를 결합하여 아래 상태에서 25 cycles 방치.</p> <table border="1"> <thead> <tr> <th>Temperature °C</th> <th>Duration (Minutes)</th> </tr> </thead> <tbody> <tr> <td>온도</td> <td>시 간 (분)</td> </tr> <tr> <td>-40 +0/-3</td> <td>30</td> </tr> <tr> <td>+105 +3/-0</td> <td>30</td> </tr> </tbody> </table> <p>(EIA 364-32 Test Condition vii)</p>	Temperature °C	Duration (Minutes)	온도	시 간 (분)	-40 +0/-3	30	+105 +3/-0	30	<p>No Damage 이상 없을 것</p> <p>Contact Resistance (접촉저항) 30 milliohms MAXIMUM</p>
Temperature °C	Duration (Minutes)										
온도	시 간 (분)										
-40 +0/-3	30										
+105 +3/-0	30										
12	Salt Spray 염 수 분 무	<p>Mate connector & Wire : Duration: 96 hours exposure; Atmosphere: salt spray from a 5% solution; Temperature: 35 +1/-2°C</p> <p>주위온도 : 35 +1/-2°C 에서 5% 중량비의 염수를 96시간 분무하고 시험후 상온에서 물로 씻은후 실온에서 건조시킨다. (EIA 364-26)</p>	<p>No Damage 이상 없을 것</p> <p>Contact Resistance (접촉저항) 30 milliohms MAXIMUM</p>								
13	Humidity /temperature cycling 온.습도 Cycle	<p>Mate connector & Wire on PCB : 25~65°C, 80~100%RH, 24hours a cycle, repeat 10 cycles</p> <p>PCB 상에 Wire가 결합된 Connector를 25에서 65°C 사이의 온도에서 80%에서100% RH를 하루씩 10Cycle을 반복 한다 (EIA 364-31, Method viii)</p>	<p>No Damage 이상 없을 것</p> <p>Contact Resistance (접촉저항) 30 milliohms MAXIMUM</p>								

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4-3. ENVIRONMENTAL REQUIREMENTS(환경적 특성)

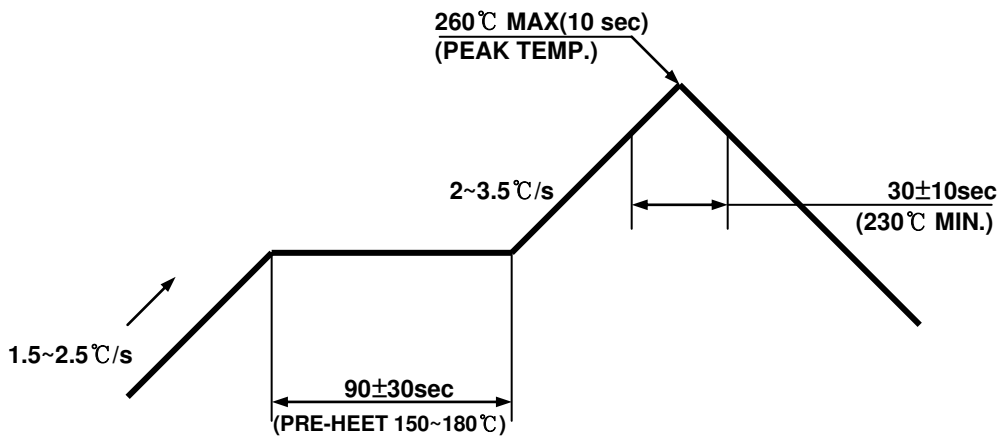
ITEM 항 목		TEST CONDITION 시 험 조 건	REQUIREMENT 규 격
14	Solderability 납 땀 성	SOLDER(Sn3Ag0.5Cu) Solder Duration : 5 ± 0.5 seconds Solder Temperature : $260 \pm 5^\circ\text{C}$ SOLDER(Sn3Ah0.5Cu) 납땀시간 : 5 ± 0.5 seconds 납땀온도: $260 \pm 5^\circ\text{C}$ (EIA 638, JESD22-B102D)	Solder coverage: 95% MINIMUM 95% MINIMUM 침적
15	Solder Resistance 납 땀 내 열 성	Reflow Soldering Method (See para.7) Solder Duration: 3 ± 0.5 seconds; Solder Temperature: $260 \pm 5^\circ\text{C}$ Reflow Soldering 방식 (제 7항 참조) 납땀시간 : 3 ± 0.5 seconds 납땀온도: $260 \pm 5^\circ\text{C}$	Visual: No Damage to insulator material 외관 변형 없을 것
16	Hydrogen Sulfide Gas 황화 수소 가스	96 hours exposure to 3 ± 2 ppm hydrogen sulfide gas at $40 \pm 2^\circ\text{C}$, $80 \pm 5\%$ 주위온도 $40 \pm 2^\circ\text{C}$, 습도 $80 \pm 5\%$ 에서 3 ± 1 ppm의 황화수소 가스를 96시간 방치한다 (JISC 0092)	No Damage 이상 없을 것 Contact Resistance (접촉저항) 30 milliohms MAXIMUM
17	Ammonia Gas 암모니아 가스	7 hours exposure to NH3 gas evaporating from 3% ammonia 25ml/l suction 3%암모니아 25ml/l증발가스를 7시간 동안 노출시킨다.	No Damage 이상 없을 것 Contact Resistance (접촉저항) 30 milliohms MAXIMUM
18	Corrosive Atmosphere: Sulfur Dioxide Gas (SO₂) 아황산 가스	96 hours exposure to 25 ± 2 ppm SO ₂ gas at $40 \pm 2^\circ\text{C}$, $80 \pm 5\%$ 주위온도 $40 \pm 2^\circ\text{C}$, 습도 $80 \pm 5\%$ 에서 25 ± 2 ppm의 아황산가스에 96시간 방치한다. (JISC 0092)	No Damage 이상 없을 것 Contact Resistance (접촉저항) 30 milliohms MAXIMUM

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5. PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage.
See Packaging drawing 2023940110 for more information.

6. REFLOW CONDITION (REFLOW 조건)



Temperature Condition Graph(온도조건 그래프)

(Temperature on board pattern side)

Reflow possibility : 2 times

(Reflow 횟수 : 2회 이하 가능)

Note : Please check the reflow soldering condition by your own devices beforehand.

Because the condition changes by the soldering devices, P.C.Board, and so on.

(본 Reflow조건은 Reflow 장치 및 기판 조건 등에 의해서 다를 수가 있으므로,

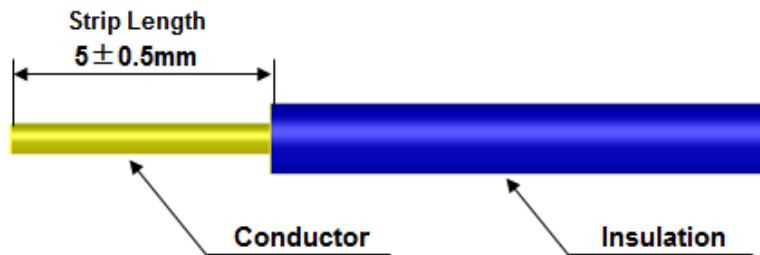
사전에 Reflow조건을 확인하여 주십시오)

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7. APPLICABLE WIRES [적용 WIRE]

Wire Range AWG No.	Number of Conductors / Diameter of a conductors (Cross-sectional area of conductors / mm ²)	Insulation Diameter (mm) 2.2mm Max.	Conductor Type
18	1 / 1.02 (0.8mm ²)	2.2	Solid

8. WIRE STRIP LENGTH [Wire 탈피 길이]



Acceptable	Non-Acceptable
<p>Solid Wire</p>	<p>The insulation, conductor not be damaged in any way.</p>

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