

1 : YA PLASTICS CORPORATION
 COPPER CLAD LAMINATE
 QUALITY TEST REPORT

2, 1g-Yang Ind. Park,
 Hsin-Kang Hsiang,
 Jiayih, Taiwan

TEL: (05)3772111 FAX: (05)3771640

CUSTOMER: 文翔公司
 ORDER NO: HCAFAS11
 LOT NO: 4927243D
 MATERIAL SPEC.: NP-140TL H/H 0.77mm 1240mm x 0930mm WLCFHG (OVERALL THICKNESS)
 IPC DESIGNATION: L21 0300 HH/HH B/A 48.8" x 36.6" (f x g)
 REQUIREMENT: IPC-4101A
 SPECIFICATION SHEET: IPC-4101A / 21

DATE: 2004/10/18

PALLET NO:

NAN YA PLASTICS
 COPPER CLAD LAMINATE
 QUALITY ASSURANCE

CHARACTERISTICS	UNIT	CONDITIONING	SPECIFICATION	RESULTS
VISUALS(SUB-/SURFACE)	-	IPC-4101A	A	OK
METAL THICKNESS	μm	IPC-4101A	Q:8.1~9.9 T:10.8~13.2 H:15.5~18.9 1:30.9~37.7 R:46.4~56.7 2:61.4~75.5 P:77.2~94.4 3:92.7~113.3 4:123.3~150.7	17.4
DIELECTRIC CONSTANT(1MHZ)		C 24/23/50	<5.4	4.22
SURFACE RESISTANCE	MΩ	C 96/35/90	<0.50mm 10 ⁴ ↑ ≥0.50mm -----	4.5E7
SURFACE RESISTIVITY	MΩ	E 24/125	10 ³ ↑	1.8E5
VOLUME RESISTANCE	MΩ-cm	C 96/35/90	<0.50mm 10 ⁶ ↑ ≥0.50mm -----	6.5E8
VOLUME RESISIVITY	MΩcm	E 24/125	10 ³ ↑	6.8E5
DISSIPATION FACTOR(1MHZ)		C 24/23/50	0.035 ↓ (CFRD - CFMD:0.020 ↓)	.018
ARC-RESISTANCE	sec	D48/50+D1/2 /23	60 ↑ (CFR5 - CFM5:90 ↑)	121
FLEXURAL STRENGTH	N/mm ²	LENGTHWISE A	<0.50mm ----- ≥0.50mm 414.27 ↑	560
FLEXURAL STRENGTH	N/mm ²	CROSSWISE A	<0.50mm ----- ≥0.50mm 345.28 ↑	424
THICKNESS	m/m	A	≤1.2mm CLASS C/M >1.2mm CLASS B/L	OK
THERMAL STRESS		288°C x 10sec	No blister delamination	OK
WARP AND TWIST	%	0.5-0.78 mm A >0.79 mm A	SINGLE DOUBLE 2.0 ↓ 1.5 ↓ 1.5 ↓ 1.0 ↓	.296
PRESSURE VESSEL		D25/119.6+des (260°C X 15sec)	IPC-TM-650	OK
MOISTURE ABSORPTION	%	E1/105+des+D24/23	<0.50 mm ≥0.50 mm 0.80% ↓ 0.35% ↓	.167
PEEL STRENGTH	lb/in	AFTER THERMAL STRESS	Qoz:5.0 ↑ Toz:5.0 ↑ Hoz:6.0 ↑ 1oz:8.0 ↑ Roz:10.0 ↑ 2oz:11.0 ↑ Poz:11.5 ↑ 3oz ↑:12.0 ↑	8.97
TG GLASS TRANSITION TEMP	°C	A	140±5	140.9
FLAMMABILITY	sec	C 24/23/50 E 24/125	94-V0 94-V0	OK
DIELECTRIC BREAKDOWN	KV		40 ↑	60

THIS IS TO CERTIFY THAT THE MATERIAL BEING FURNISHED TO YOU MEETS THE IPC-4101A.
 THE RESULTS OF THIS QUALITY TEST REPORT IS PASS.

APPROVED BY :

10/19
N. C. Cheng

合格

Date :

Our Spec. No. WS03-M051

MESSRS.

SPECIFICATION
FOR
HIGH FREQUENCY COAXIAL CABLE
" KHCX - 32AWG - SB - TA "

SHOWA ELECTRIC WIRE & CABLE CO., LTD.

TORANOMON

TOKYO JAPAN

James Huang

LANTRRA INDUSTRIAL CO., LTD.
F.14, NO. 92, SHING TEH ROAD,
SAN CHUNG, TAIPEI, TAIWAN
TEL:886-2-8511-1178
FAX:886-2-8511-1179
Email:sales@lanterra.com.tw
www.lanterra.com.tw
www.terraview.com.tw

T. Mori

T. Mori
Manager, Engineering Section
Engineering Dept.
Electronic Wire Business Unit

1. 適用(SCOPE)

本仕様書は電子機器などの内部配線に使用される細径同軸“KHCX-32AWG-SB-TA”の構造と特性について定める。

This specification covers the construction and characteristics of coaxial cable “KHCX-32AWG-SB-TA” for internal wiring of electronic equipment.

2. ケーブル型名の説明 (EXPLANATION OF CABLE TYPE)

KHCX-32AWG-SB-TA

(1) (2) (3)

- (1) ケーブル略称 (Cable Abbreviation)
- (2) 導体サイズ (Conductor Size)
- (3) 外部導体タイプ (Outer Conductor Type)

3. 構造(CONSTRUCTION)

項目 Item		要求特性 Requirement
内部導体 Inner conductor	材質 Material	銀めっき軟銅線 Silver coated annealed copper wire
	構成 Stranding	7/0.08mm
	外径 Diameter	標準 0.24mm Nom. 0.24mm
絶縁体 Insulation	材質 Material	FEP
	色別 Color	自然色 Natural
	厚さ Thickness	標準 0.22mm Nom. 0.22mm
	外径 Diameter	標準 0.68mm Nom. 0.68mm
外部導体 Outer conductor	材質 Material	錫めっき軟銅線 Tinned annealed copper wire braid shield
	構成 Stranding	16/4/0.05 mm
シース Sheath	材質 Material	FEP
	色別 Color	灰・白・黒 Gray・White・Black
	厚さ Thickness	標準 0.10mm Nom. 0.10mm
仕上外径 Overall diameter		標準 1.13mm Nom. 1.13mm
概算質量 Approximate mass		3 kg/km

4. 電気特性(20℃) (ELECTRICAL CHARACTERISTICS at 20 degree)

項目 Item	単位 Unit	要求特性 Requirements
導体抵抗 Conductor Resistance	Ω/km	520 以下 Max. 520
絶縁抵抗 Insulation Resistance	MΩ km	1,500 以上 (DC 500V 1 分間充電後) Min. 1,500 (After charge DC 500V for 1 min.)
耐電圧 Dielectric Strength	V/1min.	AC 1,000
静電容量 Capacitance	pF/m	標準 97 (at 1kHz) Nom. 97 (at 1kHz)
特性インピーダンス Characteristic Impedance	Ω	標準 50 (TDR にて測定) Nom. 50 (at TDR)

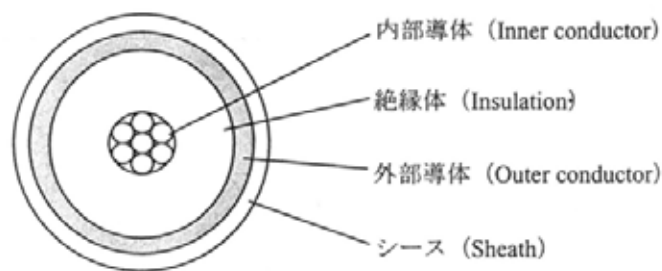


図1.ケーブル構造図

Fig.1. Cable Cross-Section

5. 梱包及び荷札の表示 (PACKING AND MARKING ON TAG)

完成品は運送中及び保管中に損傷を生じぬ荷造りをする。

また、荷札の表示は以下の通りとする。

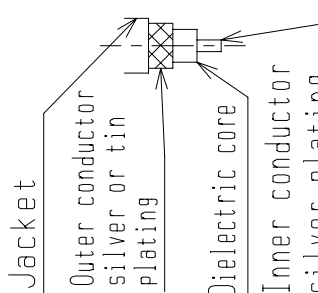
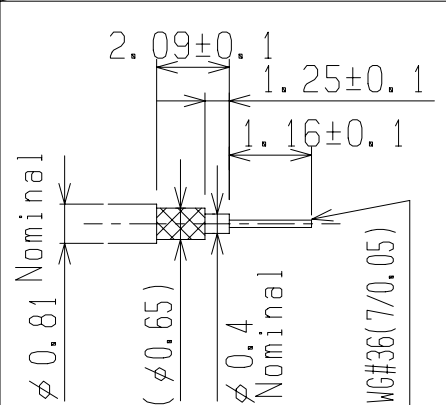
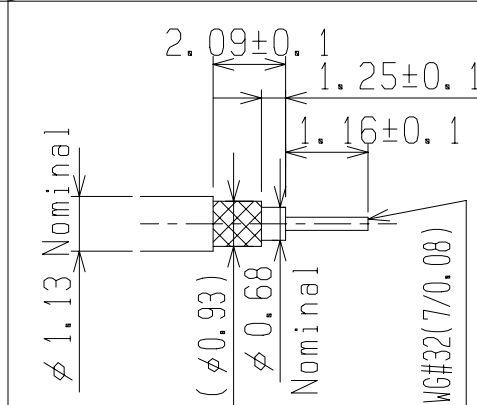
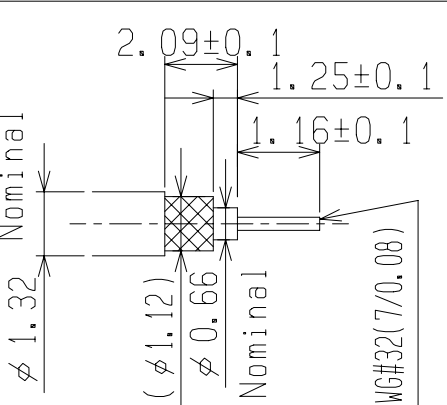
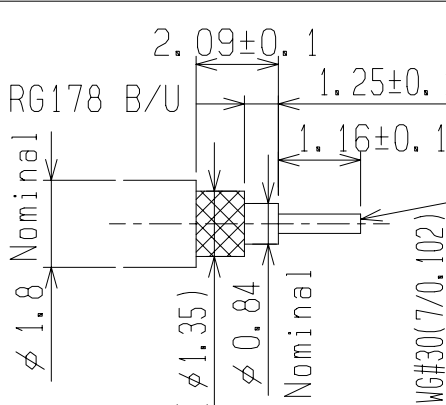
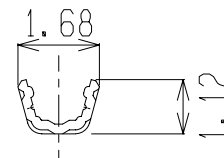
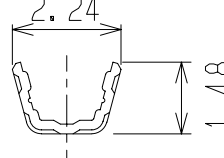
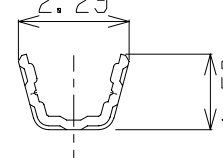
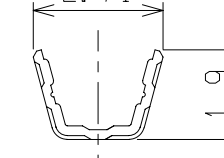
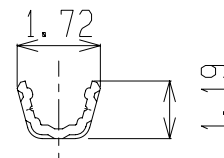
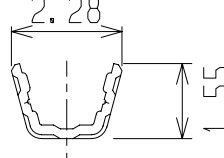
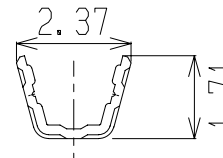
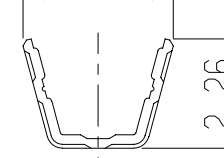
The completed cables shall be coiled and packing in such a manner as to be adequately protected from damage during packing, shipping, and normal handling.

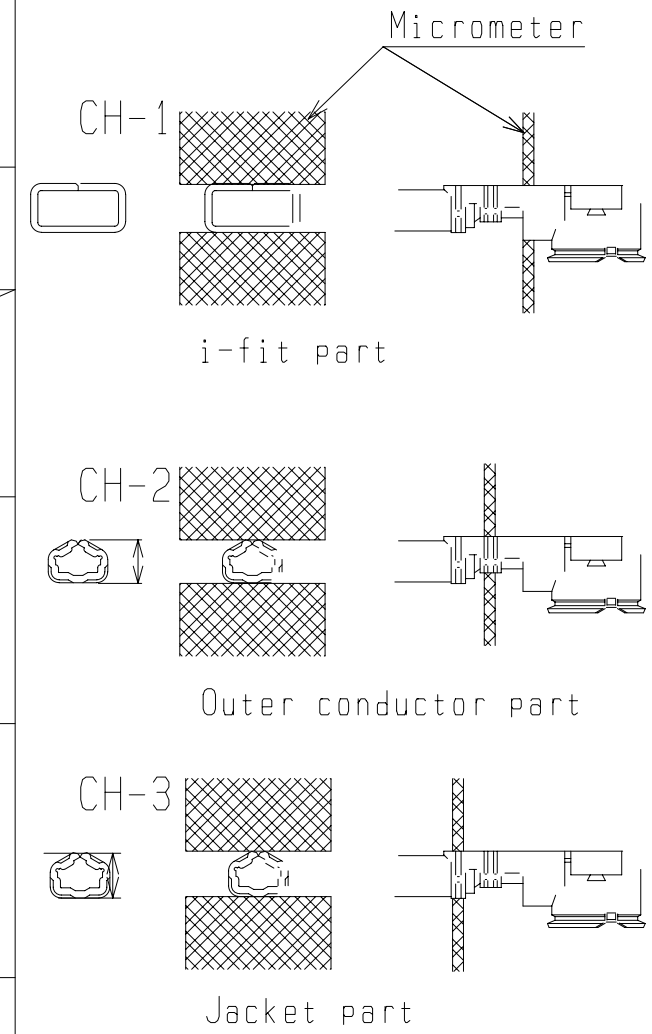
The following items shall be marked in the Tag which is attached to the products.

- 1) 品名 (Type of Cable)
- 2) 導体サイズ (Conductor size)
- 3) 条長 (Length)
- 4) 製造者名または略称 (Manufacturer's name or trade mark)
- 5) 製造年月 (The year and month of manufacture)

なお、完成品にはジョイントを有する場合がある。その場合は条長明細を記載する。

Note : The spool may contain joints. In that case, the detail of length is indicated.

Part No.	20278-101R-08 20278-111R-08	20278-101R-13 20278-111R-13	20278-101R-32 20278-111R-32	20278-101R-18 20278-111R-18	
Applicable cable nominal dimension 					
	* NOTE-1	* NOTE-1	* NOTE-1	* NOTE-1	
Braided shield of Outer conductor 外部導体の編組	Single / 1重編組	Single / 1重編組	Double / 2重編組	Single / 1重編組	
P/N of hand Tool	90187-008C	90187-013C	90187-032C	90233-018	
P/N of semi auto termination machine	90213-008C	90213-013C	90213-032C	90232-018	
Sect. M-M					
Sect. L-L					
Crimp Height	CH-1	1.34~1.40	1.34~1.40	1.34~1.40	1.34~1.40
	CH-2	0.76~0.84	1.06~1.14	1.20~1.30	1.41~1.49
	CH-3	0.85~0.97	1.15~1.35	1.26~1.46	1.70~1.80



Crimp Height

NOTE-1
中心導体, 外部導体への半田コーティングは不可
Must not use solder coated inner conductor and outer conductor.

GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

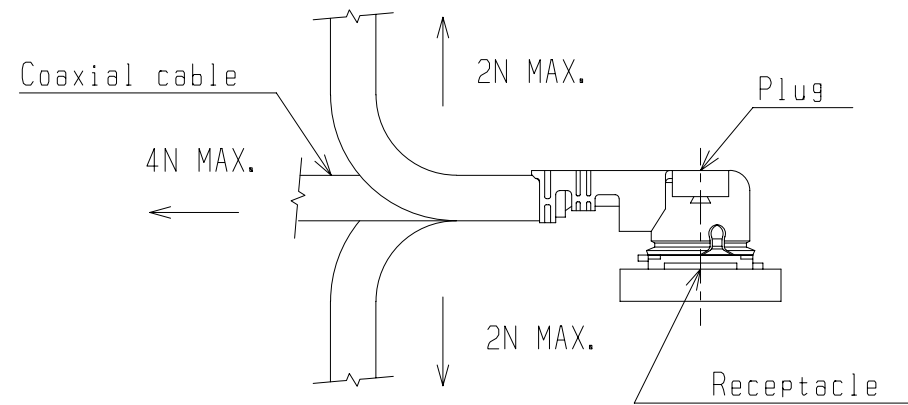
DESIGN' D BY	DATE			
CHK' D BY	DATE			
APP' D BY	DATE			
REV	ECN	BY	DATE	APP
REV. RECORD				
SERIES No.		2814		
CUSTOMER COPY		PROJECTION		

I-PEX		Interconnect and Packaging Electronics TOKYO, JAPAN	
TITLE			
MHF series micro coaxial connector plug vertical (ground contact : gold plating)			
SCALE	UNIT	DWG. No.	SHEET REV.
-/-	mm	20278	2/3 13C

Notes

1. Material
 (1) Housing : PBT , UL94V-0 , black
 (2) Contact
 phosphor bronze
 gold plating 0.1 μ m MIN.
 over nickel 1.27 μ m MIN.
 (3) Ground contact
 phosphor bronze
 gold plating 0.05 μ m MIN.
 over nickel 1.27 μ m MIN.
 2. Packing : reel
 3. Mating partner part No.
 : 20279-001E-01
 4. Permissible load of cable at mating

1. 材料
 (1) ハウジング:PBT, UL94V-0, 黒色
 (2) コンタクト
 いん青銅
 金メッキ0.1 μ m MIN.
 下地 ニッケル1.27 μ m MIN.
 (3) グランドコンタクト
 いん青銅
 金メッキ0.05 μ m MIN.
 下地 ニッケル1.27 μ m MIN.
 2. 梱包 : リール
 3. かん合相手 part No.
 : 20279-001E-01
 4. コネクタかん合後のケーブルに対する荷重

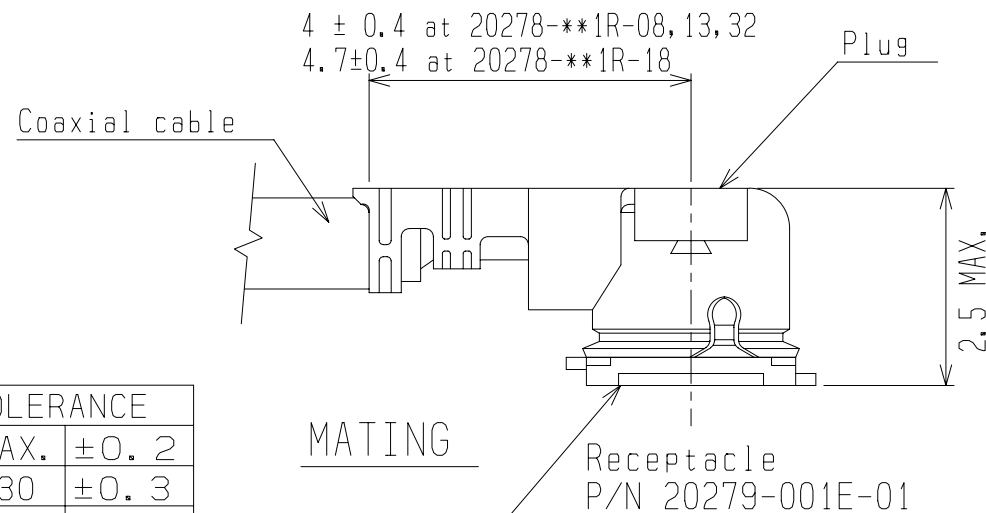


5. Suggestions for mating & unmating operation.

5. コネクタかん合時および抜去時の注意

5-1 Mating.
 Please mate the connector straightly to vertical direction as much as possible, adjusting the mating axis of plug and receptacle. As excessive slant angle mating may break the connector , please don't do it.

5-1 コネクタ挿入時
 PlugとReceptacleのかん合軸を合わせ、できるだけ垂直に挿入して下さい。極端な斜め挿入は行わないで下さい。コネクタ破損の原因となりますので、過度なこじり挿抜は行わないで下さい。

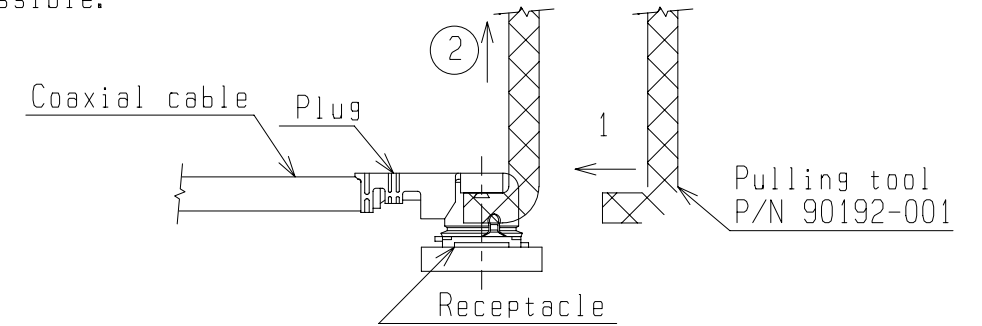


5-2 Unmating.

5-2 コネクタ抜去時

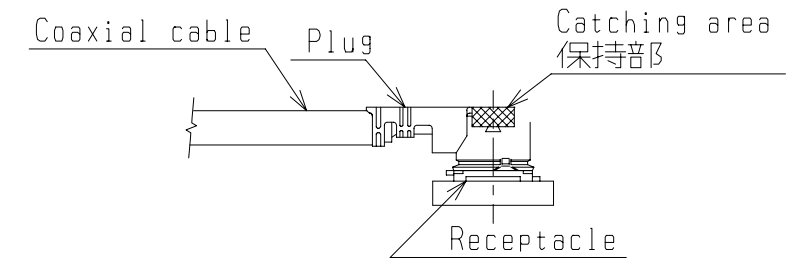
(1) In case of unmating by pulling tool.
 Please use the pulling tool as the following drawing, and please pull plug to vertical direction as directly as possible.

(1) 抜去ジグを用いる場合
 下図のようにできるだけ垂直に引き抜いて下さい。



(2) In case of unmating directly by hand
 Please catch the catching area of plug , and please pull plug to vertical direction as directly as possible.

(2) 手で直接引き抜く場合
 下図の保持部をつかみ、できるだけ垂直に引き抜いて下さい。



5-3 Crimp over standards of outer conductor

5-3 外部導体はみ出し量

Standards: Less than 10% from total numbers of outer conductor
 (Numbers of outer conductor's crimp over from outer conductor's barrel)

外部導体はみ出し量規定
 : 外部導体トータル本数の10%以下
 (外部導体バレルの外にはみ出した量)

5-4 Caution about Heat shrinkage tubes

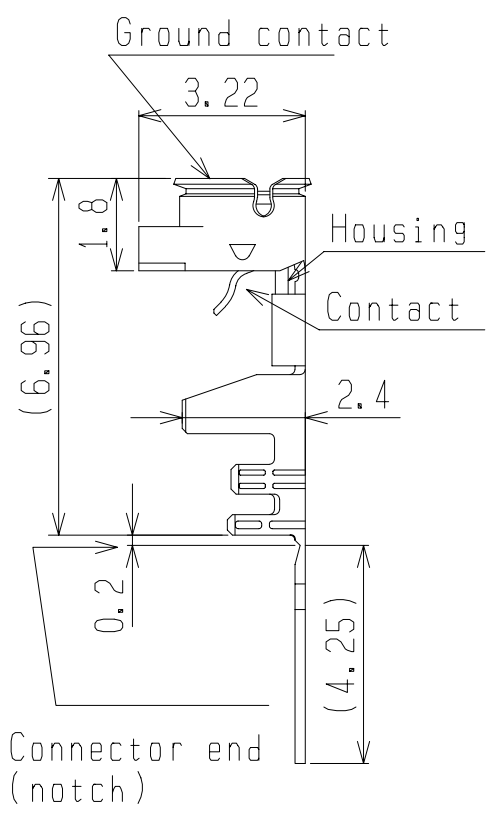
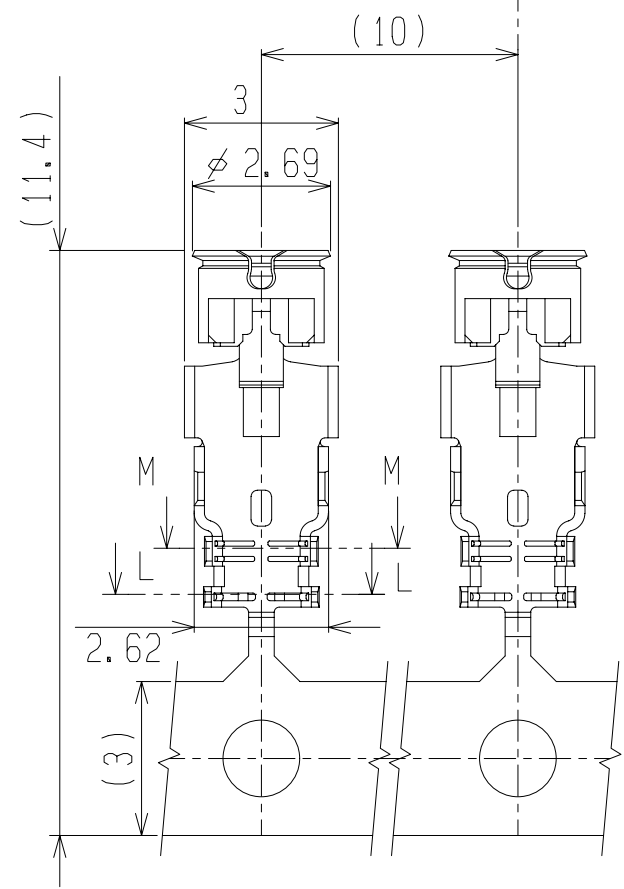
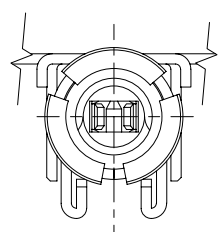
5-4 熱収縮チューブについての注意
 熱収縮チューブで外部導体を覆う場合は、導通不良の原因になりますので、熱によりハウジングを溶融させないように注意して下さい。

Please be careful not to melt housing when using heat shrinkage tubes. It will become cause of open circuit.

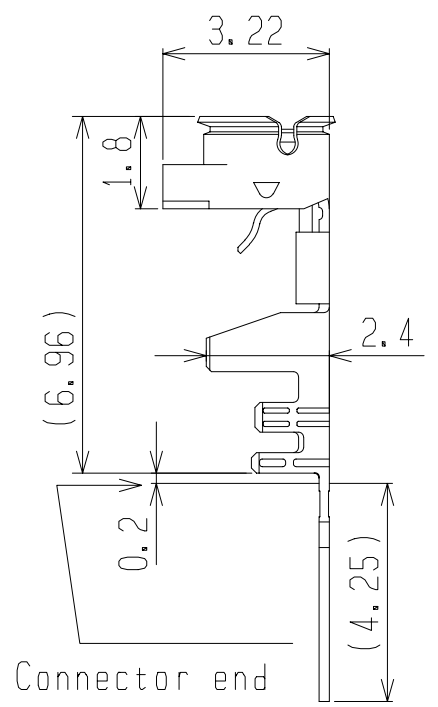
GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

DESIGN' D BY	DATE	I-PEX Interconnect and Packaging Electronics TOKYO, JAPAN	TITLE MHF series micro coaxial connector plug vertical (ground contact : gold plating)				
CHK' D BY	DATE						
APP' D BY	DATE						
REV. RECORD	CUSTOMER COPY	PROJECTION	SCALE	UNIT	DWG. No.	SHEET	REV.
SERIES No. 2814			-/-	mm	20278	3/3	13C

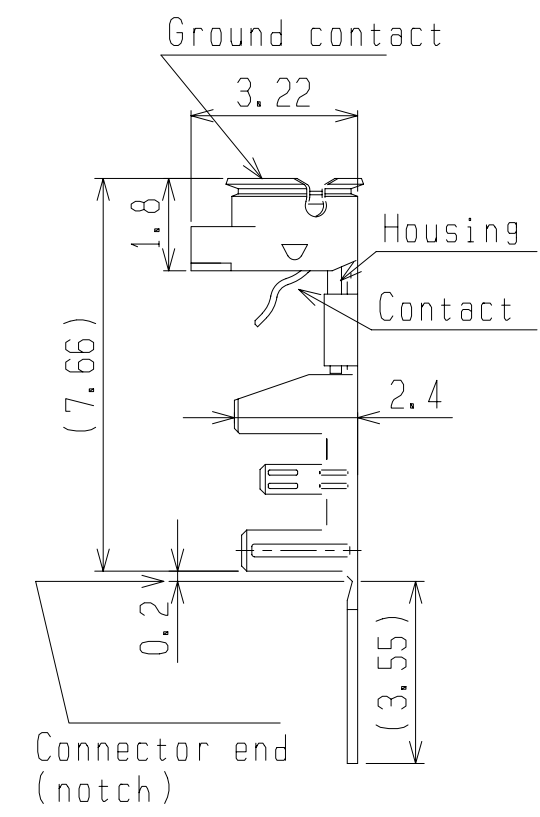
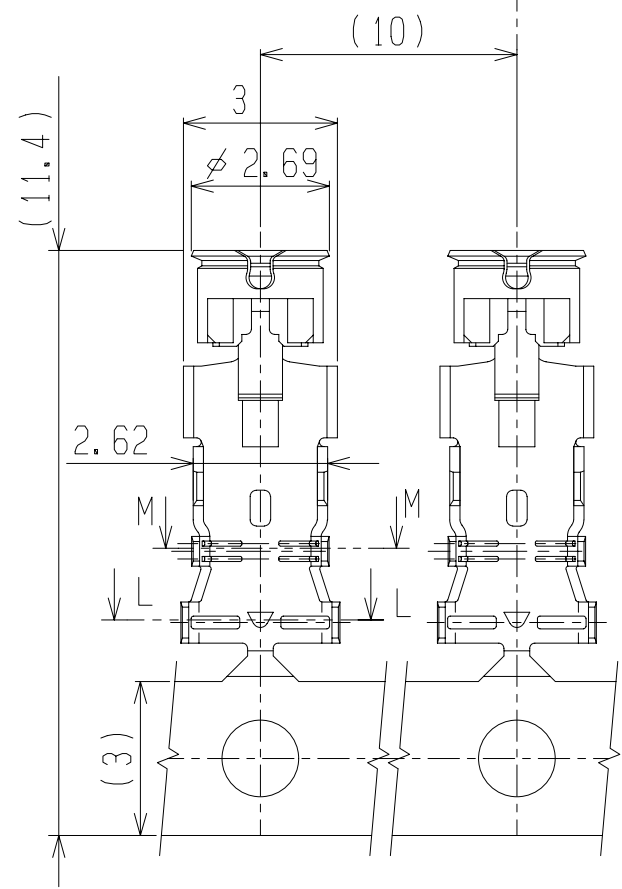
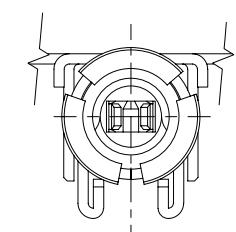
PART NO.
20278-**1R-**



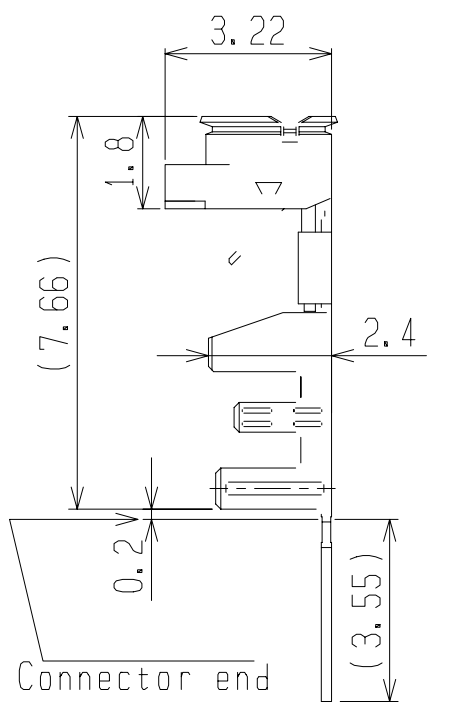
Part No. 20278-101R-08
20278-101R-13
20278-101R-32
For hand tool
(with notch)



Part No. 20278-111R-08
20278-111R-13
20278-111R-32
For semi auto
termination machine
(without notch)



Part No. 20278-101R-18
For hand tool
(with notch)



Part No. 20278-111R-18
For semi auto
termination machine
(without notch)

GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

11C	Z3041	K.O	Mar/24/03	K.K	4	Z2023	K.O	JAN/30/02	E.K
10C	Z3014	K.O	JAN/31/03	K.K	3	Z1256	K.O	NOV/14/01	K.K
9C	Z2239	K.O	NOV/15/02	E.K	2	Z1197	K.O	AUG/27/01	K.K
8C	Z2224	K.O	OCT/17/02	E.K	1	Z1118	K.O	JUN/26/01	K.K
7B	Z2180	K.O	JUL/29/02	E.K	0	Z1109	K.O	JUN/13/01	
13C	Z3074	A.H	May/22/'03	K.K	6B	Z2146	K.O	JUN/24/02	K.K
12C	Z3052	K.O	Apr/16/'03	K.K	5B	Z2117	A.H	MAY/17/02	K.K
REV	ECN	BY	DATE	APP	REV	ECN	BY	DATE	APP
REV. RECORD					SERIES No. 2814				

DESIGN'D BY	DATE
K. Ohbayashi	JUN/13/01
CHK'D BY	DATE
APP'D BY	DATE
K. Katabuchi	JUN/13/01
CUSTOMER COPY	PROJECTION
	6/1



TITLE		MHF series micro coaxial connector plug vertical (ground contact : gold plating)	
SCALE	UNIT	DWG. No.	SHEET
6/1	mm	20278	1/3
REV.			
			13C

TECHNICAL REPORT

Industrial Adhesive Tape
绿色胶带 G9000/G9000SY

纸质基础材料工业用粘着胶带

G9000/G9000SY是完全不使用有机溶剂的强力胶带，而且是作为永久性粘着用而开发的一种环境保护型工业用双面胶带。特别在耐热、耐风化性以及耐热保持力方面性能优越。可靠性极高，是一种高级双面粘着胶带。根据加工方法的不同，有单面剥离纸和双面剥离纸两个种类。

性状

商品名	粘着材料的主要成份	颜色	粘着材料的厚度(总厚度)	尺寸
G9000/ G9000SY	丙烯酸类	半透明	约150 μm 约300 μm	能从 5mm 开始分割
G9000W	丙烯酸类	半透明	约150 μm 约380 μm	500mm × 50M

特长

- 由于使用UV硬化的新制造方法进行制造，对丙烯聚合物进行了高分子化，化学性质极为稳定。所以在耐热性及耐反弹性等极其苛刻的使用条件下也具有相当卓越的可靠性。
- 由于粘着剂渗透于基层材料，所以具有良好的耐水性。
- 具有良好的冲裁(半切)的加工性。为了在冲裁时便于除去废料而使用了不易延伸的基层材料。
- 通用性强。
- 具有良好的耐热性和抗老化性，便于最终用户使用。
- 对各种材料均显示出高水准的粘着力。

用途

最适用于汽车、家用电器产品、PC等金属、塑料的标牌及零部件的固定等。能作为永久性的粘着用双面胶带而用于各种材料的粘着。

基本特性

项目	测定方法	
定负荷剥离(60℃)(对 SUS304)	接着幅 20mm 测定在 90° 方向 100g 负荷下 8 小时后的剥落	1.0mm
耐热保持力(100℃)(对 SUS304)	粘着面积 25mm × 25mm 测定在 1kg 负荷下 1 小时后的错位	0.5mm
180° 剥离强度(室温)(对 SUS304)	300mm/min	21N/20mm
球粘性	J-Dow 法	5
加工性	冲裁性、分割性	良好

PGGU2

August 24, 1999

Marking and Labeling System Materials Component
SONY CHEMICALS CORP

MH15431

perature -40 C (-40 F). Suitable where exposed indoors to high humidity or occasional exposure to water.

G9000\$. For bonding aluminum (thickness .007 to 0.020 in), polycarbonate (thickness .019 to .079 in) and acrylic (thickness .019 to .079 in) to acrylonitrile butadiene styrene (ABS) plastic, maximum surface temperature 80 C (176 F), minimum temperature -40 C (-40 F). Suitable where exposed to high humidity and occasional exposure to water.

Note: \$\$- May be replaced by alpha characters denoting release liner type.

Marking: Company name or trademark "SC" in a square and laminating adhesive designation on packaging.

See General Information Preceding These Recognitions

For use only in equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

9/22/1999

Underwriters Laboratories Inc.

Card 3 of 3

RoHS REPORT INDEX-RFA-02-P09

	NAME	供應商	RoHS report
1	PCB	NEW ERA ELECTRONICS CO. LTD.	CE/2005/81378
2	Coaxial Cable-Ø1.13	LANTERRA INDUSTRIAL CO., LTD.	CE/2006/42971
3	Connector-IPEX	I-PEX JP CO., LTD.	CE/2005/61647A
4	Tape	上藝工業股份有限公司	CE/2005/A0721A



Test Report


NEW ERA ELECTRONICS CO. LTD.
45, 15JEEN-WANG JEEN TSUN-SHIN WU HSIANG.
TAOYUAN, TAIWAN R. O. C.

Report No. : CE/2005/81378
Date : 2005/08/12
Page : 1 of 4

The following merchandise was (were) submitted and identified by the client as :

Type of Product : FR4 (Ni/Au)
Style/Item No : 1431-2404 (B013-2123-B4)
Sample Received : 2005/08/08
Testing Date : 2005/08/08 TO 2005/08/12

=====
Test Result : - Please see the next page -


Daniel Yeh, M.R. / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

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Test Report

NEW ERA ELECTRONICS CO. LTD.
45, 15JEEN-WANG JEEN TSUN-SHIN WU HSIANG.
TAOYUAN, TAIWAN R. O. C.

Report No. : CE/2005/81378
Date : 2005/08/12
Page : 2 of 4

Test Result

PART NAME NO.1 : MIXED ALL PARTS (PLEASE REFER TO THE PHOTO ATTACHED)

Test Item (s):	Unit	Method	MDL	Result
				No.1
Monobromobiphenyl	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.
Dibromobiphenyl	%		0.0005	N.D.
Tribromobiphenyl	%		0.0005	N.D.
Tetrabromobiphenyl	%		0.0005	N.D.
Pentabromobiphenyl	%		0.0005	N.D.
Hexabromobiphenyl	%		0.0005	N.D.
Heptabromobiphenyl	%		0.0005	N.D.
Octabromobiphenyl	%		0.0005	N.D.
Nonabromobiphenyl	%		0.0005	N.D.
Decabromobiphenyl	%		0.0005	N.D.
Total PBBs(Polybrominated biphenyls)/Sum of above	%		-	N.D.
Monobromobiphenyl ether	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.
Dibromobiphenyl ether	%		0.0005	N.D.
Tribromobiphenyl ether	%		0.0005	N.D.
Tetrabromobiphenyl ether	%		0.0005	N.D.
Pentabromobiphenyl ether	%		0.0005	N.D.
Hexabromobiphenyl ether	%		0.0005	N.D.
Heptabromobiphenyl ether	%		0.0005	N.D.
Octabromobiphenyl ether	%		0.0005	N.D.
Nonabromobiphenyl ether	%		0.0005	N.D.
Decabromobiphenyl ether	%		0.0005	N.D.
Total PBBEs(PBDEs) (Polybrominated biphenyl ethers)/Sum of above	%		-	N.D.



Test Report

NEW ERA ELECTRONICS CO. LTD.
45, 15JEEN-WANG JEEN TSUN-SHIN WU HSIANG.
TAOYUAN, TAIWAN R. O. C.

Report No. : CE/2005/81378
Date : 2005/08/12
Page : 3 of 4

Test Item (s):	Unit	Method	MDL	Result
				No.1
Chromium VI (Cr+6)	ppm	UV-VIS after reference to US EPA 3060A.	2	N.D.
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122, method B:2001 or other acid digestion.	2	N.D.
Mercury (Hg)	ppm	ICP-AES after reference to US EPA 3052 or other acid digestion.	2	N.D.
Lead (Pb)	ppm	ICP-AES after reference to US EPA 3050B or other acid digestion.	2	N.D.

NOTE: (1) N.D. = Not detected (<MDL)
(2) ppm = mg/kg
(3) MDL = Method Detection Limit
(4) " - " = No Regulation

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Test Report

LANTERRA INDUSTRIAL CO., LTD.
F. 14, NO. 92, SHING TEH ROAD, SAN CHUNG CITY,
TAIPEI, TAIWAN

Report No. : CE/2006/42971
Date : 2006/04/18
Page : 1 of 4

The following merchandise was (were) submitted and identified by the client as :

Type of Product : KHCX-32AWG-SB-TA (BLACK)
Style/Item No : KHCX-32AWG-SB-TA (BLACK)
Sample Received : 2006/04/11
Testing Date : 2006/04/11 TO 2006/04/18

=====
Test Result : - Please see the next page -


Daniel Yeh, M.R. / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.