Y H

Item And Code No.	
I T E M	CONNECTOR
S P E C	7.92㎜ 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	7.92mm
Special	Wire to Board
Type	DIP

Y396 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
5	2012.03.26	L.J.H	K.S.I	C.G.N	총합삽입력,발거력 SPEC 변경

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』

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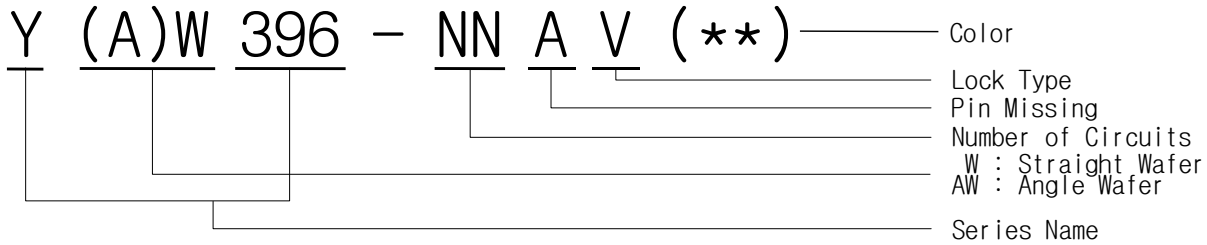
♠♠♠ 별 첨 『Attachment』 ♠♠♠

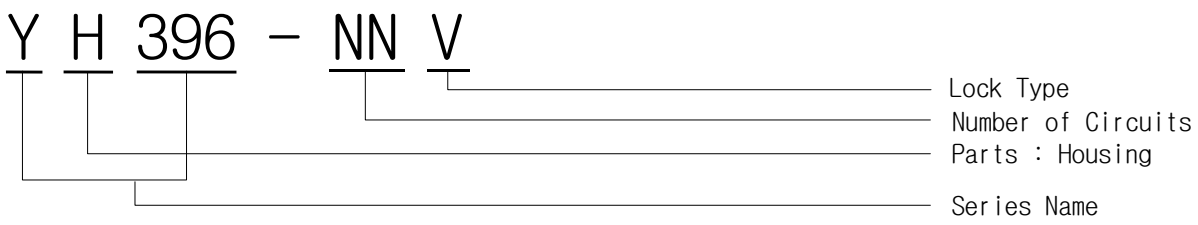
1. 검사성적서 『Reliability Test Report』
2. 사 양 도 『Drawings』
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5. 물질안전보건자료 『MSDS Data』
6. Q.C 공정도 『QC Process Chart』

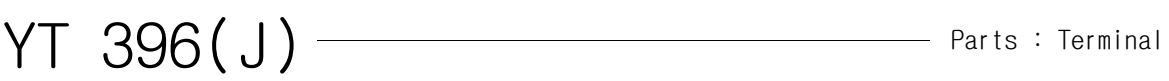
1. 적용 범위 『Scope』

본 사양서는 (주)연호전자 제품 Y396 series DIP type connector에 한하여 적용한다.
『This specification covers the requirements for Y396 series DIP type connector』

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







3. 원재료 『Material』

Item	Material	Maker	Plated / Color
Wafer Material	PA66	Rhodia	Natural
Housing Material	PA66	LG Chem	White
Pin Material	Brass	Poong San	Tin plated
Terminal Material	Brass	Poong San	Tin plated

4. 정 격 『Ratings』

항 목 (Item)	정 격 (Standard Data)
정격 전압 (Operating Voltage)	AC/DC 250V
정격 전류 (Current Rating)	AC/DC 7.5A
사용 온도 (Operating Temperature)	- 25℃ ~ + 85℃
적용 전선 (Applicable Wire)	AWG #18 ~ #22
적합 PCB (Applicable P.C.B)	1.2 ~ 1.6 mm

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 ⦿ Electrification time : 1 Min ±5 Sec (Based upon MIL-STD-202G Method 302 Condition B)	1000MΩ MIN
	2-2.내 전 압	⦿ 인접한 Terminal간에 AC 1500V 전압을 1분±5초간 인가한다. Cut off current : 10mA	절연파괴/섬락이 없고 사용상 결함이 없을 것
	2-2.Dielectric Withstanding Voltage	⦿ Measured between adjacent contacts ⦿ Test voltage : AC 1500V ⦿ Electrification time : 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℃ 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.	1.0Kgf 이상
	3-3.Pin Retention Force	⦿ Measured withdrawal force that resin grips and supports pin * Velocity of withdrawal : 25 ±3mm/min	1.0Kgf 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 / Push(Kgf) / Pull(Kgf) 2 / 3.5 Max / 0.15 Min 3 / 4.0 〃 / 0.20 〃 4 / 4.5 〃 / 0.25 〃 5 / 5.0 〃 / 0.30 〃 6 / 5.5 〃 / 0.35 〃 7 / 6.0 〃 / 0.40 〃 8 / 6.5 〃 / 0.45 〃 9 / 7.0 〃 / 0.50 〃 10 / 7.5 〃 / 0.55 〃 11 / 8.0 〃 / 0.60 〃 12 / 8.5 〃 / 0.65 〃 13 / 9.0 〃 / 0.70 〃 14 / 9.5 〃 / 0.75 〃 15 / 10.0 〃 / 0.80 〃
	3-5.총합발거력 3-5.Total Withdrawal Force	⦿ 결합된 Housing Ass`Y로부터 Wafer Ass`Y를 발거할 때의 힘 측정 ⦿ Measured force to withdrawal wafer assembly from the housing assembly which has same circuits	
	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	1.0Kgf 이상 1.0Kgf 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	AWG #18 : 3.5Kgf MIN AWG #20 : 3.0Kgf MIN AWG #22 : 2.5Kgf 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 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. 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 other to protect physical damage during transportation.』

3) 식별 표시 : 다음과 같은 사항을 제품포장 BOX에 명기한다.

『Identifications shall be marked as follows』 :

3-1. 제조 회사, 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』

7. 사용상 주의사항 『Caution for Use』

본 connector는 강(强)Lock 사양이므로, Connector 감합후의 Wire Harness의 부정확한 취급방향이나 과도하게 잡아당길 경우에는 납땜부의 파괴, Lock등 Connector자체의 파괴 또는 실장기판의 파괴등 Trouble를 발생시킬 가능성이 있습니다.
이와 같은 Trouble을 미연에 방지하고, Connector 성능을 충분히 내기 위해서는, Wire Harness를 취급할 때 다음과 같은 주의를 바랍니다.

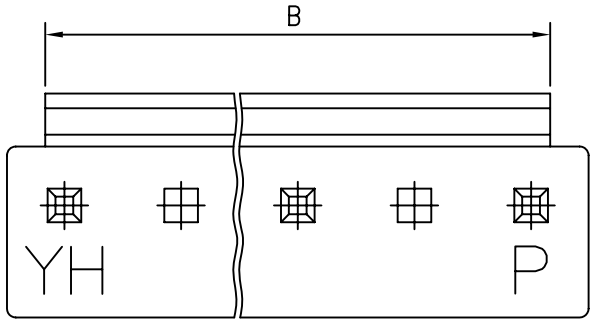
『This connector is secure lock type, so the connector must be treated with care after mated. Incorrect handling direction and excessive pulling load to the wire harness may cause troubles which affect its performances such as degradation at solder tail, breakage of connector itself (lock devise, etc.) and a PCB for mounting. To prevent these troubles and make full use of connector's performances, special care should be taken on the following points when handling the wire harness.』

1) Connector에는 평소 Wire Harness 취급할 때, 인장하중 이외에 외력을 지속적으로 가하지 않는다.
『Do not apply an external force to a connector continuously except for pulling load and so on when handling wire harness as usual.』

2) 전선에는 Connector의 삽발작업이 무리없이 이루어 질 수 있도록 “느슨하게” 설계하고 삽발작업은 감합축 선으로 한다.
『For the wire, make an appropriate looseness to mate and unmate the connector on the mating axis without strain.』

3) Connector에서 Wire Harness를 분리할 때에는 Lock을 완전히 해제하고 발거한다.
『When withdraw wire harness from the connector, Lock should be unlocked perfectly and withdraw.』

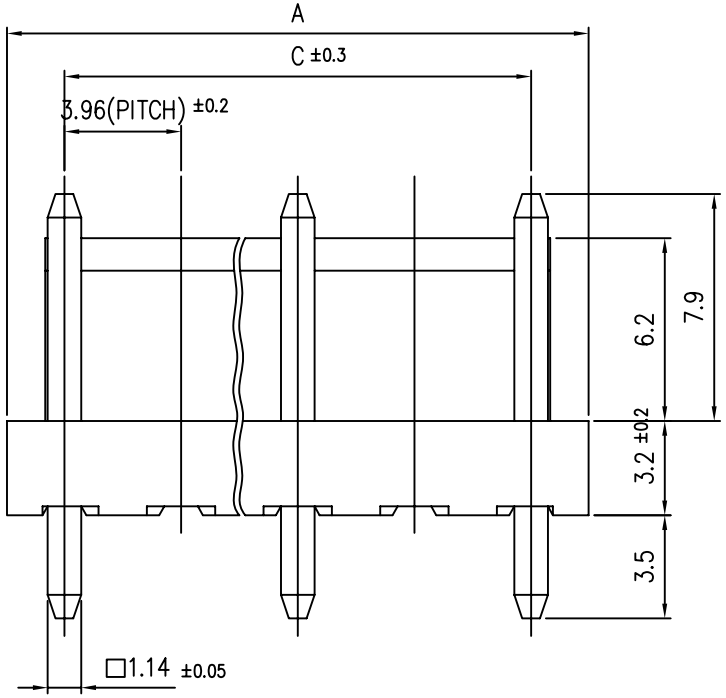
출 도 일	/ /	연구소

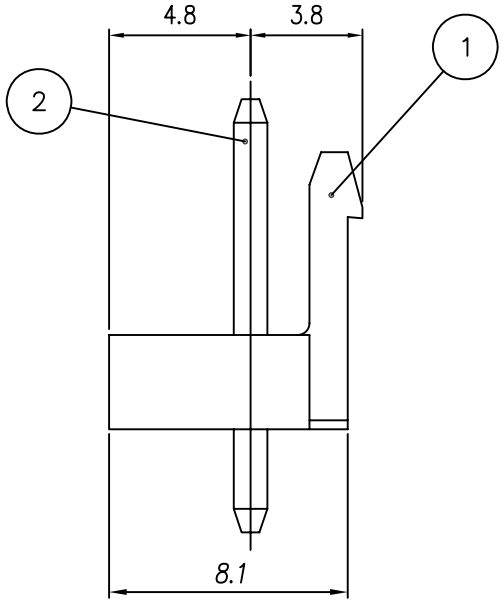


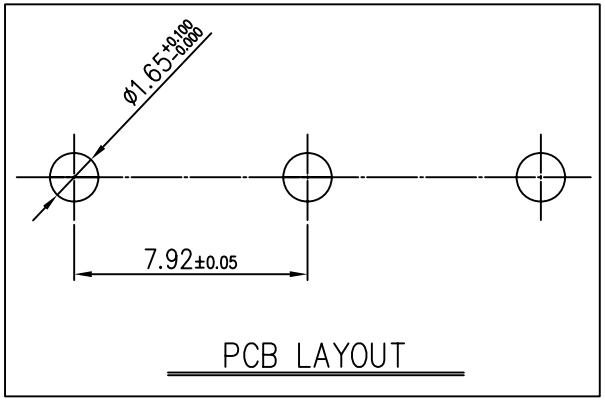
NOTE

1. GENERAL TOLERANCE : ±0.5
2. PART No.
   YW396-NN V (*)
   └ COLOR
   표시없음--WHITE
   BK ---BLACK
   BL ---BLUE
   YE ---YELLOW
   RE ---RED
   GR ---GREEN
   VI ---VIOLET

PART NO.	Pin 수	A	B	C
YW396-03AV	2	11.82	9.22	7.92
YW396-05AV	3	19.74	17.14	15.84
YW396-07AV	4	27.66	25.06	23.76
YW396-09AV	5	35.58	32.98	31.68
YW396-11AV	6	43.50	40.90	39.60
YW396-13AV	7	51.42	48.82	47.52
YW396-15AV	8	59.34	56.74	55.44







I/NO	DESCRIPTION	MATERIAL	REMARK
2	PIN	BRASS	TIN PLATED
1	WAFER BODY	NYLON 66	UL94 V-0

YEONHO ELECTRONICS CO., LTD.

TITLE: YW396-NNAV

SCALE	DRAWN	DESIGN	CHECK	APPD
5/1		J.J.H 97.7.17		

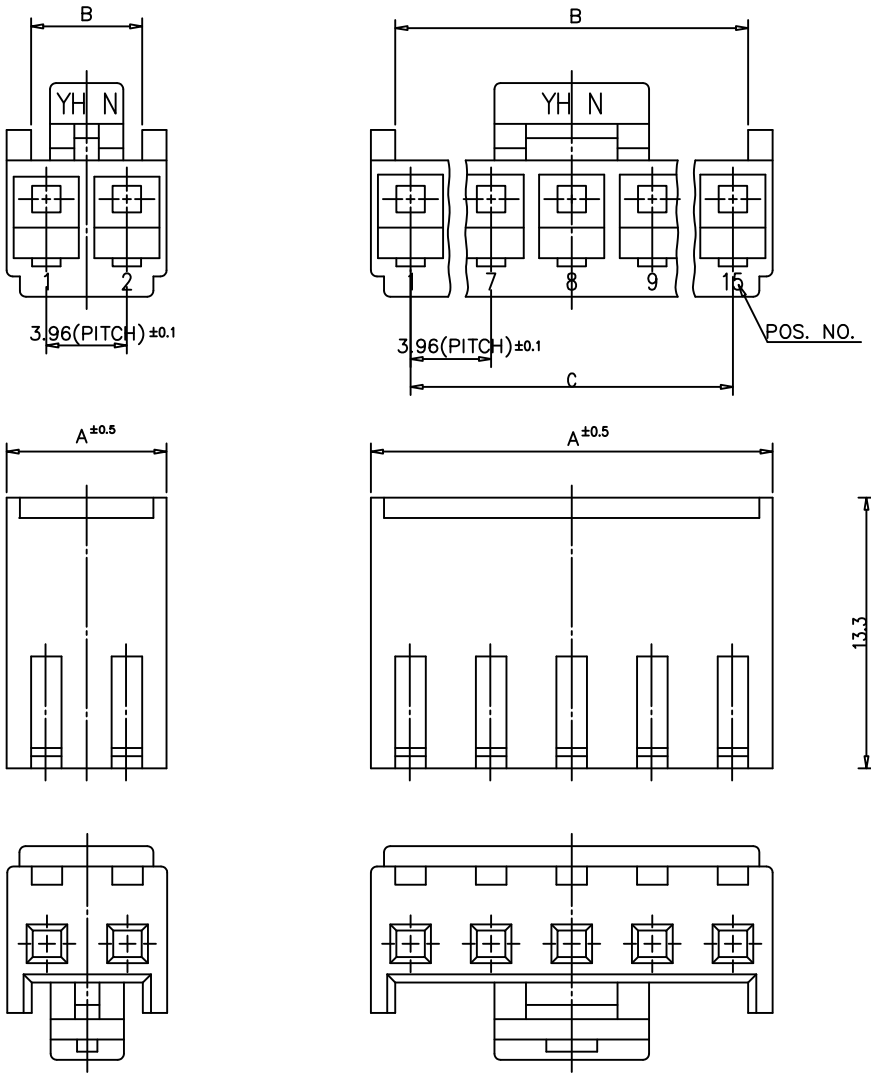
SIZE	DWG. NO	REV
A3	YW396-00V-S	

LTR	REVISION RECORD	DR	CHK	ECN

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출도일	/ / /	연구소

PART NO.	P	A	B	C	REMARK
✓ YH396-02V	2	8.26	5.46	3.96	
✓ YH396-03V	3	12.22	9.42	7.92	
✓ YH396-04V	4	16.08	13.38	11.88	
✓ YH396-05V	5	20.14	17.34	15.84	
✓ YH396-06V	6	24.10	21.30	19.80	
✓ YH396-07V	7	28.06	25.26	23.76	
✓ YH396-08V	8	32.02	29.22	27.72	
✓ YH396-09V	9	35.98	33.18	31.68	
✓ YH396-10V	10	39.94	37.14	35.64	
✓ YH396-11V	11	43.90	41.10	39.60	
✓ YH396-12V	12	47.86	45.06	43.56	
✓ YH396-13V	13	51.82	49.02	47.52	
YH396-14V	14	55.78	52.98	51.48	
✓ YH396-15V	15	59.74	56.94	55.44	



YH396-02V~06V

YH396-07V~15V

NOTE

1.GENERAL TOLERANCE : ±0.3
2.PART No.
YH396-NN V (*)
COLOR
표시없음 ---WHITE
BK ---BLACK
BL ---BLUE
YE ---YELLOW
RE ---RED
GR ---GREEN
BR ---BROWN
GRY --GRAY

1	HOUSING	PA66		UL94V-0
I/NO	DESCRIPTION	MATERIAL	QTY	REMARK

YEONHO ELECTRONICS CO., LTD.

TITLE: YH396-NNV

SCALE	DRAWN	DESIGN	CHECK	APPD
5/1		95.11.16 J. J. H		

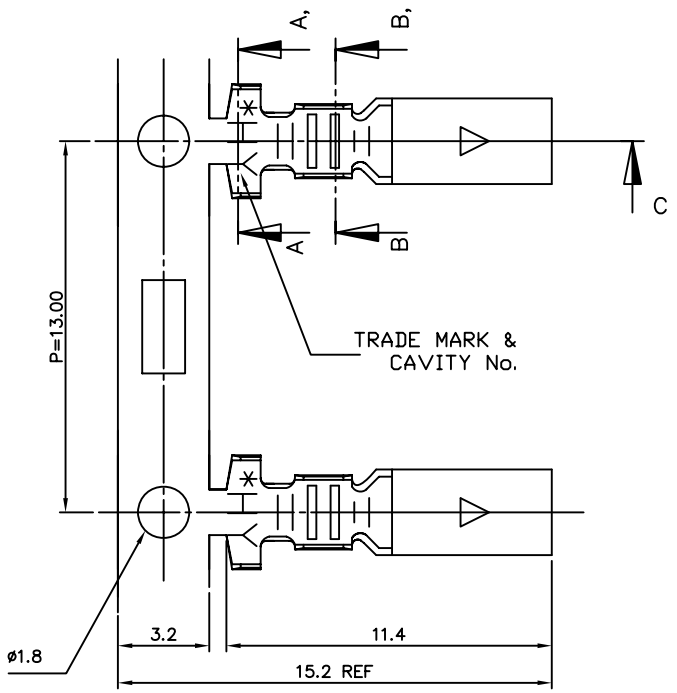
SIZE A2 | DWG. NO YH396-00V-S | REV 01

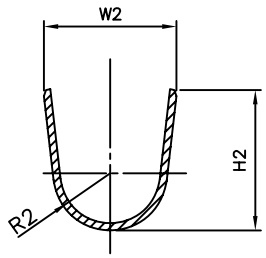
⚠	YH396-02V LOCK부 형상수정(강도보강)	05.05.24	L.S.H	C.J.W
LTR	REVISION RECORD	DR	CHK	ECN

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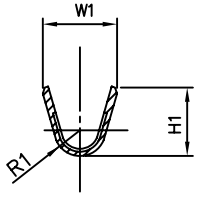
출 도 일	/ / /	연 구 소

구 분	WIRE			INSULATION			적용전선
	W1	H1	R1	W2	H2	R2	
YT396(JL)	3.0	3.1	1.1	5.0	5.2	1.4	#20 – #16
YT396(J)	2.4	2.4	1.1	3.6	4.2	1.4	#22 – #18

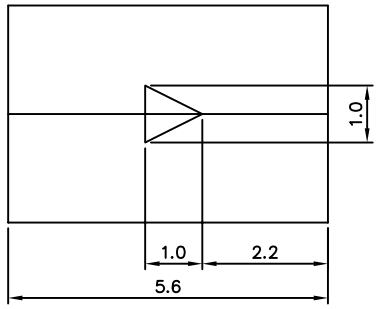


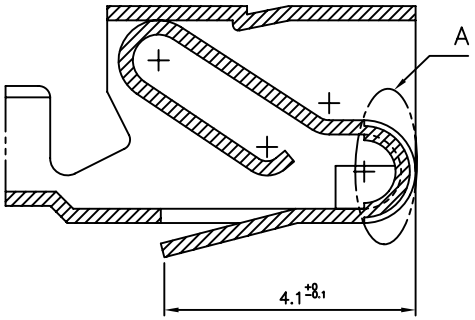


SECTION A–A,

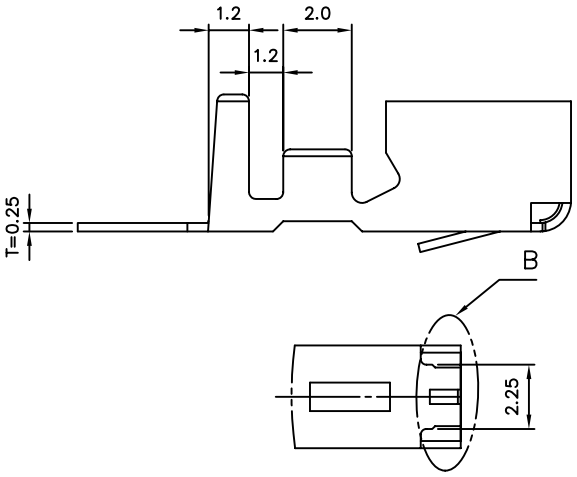


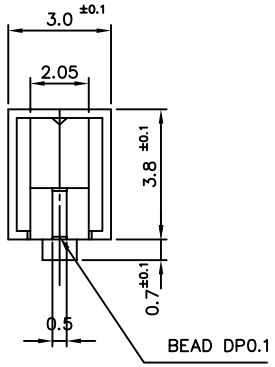
SECTION B–B,





SECTION C–C, (S:10/1)





NOTE

1. MATERIAL:BRASS
2. FINISH:MCuSn2
3. 기입외 ROUND: 0.3
4. 일반 공차:±0.3

	TERMINAL				
I/NO	DESCRIPTION	MATERIAL	TREATMENT	QTY	REMARK

YEONHO ELECTRONICS CO., LTD.

TITLE: YT396(J) SERIES

SCALE	DRAWN	DESIGN	CHECK	APPD
5/1 (10/1)	H.S.K 04.11.22		C.J.W 04.11.22	

SIZE	DWG. NO	REV
A3	39602TS–02S00	

	REDRAWING	04.11.22	H.S.K	C.J.W
LTR	REVISION RECORD	DR	CHK	ECN

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