

仕様書番号

1400096

株式会社サーキットデザイン 御中

納入仕様書

SPECIFICATION FOR APPROVAL

RoHS対応

品名 Description	SMA to Ipexケ-ブルASSY(L=150mm)
型名 Type Name	CAA162HEAAM0015 CBL-RPSMARD-MH(15cm)
御社部品番号 Customer Part No.	24203
弊社部品番号 Vender Part No.	60140993 (CAA162HEAAM0015)

受領印欄 Specification Sheet Receipt	
この書類を受領いたしました。	
品番	24203
2015 年 / 月 / 日	
(株) サーキットデザイン	
技術部	
	
提出部数	3 部
御返却部数	1 部

株式会社 マップエレクトロニクス

〒386-0005

長野県上田市古里116-14

TEL: 0268-28-7576

FAX: 0268-28-7577

Map Electronics Co., Ltd.

116-14 Kosato Ueda-Shi

Nagano 3860005 Japan

Phone: +81-268-28-7576

Fax: +81-268-28-7577

DATE

2015年01月13日

承認 APPROVED	確認 CHECKED	作成 DESIGNED
		

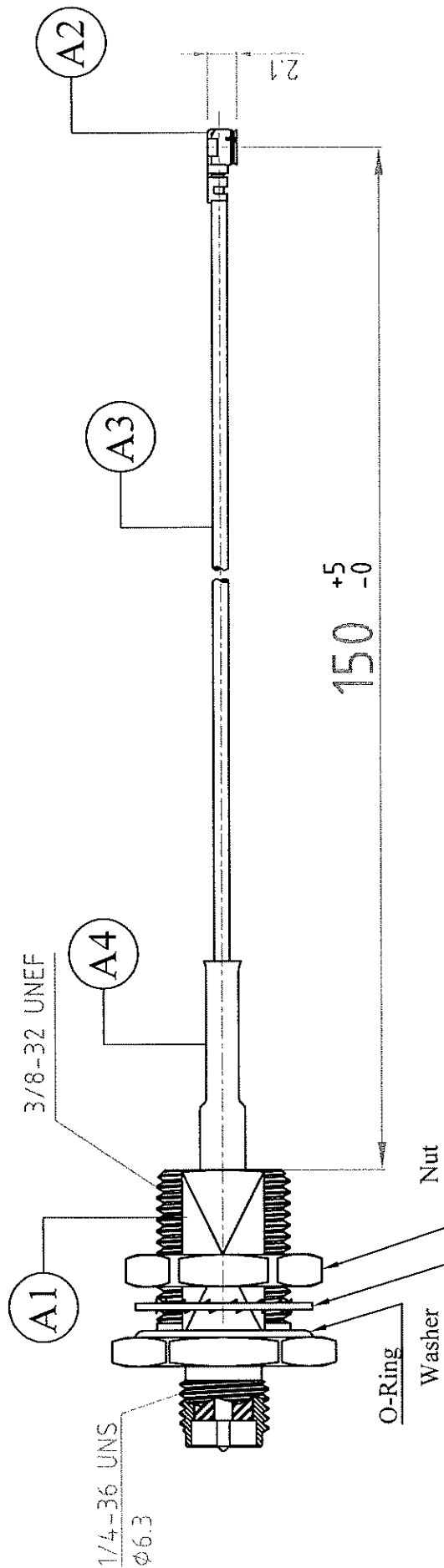
變 更 履 歷 書

[illegible]

Outline Drawing

Symbol	Description	Date
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ISS	Symbol	Description	Date
B		CHE for New Drawing Frame & New PN System.	2011/08/26



Notes :

1. Function test: 100% test for open, short and continuity.
2. Any specific function test should be specified prior to production so as to reflect the manufacturing cost
3. Any electrical, mechanical or environmental test per MIL-C-39012 should be spotlighted, as we may not have all testing equipment to cover all of it.

1. Any questions, please contact Our R&D. Your attention on this matter is much appreciated.

1. Any questions, please contact Our R&D. Your attention on this matter is much appreciated.

[illegible]

*RoHS and REACH are fully complied to create a greener planet for future generations.

1. Application:

It's for Cable Assembly "CAA162HEAAM0015 " only.

2. Bill Of Material:

No.	Product Name	Item	Part Number	Quantity	Remark
1	Connector	A1	RS288P0N01-M-5	1	RP SMA Bulkhead Crimp Jack
2	Connector	A2	20278-112R-18	1	I-Pex MHF Plug
3	Cable	A3	RG-178	1	RG-178 Single Braided Cable
4	Shrinking Tube	A4	HST-03-20	1	Shrinking Tube

3. Outline:

Please refer to the drawing "CAA162HEAAM0015 ".

***Minimum bend radius: 10.0mm.

4. Inspection:

4.1 Standard Operation Procedure:

4.1.1 Incoming:

To check material, dimension, appearance for all piece parts by drawing.

4.1.2 First Article:

According to the work instruction to cut and strip length as pilot run.

4.1.3 Cable inspection:

To check all appearance of cables

4.1.4 Assembly:

To check all semi-finish piece parts for appearance and termination.

4.1.5 Sold inspection:

To check all sold section and see if it's solid and suitable

4.2 Inspection specification:

4.2.1 Open short:

No.	A1	A2	Result
1	A1 Center Conductor	A2 Center Conductor	Short
2	A1 Braided wire	A2 Braided wire	Short
Result	Open	Open	

4.2.2 Dimension Inspection:

To check all dimension per drawing.

4.2.3 Outgoing Inspection:

To check cable, shrinking tube and connector direction per drawing

4.3 Outgoing Inspection:

Checking the packaging, volume and label are per specification

4.4 Inspection Report:

Inspection report should be attached for every shipment

5. Packaging:

100 PCS in Bulk

6. Temperature:

Operating Temperature Range: -30°C ~ 85°C

Storage Temperature Range: -40°C ~ 90°C Humidity < 90 %

7. Location of Manufacture: Taiwan

8. Warranty:

We warrant our parts to be free of defects in material and workmanship under normal conditions within a year of shipment. We will repair or replace any defective parts under warranty period at our discretion.

9. Restriction of hazardous substances:

All products are complied with RoHS2

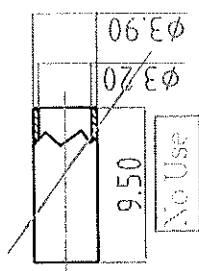
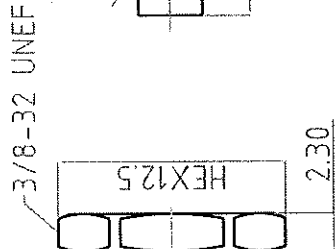
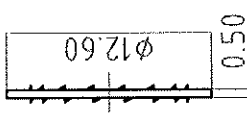
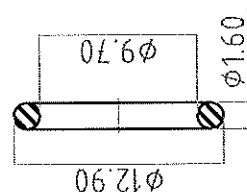
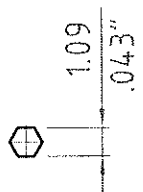
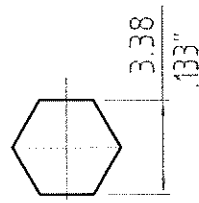
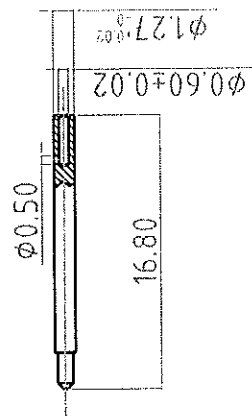
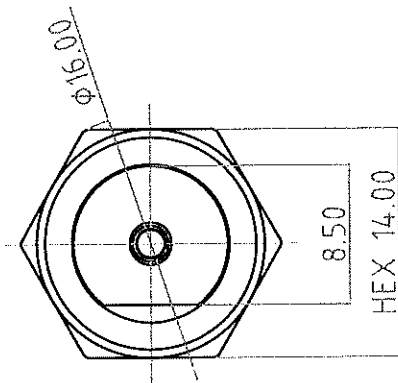
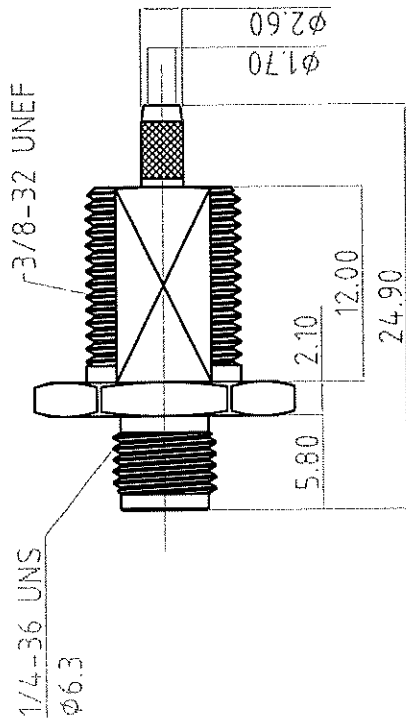
10. Attachment:

Attached is drawing and specification.

ISS	Symbol	Description	Date
B		CHE for New Drawing Frame & New PN System	2008/04/11
B-1		CHE for TITLE Description.	2011/03/02

Note :

1. Single Crimp: Providing recommended dimensions for ferrule.
Dual Crimp: Providing recommended dimensions for ferrule and center pin.
Please advise Single/Dual in advance to avoid any inconvenience.
2. All metal material is in compliance with RoHs Directive 2002/95/EC Annex 4 (1) Section 6 paragraph.
所有金屬物料皆符合 RoHs 2002/95/EC 號指令附件第4 (1) 第6項規定。
3. Recommended Crimped Hand Tool : for Center Pin P/N - HT-336T1
for Ferrule P/N - HT-1116N



Recommended Crimped Dimensions for Ferrule

Recommended Crimped Dimensions for Center Pin

7	Nut	Steel	Nickel	1
6	Washer	Steel	Nickel	1
5	O-Ring	Si-Rubber	Black	1
4	Ferrule	Brass	Nickel	1
3	Pin	Brass	Gold	1
2	Insulator	PTFE	None	1
1	Body	Brass	Nickel	1
ITEM	Description	Material	Finish	Part Number
				QTY

Scale		Abbr.	Date	Rev.	Proprietary Note This document contains information proprietary to S-Conn, which is either copyrighted, or patent applied for, and / or is the design or parts thereof, may not be used, disclosed, or reproduced in any form by any method, or for any purpose, without the written permission of S-Conn, Taiwan.	DWG. NO.	RS288P0N01-M-5	TITLE	RP SMA Bulkhead Dual Crimp Jack. Front Mount Type for RG174,188,316;B7805A;URM95 Cable	ReHS COMPLIANCE
NTS		ST	2011.03.02	B-1						
Tolerances :										
X . ±0.2										
XX ±0.1										
XXX±0.05		All Dimensions in mm (Unless Otherwise Specified)			Customer P/N:	 S-Conn Enterprise Co., Ltd ISO 9001 Certified				
Drawn	Checked	Approved								
Mark	Ryan	G. Sun								
2011.03.02	2011.03.02	2011.03.02								



S-Conn Enterprise Co., Ltd

SPECIFICATION FOR APPROVAL

DOCUMENT: WS17801A00

STYLE : RG-178B/U

SIZE : 30AWG SD

RECOGNIZED : UL 1979 105°C 30V

SPECIFICATION

Style	UL 1979 105°C 30V	Document No	: WS17801A00
Size	30AWG	Established Date	: 2006 - 01-09
Standard : MIL-C-17			
Conductor	Size	AWG	30
	Material	----	Silver-Coated Copper Clad Steel
	Constructors No.	----	7
	Construction Size	mm	0.102 ± 0.003
	Stranded Diameter	mm	0.31
Insulation	Material	----	FEP
	Color	----	Clear
	Average Thickness	mm	0.28
	Diameter	mm	0.86 ± 0.03
Braid Shield	Material	----	Silver-Coated Copper
	Construction	mm	$16/3/0.10 \pm 0.003$
	Coverage	%	95
	Diameter	mm	1.30 ± 0.04
Jacket	Material	----	FEP
	Color	----	Brown
	Average Thickness	mm	0.25
	Overall Diameter	mm	1.80 ± 0.06
Marking			
Drawing	Jacket Braid Shield Conductor Insulation		

Approval : Kenneth Ho

Confirm : Keep Wu

Maker : Liang Chen

SPECIFICATION

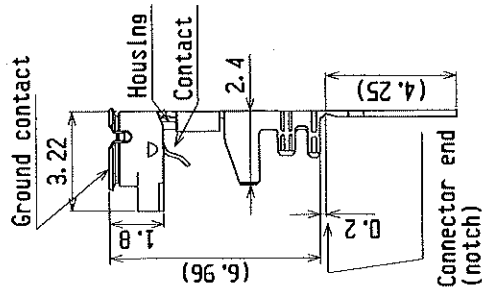
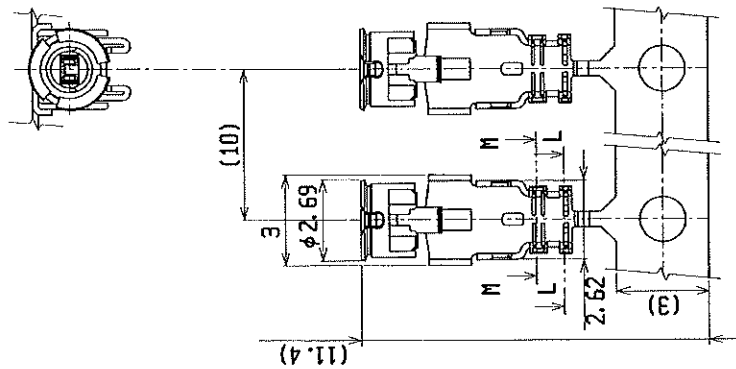
Electrical & Physical Properties							
Item			30AWG				
Rating Temp Voltage			105°C 30V				
Conductor Resistance			838 OHM/KM/20°C MAX.				
Insulation Resistance			3000 MEGA OHM/KM MIN.				
Dielectric Strength			AC 1.0 KV/Minute				
Spark Test			2.5 KV				
Insulation	Unaged	Tensile Strength	2500 PSI MIN. (1.76 Kg/m m ²)				
		Elongation	200% MIN.				
	Aged	Tensile Strength	UNAGED MIN. 75% (168HRS×232°C)				
		Elongation	UNAGED MIN. 75% (168HRS×232°C)				
Jacket	Unaged	Tensile Strength	2500 PSI MIN. (1.76 Kg/m m ²)				
		Elongation	200% MIN.				
	Aged	Tensile Strength	UNAGED MIN. 75% (168HRS×232°C)				
		Elongation	UNAGED MIN. 75% (168HRS×232°C)				
Nom. Impedance			50 ± 3 Ohms				
Nom. Capacitance			95.8 ± 3 pF/m				
Nom. Vel. of Prop.			69.5%				
VSWR (0 – 6 GHZ)			Under 1.3				
Attenuation (dB/1m)	1GHZ	1.8GHZ	2.4GHZ	3GHZ	5.2HZ	6GHZ	
	1.71	2.69	3.12	3.58	4.72	5.18	

Approval : Kenneth Ho

Confirm : Keep Wu

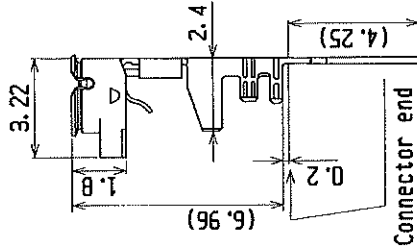
Maker : Liang Chen

PART NO. 20278-...R-



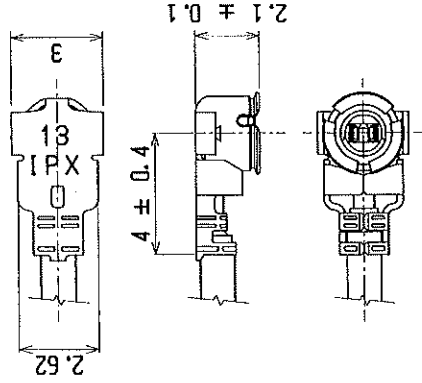
Part No. 20278-101R-08
20278-102R-08
20278-101R-13
20278-102R-13
20278-101R-32
20278-102R-32

For hand tool
(with notch)



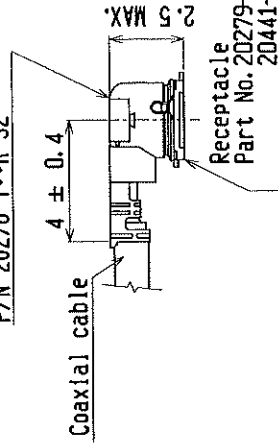
Part No. 20278-111R-08
20278-112R-08
20278-111R-13
20278-112R-13
20278-111R-32
20278-112R-32

For semi auto
termination machine
(without notch)



Cable Ass'n

Plug
P/N 20278-1**R-08
P/N 20278-1**R-13
P/N 20278-1**R-32



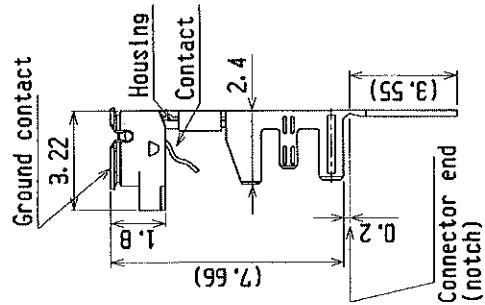
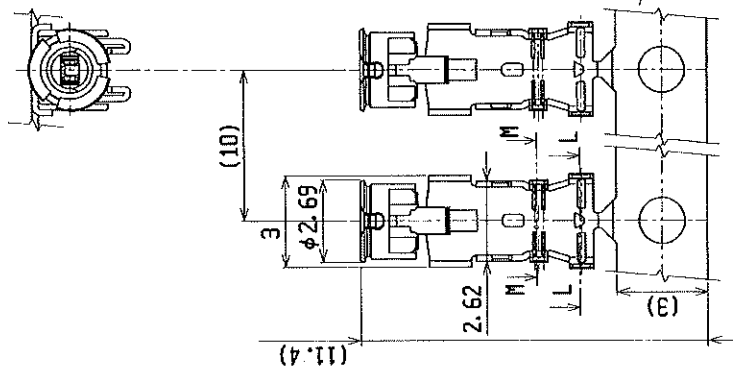
MATING

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

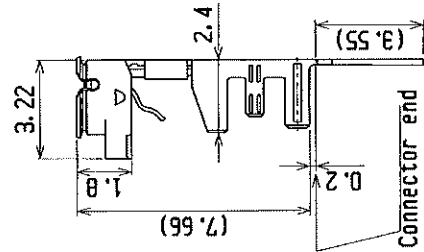
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TITLE HF series ultra coaxial connector plus vertical (ground contact : solid plating)		General	
SCALE 6/1 mm		SHEET REV. 1/4 19C	
DATE JUN/13/01		20278	
DESIGN D BY K. Ohbayashi		Dwg. No.	
CHK D BY T.H		UNIT	
DATE JUN/13/01		PROJECTION 	
APP D BY K. Katabuchi		CUSTOMER COPY	
REV ECN BY DATE APP		REV. RECORD	
SERIES No. 2814		2814	

FORM REV. 4

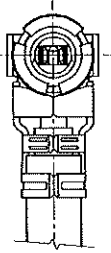
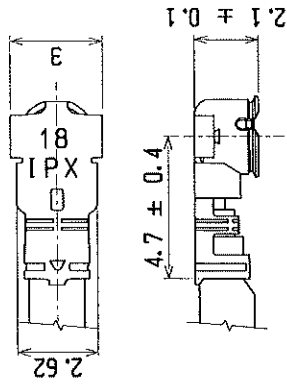
PART NO.
20278-...R...



Part No. 20278-101R-18
20278-102R-18
For hand tool
(with notch)

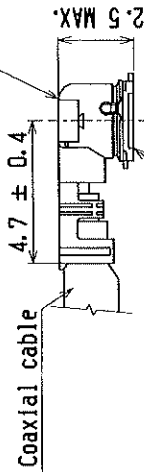


Part No. 20278-111R-18
20278-112R-18
For semi auto
termination machine
(without notch)



Cable Ass'y

Plug
P/N 20278-10R-18



Receptacle
Part No. 20279-001E-01
20441-001E-01

MATING

I-PEX

Interconnect
and Precision Electronics
TOKYO, JAPAN

TITLE				General			
MF series micro coaxial connector plus vertical (ground contact : solid plates)				General			
REV	ECN	BY	DATE	SCALE	UNIT	DWG. No.	SHEET
2014				6/1	mm	20278	2/4
SERIES No.				CUSTOMER COPY			
2014				20278			
PROJECT				REVISION			
DATE				REVISION			
APP'D BY				REVISION			
CHK'D BY				REVISION			
DESIGN'D BY				REVISION			

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

FORM REV. 4

WAS T

Part No. of non halogen free type	20278-101R-08 20278-111R-08 20278-112R-08	20278-101R-13 20278-111R-13 20278-112R-13	20278-101R-32 20278-111R-32 20278-112R-32	20278-101R-18 20278-111R-18 20278-112R-18
Part No. of halogen free type	20278-102R-08 20278-112R-08	20278-102R-13 20278-112R-13	20278-102R-32 20278-112R-32	20278-102R-18 20278-112R-18
Housing color	White	Black	Black	White
Applicable cable nominal dimension				
Jacket	Dielectric core Outer conductor Silver plating	Dielectric core Outer conductor Silver plating	Dielectric core Outer conductor Silver plating	Dielectric core Outer conductor Silver plating
Braided shield of Outer conductor 外部導体の編組	Single / 1 層編組	Single / 1 層編組	Double / 2 層編組	Single / 1 層編組
P/N of hand Tool	90187-008C	90187-013C	90187-032C	90233-018
P/N of seal 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	CH-1 1.34~1.40	CH-1 1.34~1.40	CH-1 1.34~1.40
	CH-2 0.76~0.84	CH-2 1.06~1.14	CH-2 1.20~1.30	CH-2 1.41~1.49
	CH-3 0.85~0.97	CH-3 1.15~1.35	CH-3 1.26~1.46	CH-3 1.70~1.80

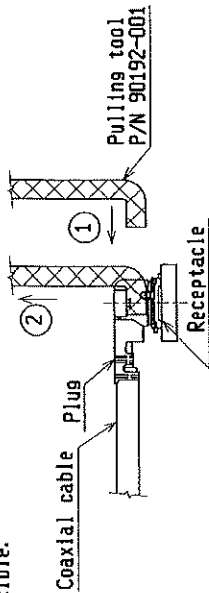
NOTE-1
中心導体, 外部導体への半田コーティングは不可
Must not use solder coated
inner conductor and outer conductor.

								Interconnect <i>and Protection Electronics</i> TOKYO, JAPAN			
				TITLE NIF series micro coaxial connector plus vertical (around contact : gold plating)				General			
				DESIGN'D BY _____ DATE _____				SHEET REV. 3/4 19C			
				CHK'D BY _____ DATE _____				20278			
				APP'D BY _____ DATE _____				DWG. No.			
				CUSTOMER _____ COPY _____				SCALE UNIT --- /--- mm			
				REV ECN BY DATE APP				PROJECTION 			
				REV. RECORD				2814			
				SERIES No.				2814			

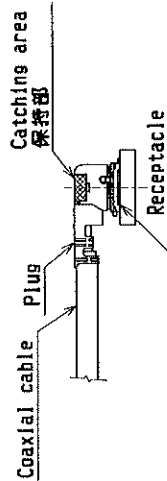
5-2 Unma

5-2 コネクタ抜き

- (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.



- (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.



5-3 Crimp over standards of outer conductor

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

5-4 Caution about Heat shrinkage tubes

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

6. This is 'Pb-free' connector.

5-3 外部導体はみ出し量

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み出し量)

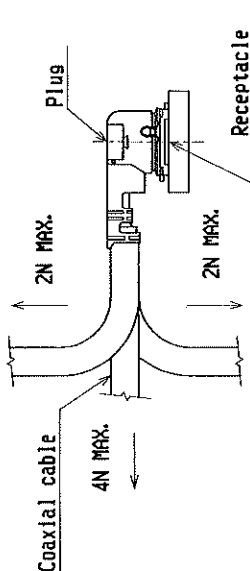
5-4 熱収縮チューブについて

熱収縮チューブで外部導体を覆う場合は、過熱不良の原因になりやすいため、熱によりハウジングを溶融させないよう注意してください。

6. 本コネクタは'Pb-free'である

Notes

- Material
(1) Housing : PBT , UL94V-0
(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.
Packing : reel
- Packing : reel
- Mating partner part No.
: 20279-001E-01, 20441-001E-01
- Permissible load of cable at mating



5. Suggestions for mating & unmating operation.

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. コネクタの挿入および抜き時の注意

5-1 コネクタ挿入時
PlugとReceptacleのかみ合わせ、
できるだけ垂直に挿入して下さい。
傾斜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
挿入は行わないで下さい。

DESIGN'D BY		DATE	
CHK'D BY		DATE	
APP'D BY		DATE	
REV	ECN	BY	DATE
REV. RECORD		APP	
SERIES No.		2814	
CUSTOMER COPY		PROJECTION	
TITLE		PBF series electro coaxial connector plug vertical (ground contact : gold plating)	
SCALE (UNIT)		-/- mm	
DWG. No.		20278	
REV.		SHEET	
General		4/4 19C	

WAS T

FORM REV. 4