Y H

Item And Code No.	
I T E M	CONNECTOR
S P E C	2.50㎜ Pitch Wire to Board DIP Type
M A K E R S P E C	
Code No.	

The Best Partner for Electronic Circuits Connections

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Specification Approval Sheet

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Pitch	2.50 mm
Special	Wire to Board
Type	DIP

YM025 Series
Connector 제품규격
Product Specification

Indemnification

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● 제,개정 이력『History Revision』

NO	DATE	ISS.	CHK.	APP.	SUMMARY
1	2001.10.15	P.K.H	A.J.I	B.J.S	Presentation
2	2002.10.04	C.A.N	J.J.E	A.J.I	염수분무 시험조건 개정
3	2003.01.21	C.A.N	J.J.E	A.J.I	특허문구 삽입
4	2004.06.07	K.H.S		A.J.I	시험방법 및 시험조건 개정

아래와 같이 사양 승인원을 제출합니다.

『Yeon Ho Electronics CO.,LTD. submits the approval certification of connector specification.』

1. 업 체 명 : (주) 연 호 전 자
   『Manufactured by : Yeon Ho Electronics CO.,LTD.』
2. 기 안 부 서 : 품질관리실
   『Written by : Quality Control Department』

♠♠♠ 목 차 『Contents』 ♠♠♠

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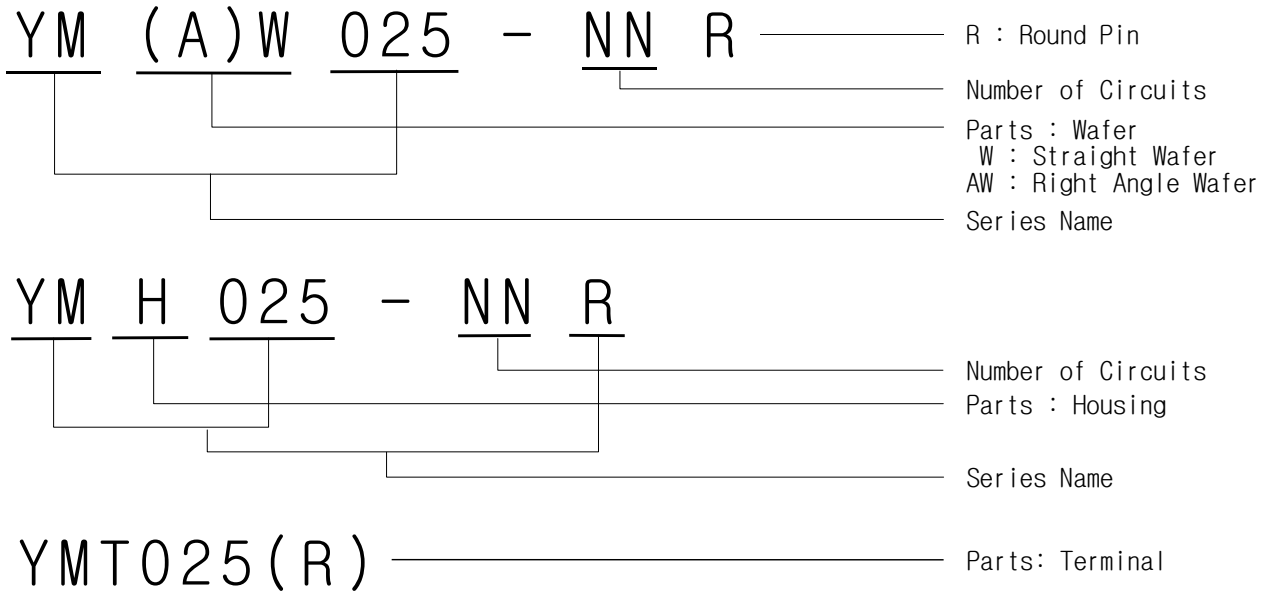
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1. 검사성적서 『Reliability Test Report』
2. 사 양 도 『Drawings』
3. 재질증명서 『Material Certification』
4. 유해물질 분석 Data 『The Analysis Data of Toxic Substance』
5. 물질안전보건자료 『MSDS Data』
6. Q.C 공정도 『QC Process Chart』

1. 적용 범위 『Scope』

본 사양서는 (주)연호전자 제품 YM025 series DIP type connector에 한하여 적용한다.
『This specification covers the requirements for YM025 series DIP type connector』

2. 형명 구성 『Numbering System of Products(Ordering Information of Products)』



3. 원재료 『Material』

Item	Material	Maker	Over plated / Color
Wafer Material	PA66	Rhodia	Natural
Housing Material	PA66	LG Chem	White
Pin Material	Brass	Poong San	* Over plating : Sn(2-6㎛)
Terminal Material	Phosphor Bronze	Poong San	* Over plating : Pre-plated tin(1-2㎛)

4. 정 격 『Ratings』

항 목 (Item)	정 격 (Standard Data)
정격 전압 (Operating Voltage)	AC/DC 250V
정격 전류 (Current Rating)	AC/DC 3A
사용 온도 (Operating Temperature)	-25℃ ~ +85℃
적용 전선 (Applicable Wire)	AWG #22 ~ #28
적용 PCB (Applicable P.C.B)	1.2 ~ 1.6 ㎜

5. 성 능 『Performance Characteristics』

NO.	시험항목 『Test Title』	시 험 방 법 및 조 건 『Test Procedures/Methods Conditions』	규 격 『Requirements』
1.	외 관 치 수 『Dimensions 』		첨부 제품도에 준한다. 『Refer to drawings』
2.	전 기 적 성 능 『Electrical Characteristics』		
	2-1.절연저항	⊙ 인접 Terminal(Contact)간에 DC 500V ±5V 전압을 1분±5초간 인가하였을 때 절연저항을 측정한다. (1회 측정에서 규격 치 미달인 경우 3시간 이내 재측정)	1000MΩ 이상
	2-1.Insulation Resistance	⊙ Measured between adjacent contacts ⊙ Test voltage : DC 500V ±5V / 1 min ±5 sec (Based upon MIL-STD-202G Method 302 Condition B)	1000MΩ MIN
	2-2.내 전 압	⊙ 인접한 Terminal간에 AC 1000V 전압을 1분±5초간 인가한다.	절연파괴 /섬락이 없고 사용상 결함이 없을 것
	2-2.Dielectric Withstanding Voltage	⊙ Measured between adjacent contacts ⊙ Test voltage : AC 1000V / 1 min ±5 sec (Based upon MIL-STD-202G Method 301)	No flash over and no physical damage shall be observed
	2-3.접촉저항	⊙ Terminal과 Wafer Pin간의 접촉저항 측정 20mV. 10mA	30mΩ 이하
	2-3.Contact Resistance	⊙ Measured the resistance of mated connector, 20mV. 10mA	30mΩ MAX
3.	물 리 적 성 질 『Physical Characteristics』		
	3-1.납 땜 성	⊙ FLUX (ROSIN 10%, METHANOL 90%)에 5~10초 동안 담근 후 SnAg(3.5)Cu(0.7)의 Pot 납땜조 온도 (240℃±5℃)에 3초 ±0.5초 동안 침전시킨다.	침전 부위의 납땜이 90% 이상일 것
	3-1. Solder Ability	⊙ Immersion in flux consisting of rosin 10% and methanol 90% for a period of 5 to 10 seconds dip in molten solder consisting of SnAg(3.5)Cu(0.7) at 240±5℃ degrees for 3±0.5 seconds	More than 90% of area dipped in molten solder should be coated by solder
	3-2.납땜내열성	※ WAVE TYPE ⊙ 온도 260℃±5℃ 5±0.5초간 침적시킨다.	외관 변형등이 없을 것
	3-2.Solder Heat Resistance	※ WAVE TYPE ⊙ Solder consisting : 260℃±5℃ degrees for 5±0.5 seconds	Appearance : Good
	3-3.Pin유지력	⊙ 사출물(수지)이 Pin을 유지하고 있는 힘 측정 * Pin을 25±3mm/min 속도로 뺄 때의 힘을 측정한다.	0.5Kgf 이상
	3-3.Pin Retention Force	⊙ Measured withdrawal force that resin grips and supports pin * Velocity of withdrawal : 25 ±3mm/min	0.5Kgf MIN

NO.	시험항목 『Test Title』	시 험 방 법 및 조 건 『Test Procedures/Methods Conditions』	규 격 『Requirements』
	3-4.총합삽입력 3-4.Total Insertion Force	⊙ 회로수가 같은 Housing Ass`Y에 Wafer Ass`Y를 삽입할 때의 힘 측정 ⊙ Measured force to insert wafer assembly into the housing assembly which has same circuits	POS / Insertion Force / Withdrawal Force 02 / 4.0 MAX / 0.8 MIN 03 / 4.3 MAX / 0.9 MIN 04 / 4.6 MAX / 1.0 MIN 05 / 4.9 MAX / 1.1 MIN 06 / 5.3 MAX / 1.2 MIN 07 / 5.5 MAX / 1.3 MIN
	3-5.총합발거력 3-5.Total Withdrawal Force	⊙ 결합된 Housing Ass`Y로부터 Wafer Ass`Y를 발거할 때의 힘 측정 ⊙ Measured force to withdraw wafer assembly from the housing assembly which has same circuits	08 / 6.0 MAX / 1.4 MIN 09 / 6.5 MAX / 1.5 MIN 10 / 7.0 MAX / 1.6 MIN 11 / 7.5 MAX / 1.7 MIN 12 / 8.0 MAX / 1.8 MIN 13 / 8.5 MAX / 1.9 MIN 14 / 9.0 MAX / 2.0 MIN 15 / 9.5 MAX / 2.1 MIN
	3-6.내구성시험 3-6.Durability of Contact Resistance	⊙ 결합된 제품 Housing Ass`Y과 Wafer Ass`Y의 삽입 및 분리 동작을 10회/분 속도로 30회 행한 후 접촉저항 측정 ⊙ Measured contact resistance after 30 cycles of total insertion and withdrawal operation ⊙ Withdrawal Rate : 10th/min	접촉저항 : 50mΩ 이하 Contact Resistance : 50mΩ MAX
	3-7.Terminal 삽입력 3-7.Insertion Force of Terminal	⊙ Housing을 고정시키고 Terminal를 25 ±3㎜/min 속도로 일직선으로 삽입할 때의 삽입력 측정 ⊙ Insert a terminal into the housing straightly and measure insertion force ⊙ Velocity of insertion : 25 ±3mm/min	1.0Kgf 이하 1.0Kgf MAX
	3-8.Terminal 조립강도 3-8.Terminal Retention Force	⊙ Housing에 Terminal을 조립한 후 Terminal을 25 ±3mm/min 속도로 인장시켜 이탈될 때의 힘 측정 ⊙ Insert a terminal into the housing and measure the force to withdraw the terminal from housing ⊙ Apply axial pull out force at the speed rate of 25 ±3mm/minute	0.5Kgf 이상 0.5Kgf MIN
	3-9.압착강도 3-9.Crimp Tensile Strength	⊙ Terminal에 Lead Wire를 압착한후 압착부위(심선부위)가 파괴될 때까지 25 ±3㎜/min 속도로 인장강도 측정 ⊙ Measured tensile strength of the crimped contact (stripped wire barrel section of contact) to conductor joint at the speed rate of 25 ±3mm/minute	AWG #22 : 2.5Kgf MIN AWG #24 : 2.0Kgf MIN AWG #26 : 1.5Kgf MIN AWG #28 : 1.0Kgf MIN

NO.	시험항목 『Test Title』	시 험 방 법 및 조 건 『Test Procedures/Methods Conditions』	규 격 『Requirements』
4.	환 경 시 험 『Environmental Test』		
	4-1.내진동성 시 험	⊙ DC 100mA 통전상태에서 진폭1.52mm 진동수 10-55-10HZ 진동 상태에서 X,Y,Z방향으로 각각 2시간씩 진동을 시킨 후 단전상태 및 접촉저항 측정	1)접촉저항: 50mΩ 이하 2)단전상태: 1μsec 동안 단전상태 없을것
	4-1.Vibration	⊙ Current of 100mA shall be applied during the testing The vibration shall be along each axis for the period of two hours with the maximum amplitude of 1.52mm and frequency of 10-55-10Hz/Min (Based upon MIL-STD-202G Method 201A)	1)Contact Resistance : 50mΩ MAX 2)Discontinue : 1μsec MAX
	4-2.염수분무 시 험	⊙ Connector를 결합한 상태에서 아래 조건으로 시험 후 흐르는 물에 세척 후 상온에서 4시간 방치 후에 특성을 측정한다. 조건: 염수농도 5% ±1% 염수분무 시간 48시간 ±4시간(단,원자재: 2시간 적용함) 시험온도 35℃ ±2℃	1)접촉저항: 50mΩ 이하 2)외관: 흑녹현상 없을것
	4-2.Salt Spray	⊙ Measure after exposure to salt solution spray of 5 ±1% density at a temperature of 35℃ ±2℃ for 48hrs ±4hrs. (But, material apply to 2hrs) after test wash and leave to dry (Based upon MIL-STD-202G Method 101E Condition B)	1)Contact Resistance : 50mΩ MAX 2)Appearance : Not black rust
	4-3.내습성시험	⊙ Connector를 결합한 상태에서 아래조건에 따라 시험을 행한 후 측정한다. 조건 : 시험조의 온도 40℃ ±2℃ 상 대 습 도 90% ~ 95% 시 험 시 간 96시간	1)절연저항: 500MΩ 이상 2)접촉저항: 50mΩ 이하 3)외관 : 양호할 것
	4-3.Humidity	⊙ Mated connector shall be left for 96 hours in an environment of 40 ±2℃, and 90 ~ 95% humidity. After the exposure the connector shall be left in an ambient condition for one hour before the measurement is done (Based upon MIL-STD-202G Method 103B Condition B)	1)Insulation Resistance : 500MΩ MIN 2)Contact Resistance : 50mΩ MAX 3)Appearance : Good
	4-4.내고온성 시 험	⊙ Connector를 결합한 상태에서 시험조의 온도 85 ±2℃에서 96시간 동안 시험 후 상온에서 30분간 방치 후 측정한다.	1)접촉저항: 50mΩ 이하
	4-4.Resistance to High Temperature	⊙ Chamber temperature : 85 ±2℃ Exposed 30 minutes after being exposed 96 hours under the chamber temperature electrical characteristics were measured and tested (Based upon MIL-STD-202G Method 108A Condition A)	1)Contact Resistance : 50mΩ MAX
	4-5.내한성시험	⊙ Connector를 결합한 상태에서 시험조의 온도 -40 ±3℃에서 96시간 동안 시험 후 상온에서 30분간 방치 후 측정한다.	1)접촉저항: 50mΩ 이하
	4-5.Altitude Low Temperature	⊙ Chamber temperature : -40 ±3℃ Exposed 30 minutes after being exposed 96 hours under the chamber temperature electrical characteristics were measured and tested (Based upon JIS C60068-2-1)	1)Contact Resistance : 50mΩ MAX

<table>
<tr><th>NO.</th><th>시험항목
『Test Title』</th><th>시 험 방 법 및 조 건
『Test Procedures/Methods Conditions』</th><th>규 격
『Requirements』</th></tr>
<tr><td></td><td>4-6.열충격시험</td><td>⊙ Connector를 결합한 상태에서 아래조건에 따라 5회 연속 시험을 행한 후 시험을 실시한다.
<table>
<tr><td>단 계</td><td>1</td><td>2</td><td>3</td><td>4</td></tr>
<tr><td>온도(℃)</td><td>-55 +0 -3</td><td>25 +10 -5</td><td>85 +3 -0</td><td>25 +10 -5</td></tr>
<tr><td>시간(분)</td><td>30</td><td>5</td><td>30</td><td>5</td></tr>
</table></td><td>1)내전압: 절연파괴 및 섬락이 없고 사용상 결함이 없을 것
2)접촉저항: 50mΩ 이하
3)절연저항: 500MΩ 이상
4)외관 : 양호할 것</td></tr>
<tr><td></td><td>4-6.Thermal Shock</td><td>⊙ Mated connector shall be exposed five cycles as table #1 (Based upon MIL-STD-202G Method 107-A table #1)
<table>
<tr><td>STEP</td><td>1</td><td>2</td><td>3</td><td>4</td></tr>
<tr><td>Temperature (℃)</td><td>-55 +0 -3</td><td>25 +10 -5</td><td>85 +3 -0</td><td>25 +10 -5</td></tr>
<tr><td>Exposed Time (MIN)</td><td>30</td><td>5</td><td>30</td><td>5</td></tr>
</table></td><td>1)Dielectric Strength : No flash over and no physical damage shall be observed
2)Contact Resistance : 50mΩ MAX
3)Insulation Resistance : 500MΩ MIN
4)Appearance : Good</td></tr>
</table>

6. 포장 및 식별방법 『Identification and Packing』

1) 포장 조건 『Packing Condition』 : Bulk Packing

2) 포장 방법 『Packing Method』

충분한 강도의 종이 BOX를 사용하여 충격을 방지하여 물리적 변형 또는 화학적 변화가 발생되지 않도록 하여야 한다.

『 Carton box for shipment must have enough strength in order to protect physical damage during transportation』

3) 식별 표시 : 다음과 같은 사항을 제품포장 BOX에 명기한다.

『Identifications shall be marked as follows』

3-1. 제조회사, 제조자명 또는 상표 『Manufacture's LOGO』

3-2. 형명 또는 부품번호 『Part Number』

3-3. 수 량 『Quantity』

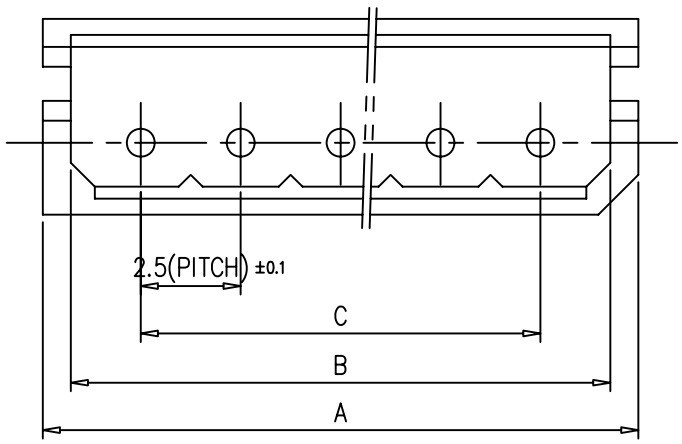
3-4. 제조 LOT NO 『Date Code』

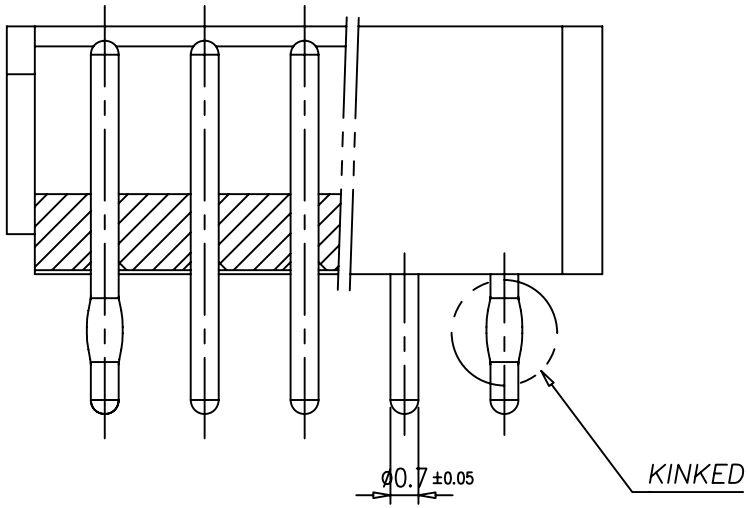
3-5. 기타 상호 필요하다고 인정되는 사항

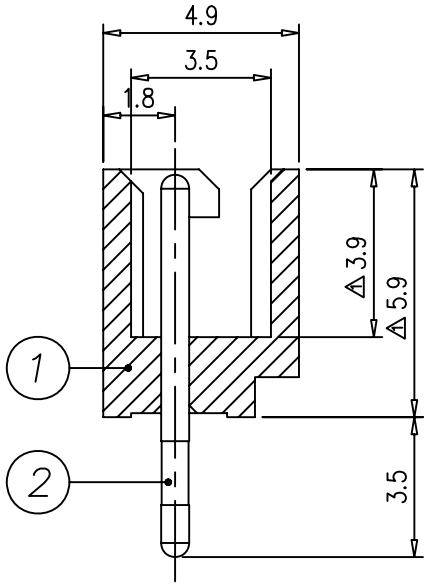
『Others agreed with manufacturer and customer』

출 도 일	/ / /	연구소

KINK POS. (◎ – KINKED PIN)	POS	PART NO.	A	B	C
◎ ◎	2	YMW025-02R	7.4	6.0	2.50
◎ ○ ◎	3	YMW025-03R	9.9	8.5	5.00
◎ ○ ○ ◎	4	YMW025-04R	12.4	11.0	7.50
◎ ○ ○ ○ ◎	5	YMW025-05R	14.9	13.5	10.00
◎ ○ ○ ○ ○ ◎	6	YMW025-06R	17.4	16.0	12.50
◎ ○ ○ ○ ○ ○ ◎	7	YMW025-07R	19.9	18.5	15.00
◎ ○ ○ ○ ○ ○ ○ ◎	8	YMW025-08R	22.4	21.0	17.50
◎ ○ ○ ○ ○ ○ ○ ○ ◎	9	YMW025-09R	24.9	23.5	20.00
◎ ○ ○ ○ ○ ○ ○ ○ ○ ◎	10	YMW025-10R	27.4	26.0	22.50
◎ ○ ○ ○ ○ ○ ○ ○ ○ ○ ◎	11	YMW025-11R	29.9	28.5	25.00
◎ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ◎	12	YMW025-12R	32.4	31.0	27.50
◎ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ◎	13	YMW025-13R	34.9	33.5	30.00
◎ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ◎	14	YMW025-14R	37.4	36.0	32.50
◎ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ◎	15	YMW025-15R	39.9	38.5	35.00

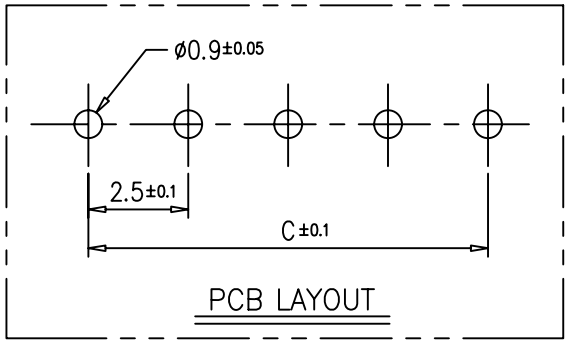






NOTE

1. GENERAL TOLERANCE : ±0.3
2. MATING PARTS
   1) HOUSING=YMH025-NNR
   2) TERMINAL=YMT025R



NO	DESCRIPTION	MATERIAL	REMARK
2	PIN	BRASS, ø0.7 x 8.9	
1	WAFER	NYLON66 ,(UL94 V-0)	

LTR	REVISION RECORD	DATE	DR	CHK
⚠2	PARTS NO. 변경(YMW250-NN-->YMW025-NNR)	99.04.28	N.K.O	H.S.K
⚠1	시방변경(6.2→5.9, 4.2→3.9)	98.07.13	C.K.J	C.K.J

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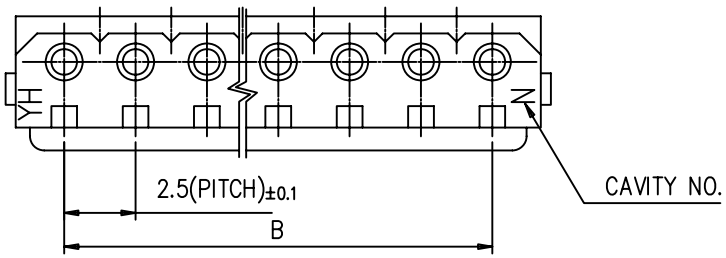
TITLE: YEONHO ELECTRONICS CO., LTD.

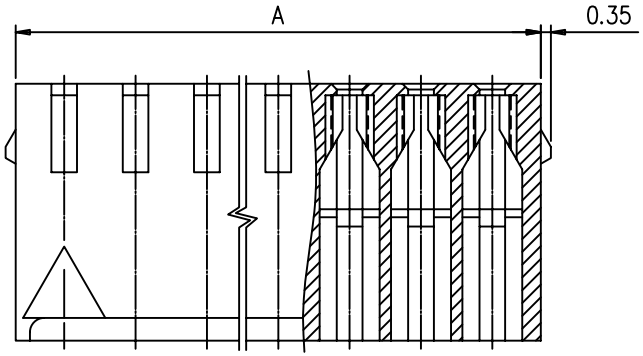
YMW025-NNR ⚠2

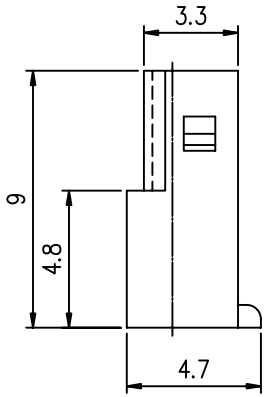
SCALE	DRAWN	DESIGN	CHECK	APPD
NS	980416 J. J. H		980416 L . K . B	

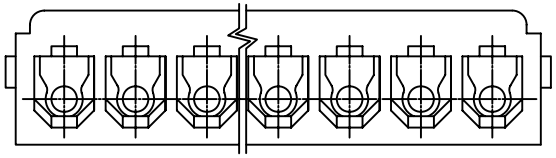
SIZE	DWG. NO	REV
A3	YMW025-00R-S	02

POS.	PARTS NO.	A	B
2	YMH025-02R	5.90	2.50
3	YMH025-03R	8.40	5.00
4	YMH025-04R	10.90	7.50
5	YMH025-05R	13.40	10.00
6	YMH025-06R	15.90	12.50
7	YMH025-07R	18.40	15.00
8	YMH025-08R	20.80	17.50
9	YMH025-09R	23.30	20.00
10	YMH025-10R	25.80	22.50
11	YMH025-11R	28.30	25.00
12	YMH025-12R	30.80	27.50
13	YMH025-13R	33.30	30.00
14	YMH025-14R	35.80	32.50
15	YMH025-15R	38.30	35.00







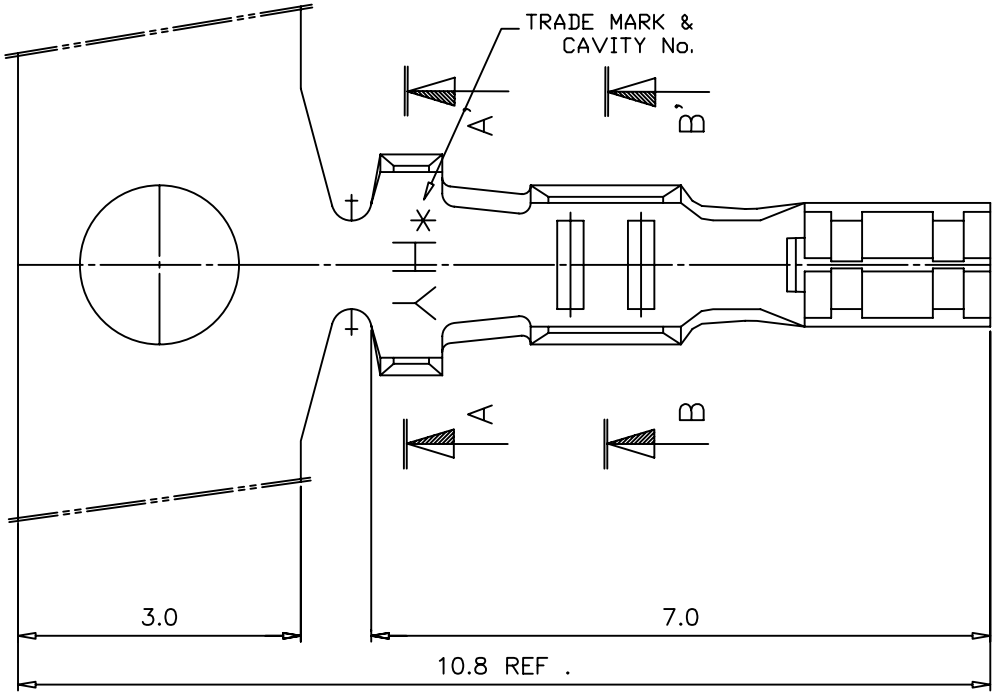


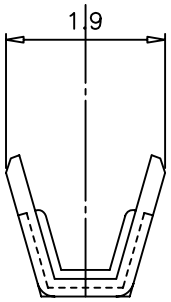
NOTES.

1. GENERAL TOLERAMCE : ±0.3
2. MATING PARTS
   1) TERMINAL = YMT025R
   2) WAFER = YMW025-NNR, YMAW025-NNR

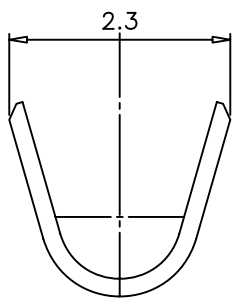
	HOUSING		NYLON66	1	UL94V-0			
I/NO	DESCRIPTION	PARTS NO.	MATERIAL	QTY	REMARK			
YEONHO	YEONHO ELECTRONICS CO., LTD.							
SCALE	DRAWN	DESIGN	CHECK	APPD	TITLE			
5/1		SUH, S. W. 1999.04.28	H. S. K. 1999.04.28		YMH025-NNR ⚠1			
					SIZE	DWG. NO		REV
					A3	YMH025-NNR-S		01

⚠1	PARTS NO.변경 (YMH251-NN ---> YMH025-NNR)	1999.4.28	S.S.W.	H.S.K.
LTR	REVISION RECORD	DATE	DR	CHK

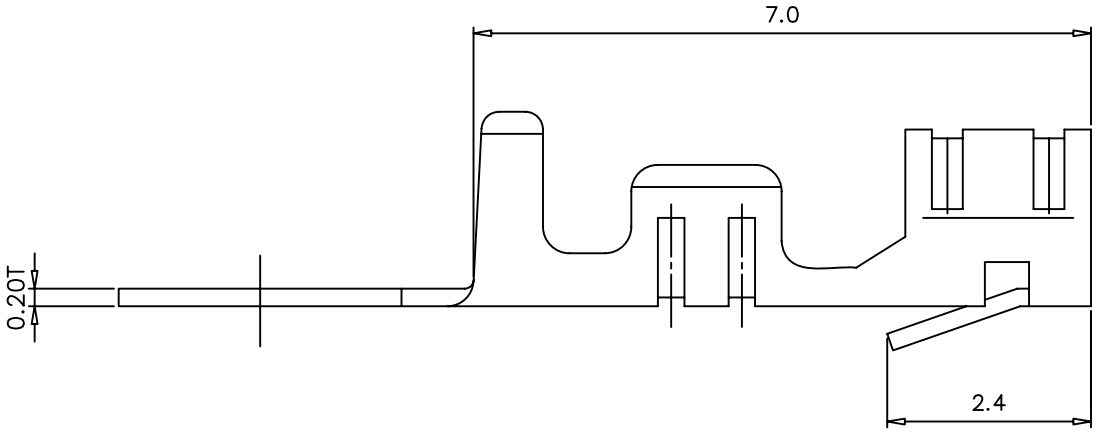


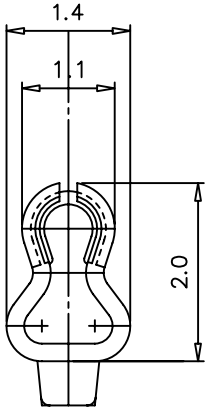


SECTION B-B'



SECTION A-A'





N O T E

1. MATERIAL: PHOSPHOR BRONZE
2. FINSH: MCu SN 2
3. 사용 전선 : AWG# 22- AWG # 28
4. 일반 공차 : ± 0.3
5. MATING PARTS
   1) HOUSING=YMH025-NNR
   2) TERMINAL=YMT025R
   3) WAFER=YMW025-NNR, YMAW025-NNR

I/NO	TERMINAL DESCRIPTION	MATERIAL	TREATMENT	QTY	REMARK

YEONHO ELECTRONICS CO., LTD.

SCALE	DRAWN	DESIGN	CHECK	APPD
15/1	C . N . K	97.2.24	H . S . K	97.2.24

TITLE: YMT025R

SIZE	DWG. NO	REV
A3	25001TS-00S00	

LTR	REVISION RECORD	DATE	DR	CHK
1	PARTS NO. 변경(YMT251-->YMT025R)	99.4.28	N.K.O	H.S.K