DATE. Mar. 27, 2024

No. SPPU-10383(7)

Messrs. FOV

SPECIFICATION

FOR

HERMETIC SFF FIBER ARRAY ASSEMBLY WITH BOOT (ALLOY 50 FERRULE)

(ACACIA)

Fujikura internal information

提出仕様書Ｎｏ. Fujikura Specification No. (Proposed to customer)	先方仕様書Ｎｏ. Customer Specification No.
Refer to Table1	Refer to Table1

仕様書がない場合には斜線 を入れること。（空欄にしない）
In the absence of Fujikura/Customer specifications, fill an oblique line in the column. (Don't leave the column blank.)

Prepared by T. Nakane

Fiber Optics Components Department
Optical Component Division

Approved by H. Hishikawa

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Fiber Optics Components Department
Optical Component Division

Fujikura Ltd.

1. General

1.1 Products Covered by this Specification

This specification covers Optical fiber array assembly for Acacia Communications.

1.2 Product Name and Part Number

Table1

	Product name	Fujikura Specification no.	Acacia Specificaton No.	Sanmina Part no.
1	HERMETIC SFF FIBER ARRAY ASSEMBLY WITH BOOT (ALLOY 50 FERRULE)	PNJHI-0485-64-09	820-0005-03 Rev. B※	LFACM820-0005-03

※Although the version was revised from A to B before the last buy (laser printing on the boot, size change on the array pats), it was approved by cutomer that it would be manufactured in accordance with PNJHI-0485-64-09.

1.3 Drawing for manufacturing

DRAS-12911/PNJHI-0485-72-01(Latest version)

2. Bill of materials

Table 2

No.	Name of Part	(Type), Drawing No. Specification No.	Maker/Supplier	Q'ty	Remarks
1	LC connector(SM)	LC Metal Flange Kit, BTW, K-04-0033-0A, PNJHY-0048-22-134(latest version)	Adamant	2	UPC polish Boot: Santoprene,white Cap: Housing cap,white Zr capillary included
2	LC connector(PM)	LC Connector(P) CPAI1-006I	-	(1 set)	UPC polish Except dust cap
2-1		Plug Frame LC(HPY) CPAI2-024D	Pronics Vietnam	1 pc	Blue
2-2		Ferrule Unit LC(P)B CPAI2-036E	Yuwa Vietnam	1 pc	Adamant zirconia capillary
2-3		LC Extender Cap CPAI2-026E	Pronics Vietnam	1 pc	Blue
2-4		LC BTW Buffer Adapter CPAI2-027E	Pronics Vietnam	1 pc	Santoprene, white
2-5		Spring LCP CPAI2-030A	Jyohoku Spring Saigon	1 pc	-
2-6		Dust Cap C-09-1500-05	Adamant	1 pc	Housing cap,PP, White
3	Fiber (PM)	BISM15-PX-U25D-H	Fujikura	1.25m	Coating: Natural

4	Fiber (SM)	ClearCurve ZBL GCS	Corning	2.50m	Corning Clearcurve-ZBL(200kpsi) 0.25mm Coating: Natural
5	3c V-groove	3CH FIBER ARRAY V-GROOVE ORN ~~JFD-M-11-049,~~ PNJHY-0145-71-01 /DRPT-10953 (Latest version)	Yamanashi	1	Angled polish, 8deg
6	3c Cover	3CH FIBER ARRAY COVER ORN, JFD-M-11-048, PNJHY-0145-71-02 (Latest version)	Yamanashi	1	
7	Glass preform	OD1.118,IDO.80xO.26, tO.8, DM2700PF ROCP44-10-31	Namics	2	-
8	Alloy50 ferrule	CPAS2-507A4	Micro-cut	1	1.27um Gold plating
9	Loose tube(SM,PM) (Connector side)	φ0.5×0.9 Hytrel 6356 HYTREL TUBE 6356 [0.5×0.9 NA](NIREI),PNJHY-0102-24 -02(latest version)	Nirei kogyo	0.045m x3	Color: Natural Connector side
10	Boot	810-0088-03 Rev.A	W&B Technology	1	-
11	Adhesive	Epotek 353ND	Epoxy technologies	-	-
12	Adhesive	Bond Quick 5 A+B (80g/set)	Konishi	0.05gr	Filler between loose tube and fiber
13	UV Adhesive	World Rock 8776NL5F	Kyoritsu kagaku sango	0.005gr	Glass array assembly
14	UV Adhesive	UV resin U-2003F (250GM/BT)	Utsu	0.015gr	-
15	UV Adhesive	Optocast 3410		0.003gr	-
16	UV Adhesive	World Rock 8700-7 (5GM/Tube)	Fujikura	0.005gr	-
~~17~~	~~Paint marker~~	~~Edding 750 (Red)~~		=	~~Marking on PM fiber~~
~~18~~	~~Paint marker~~	~~Edding 750 (Back)~~		=	~~Marking on SM fiber~~
19	Package	Fiber Package Tray & Cover	FOV domestic purchase	0.2	5pcs of product/tray Base: Black Cover: Clear
20	Pink sponge (W30xL365xH15mm)	INOAC EAS-3	FOV domestic purchase	0.2	To prevent fiber and connector movement during transportation, Length of sponge should be the same as inner width of tray

21	Pink sponge (W10xL16xH12mm)	INOAC EAS-3	FOV domestic purchase	5	To hold fiber and connector on tray, Dimensions should be adjusted to fit groove of tray
22	Pink Sponge slit (12x5x311x12mm)	Sponge slit type(with adhesive tape, 20 slits)(CPAS2-118B4), or equivalent	FOV domestic purchase	0.2	FOV domestic purchase
23	Adhesive	TB3170B	ThreeBond	0.004gr	For temporary boding of PANDA LC connector ferrule
24	Label	Self Laminate TT327 1''x1.5'' 1 Across White label (25.4x38.1mm) (IDL-001IN-1)		1	
25	Clean Label	Brady B694, 70x20mm		0.2	

3.Product Specification

Table 3

Item	SPEC
Appearance	Refer to RQAP-00005(latest version)
Appearance of Glass Array	DRAS-12911/PNJHI-0485-72-01(latest version) No crack at stress applying parts
Appearance of Connector endface	DRAS-12911/PNJHI-0485-72-01(latest version) No crack at stress applying parts
Dimensions	DRAS-12911/PNJHI-0485-72-01(latest version)
Connector Fiber height	-50 ~ +50 nm
Connector Radius of curvature	7 to 25mm :LC connector
Connector Apex offset	≦50μm
Connector B dimension	10.3 to 10.5mm :LC connector
Connector Ferrule endface diameter	0.6 to 0.85mm :LC ferrule
Polarization Extinction Ratio (-Polarization cross talk)	>20dB ,Wave length 1550nm Insert light to the glass array
Insertion loss	≦0.5dB, Wave length 1550nm
Return loss	≧50dB, Wave length 1550nm

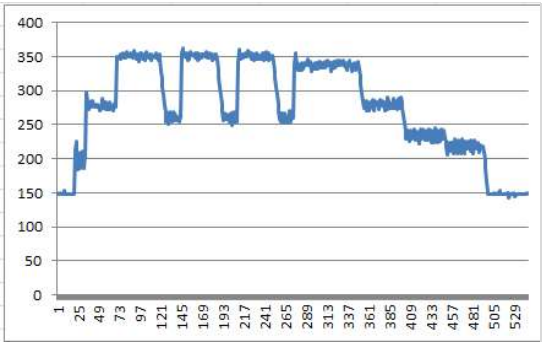
4.Glass Sealing

1) Ferrule & Glass preform

CPAS2-507A4 (NS-1) : Alloy50

Glass Preform : DM2700PF ROCP44-10-31 , 2pcs

2) Heating Profile



Step	1	2	3	4	5	6	7	8	9	10	11	12
Temp(deg.C)	185	275	347	250	347	250	347	250	330	275	225	210
Power(%)	10	10	10	10	10	10	10	10	10	10	10	10
Time(sec)	2	7	10	5	8	5	8	5	15	10	10	9

Emissivity : 0.21

3) Apply Optocast 3410 on top of glass solder

UV Power : 170-190mW/cm2, Time : 15sec

Total amount is 2550-2850mJ/cm2

4) Apply WR8700-7 at non-hermetic side

UV Power : 120-140mW/cm2, Time : 15sec => stop 2sec => 15sec

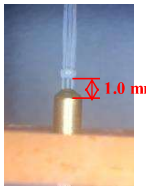
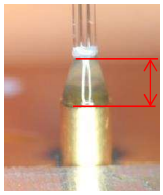
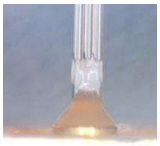
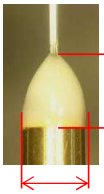
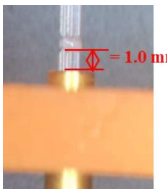
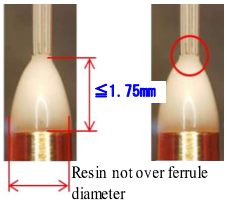
Total amount is 3600-4200mJ/cm2

5) Apply UV2003 to Cover Optocast 3410 and WR8700-7

4.Process Flow from Glass sealing until Adhesive application on ferrule

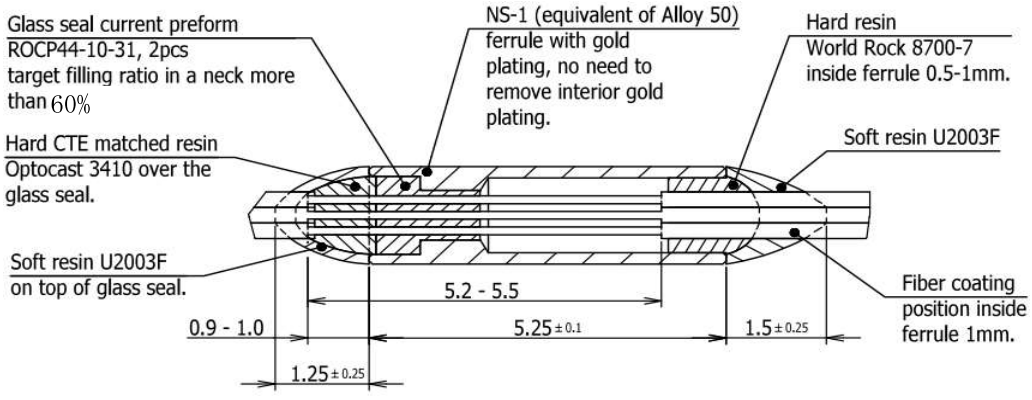
Glass sealing → Apply a line by UV2003 at top side on fiber →
Optocast 3410 on top side → Apply UV2003 cover Optocast 3410 →
Apply a line by UV2003 at bottom side on fiber → Apply 8700-7 at bottom →
Apply UV2003 cover 8700-7 → Thermal post cure 120deg.C, 15min

5. Addhesive application (Countermeasure for UV coating crack)

STEP 1	 Apply UV2003F on fiber at both side on top of ferrule, L=1.0mm	STEP 5	 Heat ferrule at 50C+/-5C (min: 1 minute, max: 5 minutes), go to step 6 immediately
STEP 2	 Apply Optocast 3410 on top of ferrule and curing, L=1.0mm	STEP 6	 Apply UV8700 at bottom of ferrule and curing
STEP 3	 Apply UV2003F cover Optocast 3410 and curring, L<=1.5mm	STEP 7	 Apply more UV8700 at bottom of ferrule and curing, L<=1.0mm
STEP 4	 Apply UV2003F on fiber of bottom ferrule at both side, L<=1.0mm	STEP 8	 Apply UV2003F cover UV8700 and curing, L≦1.75mm

6. Fiber stripping position and adhesive inside the ferrule

Refer to DRAS-12911/PNJHI-0485-72-01(latest version)



7. Product Aging

Thermal cycling shall not apply to the products.

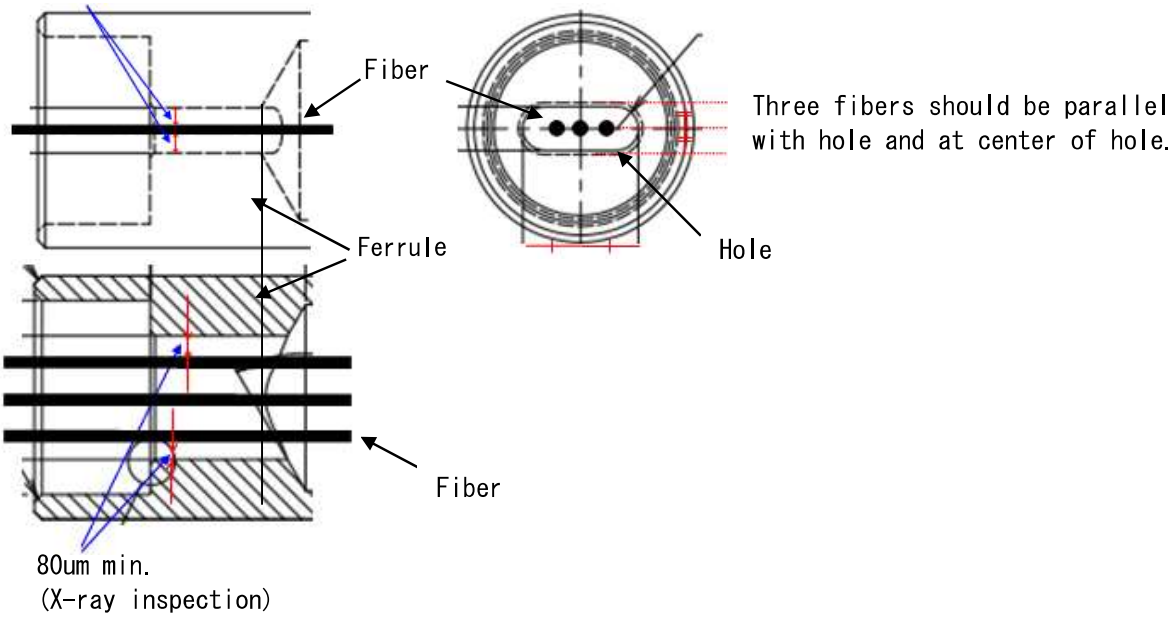
8. Inspection items

1) X-ray

Record X-ray photo of metal ferrule at two directions (0deg.:three fibers shown side by side in parallel,90deg.)

-Alignment of Fiber position in hole of ferrule

87.5um +/- 25um
(X-ray inspection)

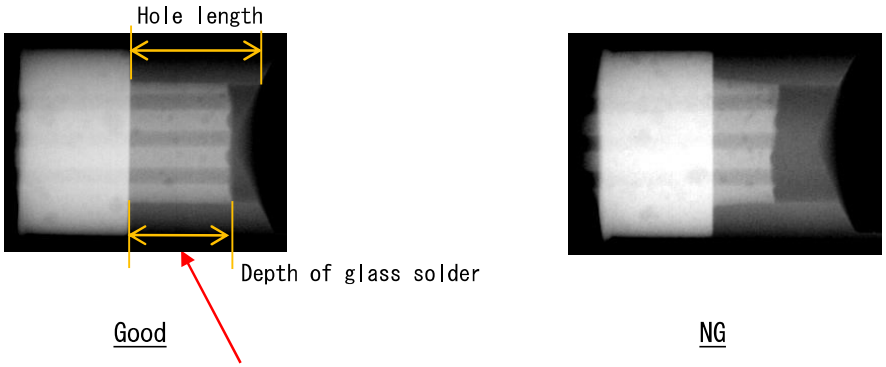


80um min.
(X-ray inspection)

-Glass solder depth.

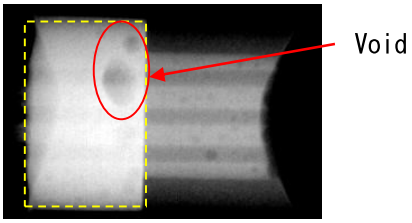
Depth should be more than 3/5 (more than 60%) of hole lenght of ferrule

Refer to the figure below.

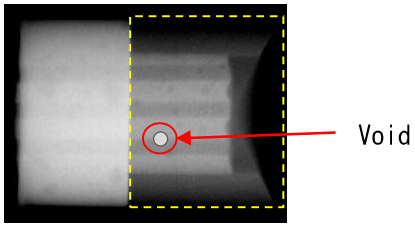


Over 60% of the hole length, depth should be checked at minimum point

-Air bubbles in glass solder observed by X-ray



Counterbore



Hole

<table>
<tr><th>Area</th><th colspan="8">Criteria</th></tr>
<tr><td rowspan="6">Counterbore</td><td colspan="2">Voids expose
to the top surface</td><td colspan="7">Void ≦125um : OK
Void > 125um : NG</td></tr>
<tr><td colspan="2" rowspan="5">Voids not expose to
the top surface</td><td colspan="7">Void ≦125um : OK</td></tr>
<tr><td colspan="2" rowspan="2"></td><td colspan="4">Void >125um & ≦250um</td></tr>
<tr><td>1pc</td><td>2pcs</td><td>3pcs</td><td>4pcs</td></tr>
<tr><td rowspan="3">Void >250um & ≦625um &
Not touching
the fibers
Or
Any pcs of voids
within a 625um diameter
& Not touching
the fibers</td><td>0pc</td><td>OK</td><td>OK</td><td>OK</td><td>NG</td></tr>
<tr><td>1pc</td><td>OK</td><td>OK</td><td>NG</td><td>NG</td></tr>
<tr><td>2pcs</td><td colspan="4">NG</td></tr>
<tr><td colspan="7">Void > 625um : NG</td></tr>
<tr><td rowspan="6">Hole</td><td colspan="8">Void ≦ 62.5um : OK</td></tr>
<tr><td colspan="2" rowspan="2"></td><td colspan="5">Void > 62.5um, ≦ 125um</td></tr>
<tr><td>1pc</td><td>2pcs</td><td>3pcs</td><td>4pcs</td><td>5pcs</td></tr>
<tr><td rowspan="3">Void
>125um, ≦ 187.5um</td><td>0pc</td><td>OK</td><td>OK</td><td>OK</td><td>OK</td><td>OK</td></tr>
<tr><td>1pc</td><td>OK</td><td>OK</td><td>OK</td><td>NG</td><td>NG</td></tr>
<tr><td>2pcs</td><td colspan="5">NG</td></tr>
<tr><td colspan="8">Void > 187.5um : NG</td></tr>
</table>

2)Leak Test

-Run m/c until get 3.0×10^{-10} Pa・m^3/sec (3.0×10^{-9} atm・cc/sec)

-Blowing helium for 7 sec

Record pressure at 5 sec after the start of helium blowing

-Pressure should keep reducing, not swing upd/down during helium blowing

-Continue runnig machine and record pressure at 10 sec after the start of helium blowing.

-Pressure should keep reducing, not swing up/down after stop helium blowing

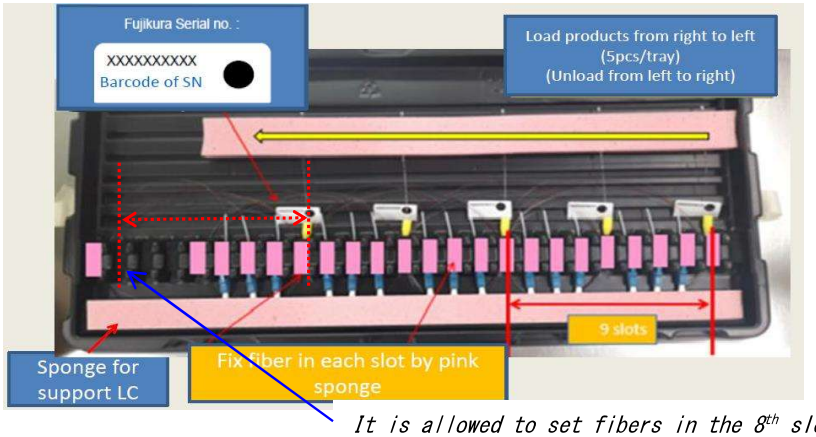
3)Fiber Appearance Inspection

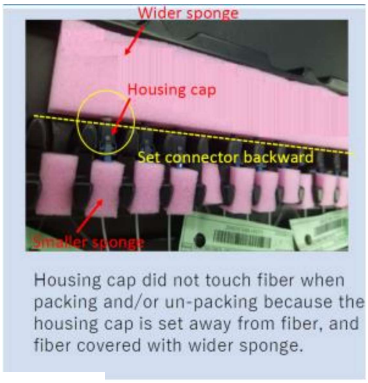
Use stereo-microscope 25x

4)Reflectometer check

9. Packing

1)



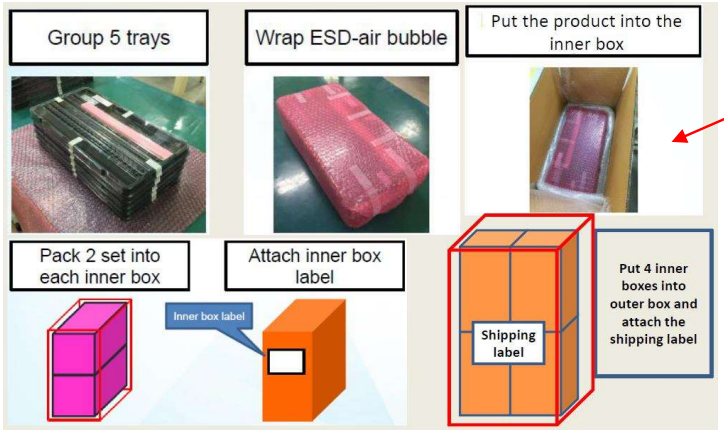


Housing cap did not touch fiber when packing and/or un-packing because the housing cap is set away from fiber, and fiber covered with wider sponge.

It is allowed to set fibers in the 8th slot if fiber length is too short for 9th slot.

2)

3)



Test report

Inner box: (ID) 440x225x245
Q'ty: 50 pcs (10 trays)

Outer box: (ID) 460x475x535
Q'ty: 200 pcs (4 inners/outer)

Outer box for two inner box

CBO0068 2 inner box = 100pcs

Outer box for one inner boxes

CBO0303 1 inner box = 50pcs

case that shipping quantity is not multibple of 200pcs,

use the outer box for one inner box, or the outer box for two inner boxes as well as the outer box for the four inner boxes to minimize toatal weight and volume (Ex.Table4).

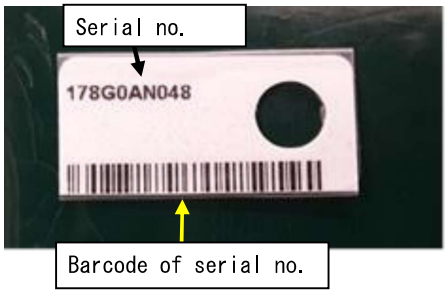
Table 4

Shipping quantity	Inner box 440x225x245(cm)	Outer box 564x344x278(cm)	Outer box 584x299x610(cm)	Outer box 460x475x535(cm)
50pcs	1	1	-	-
100pcs	2	-	1	-
150pcs	3 + 1(dummy)	-	-	1
200pcs	4	-	-	1
250pcs	5	1	-	1
300pcs	6	-	1	1
350pcs	7 + 1(dummy)	-	-	2

10. Tag

Attach a tag with serial no. and its barcode (CODE128) to each product.

Refer to Photo shown below.



11. Label

11.1 Label for Fabrinet

1) Tray cover

Acacia specification no. : Refer to Table1

Product name : Refer to Table1

Quantity in a tray : 5 PCS

PART No. : 820-0005-03 Rev.B
Product name : HERMETIC SFF FIBER ARRAY ASSEMBLY WITH BOOT (ALLOY 50 FERRULE)
Q'ty : 5PCS

< Label sample >

2) Inner Box Label

-FBN Part Number : Acacia spec. no., refer to Table1

-Part Description : Product name, refer to Table1

-Part Revision : Revision number of Acacia spec. no., refer to Table1

-Supplier Name : Fujikura Asia Ltd.

-MFG Part Number : Fujikura spec. no., refer to Table1

-MFG Date : Manufacturing date

-MFG Name : Fujikura Fiber Optics Vietnam Ltd.

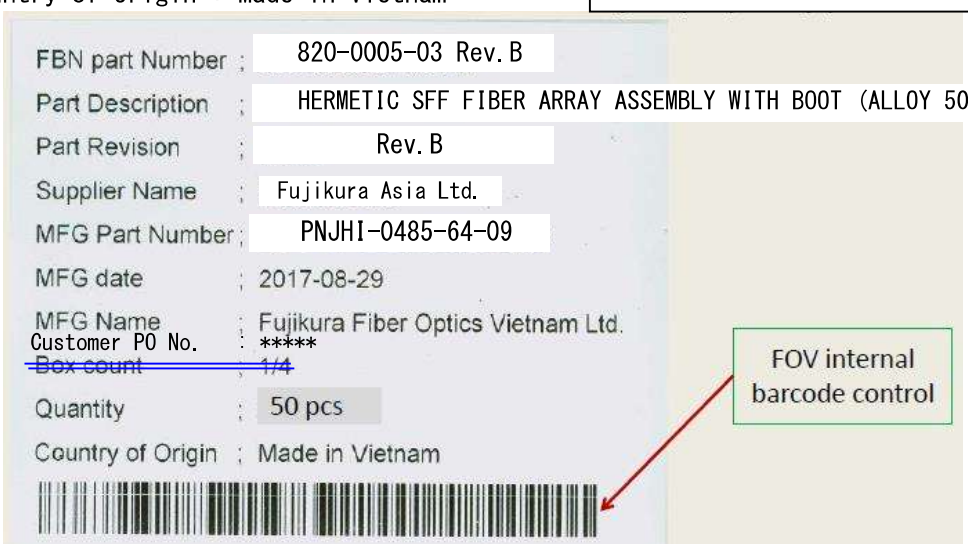
-Customer PO No. : Fabrinet PO number, refer to PO from Fujikura

~~-Box Count : Box # of Total Boxes~~

-Quantity : Quantity in the Box

-Country of Origin : Made in Vietnam

FOV run number for inner box per PO and use barcode for FOV internal control.
Ex 1/15, 2/15, ,, 15/15

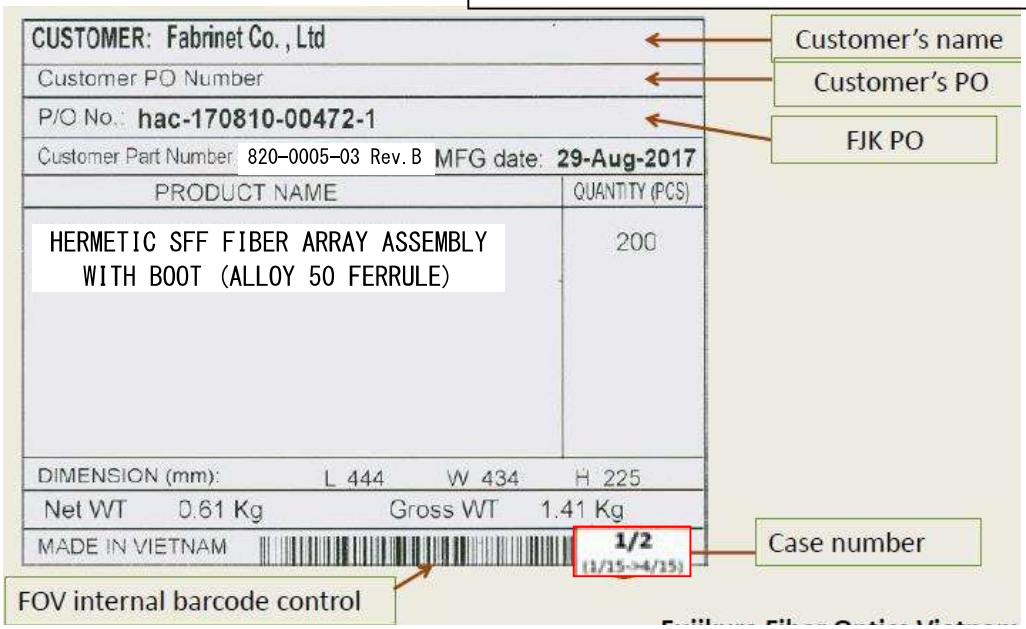


Example of Label

3) Outer Box Label

-Customer Name : Fabrinet Co., Ltd.
-Customer PO Number : Fabrinet PO number, refer to PO from Fujikura
-Product name : Product name, refer to Table1
-Customer Part Number : Acacia spec. no., refer to Table1
-Case Number
-Quantity
-Country of Origin : Made in Vietnam

Running number for each shipment
Add inner box number under outer box number for FOV internal control
Ex. 1/4 ; outer box number
(1/15 -> 4/15) ; inner box number in small letter in a blanket



Example of Label

11.2 Label for Sanmina

Items shown below shall be indicated on labels.

1) Tray cover

Acacia specification no. ; Refer to Table1

Product name : Refer to Table1

Quantity in a tray ; 5 PCS

PART No.: 820-0005-03 Rev.B
Product name : HERMETIC SFF FIBER ARRAY ASSEMBLY WITH BOOT (ALLOY 50 FERRULE)
Q'ty : 5PCS

< sample label >

2) Inner Box label

-Lot number ; Fujikura PO no. - MMDD

MMDD: Originally planned shipping date,

MM: month, DD: day, ex. Aug.29 : "0829"

- Product name : Refer to Table1

-Sanmina part number ; Refer to Table1

-Quantity

-Country of Origin ; Made in Vietnam

Lot Number : FPO210038710-1-0701
Product name : HERMETIC SFF FIBER ARRAY ASSEMBLY WITH BOOT (ALLOY 50 FERRULE)
Part number : LFACM820-0005-03
Quantity : 50

Made in Vietnam

< sample label >

3) Outer Box Label

-Sanmina purchase order number ; Refer to PO from Fujikura

-Lot number ; Fujikura PO no. - MMDD

MMDD: Originally planned shipping date,

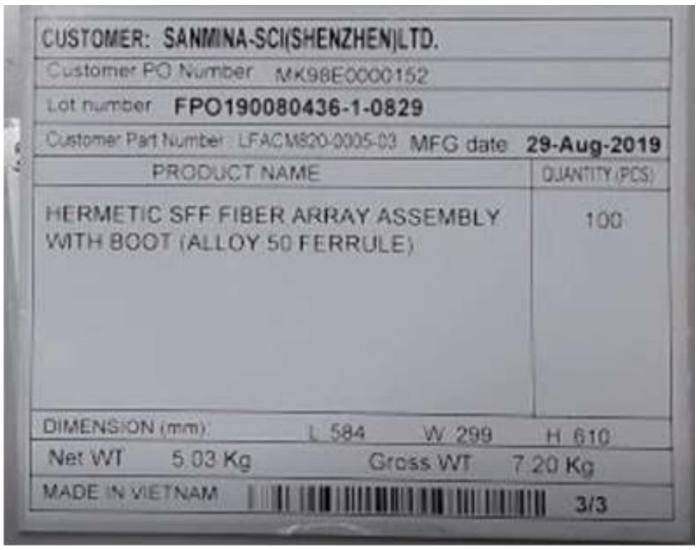
MM: month, DD: day , ex. Aug.29 : "0829"

-Sanmina part number(Customer part number) ; Refer to Table1

-Quantity

-Country of Origin ; Made in Vietnam

-Package count - (Examples: 1 of 5 or 1/5)



Example of Label

12. Certificate of Conformance

12.1 Certificate of Conformance for Fabrinet

CERTIFICATE OF CONFORMANCE(Test report) shall has items shown below.

-Company name ; Fujikura Fiber Optics Vietnam Ltd.

-Fabrinet purchase order number ; Refer to PO from Fujikura

-Fabrinet part number ; Acacia spec. no., refer to Table1

-Lot number

-Quantity

-Date

-Signature

-Format ; Refer to Fig.1 and Fig.2

12.2 RoHS CoC For Fabrinet

Put RoHS CoC (Fig.3) in the first box in every shipping to Fabrinet

12.3 Certificate of Conformance for Sanmina

CERTIFICATE OF CONFORMANCE(Test report) shall ~~be put in each inner box with products, which~~ has items shown below.

-Company name ; Fujikura Fiber Optics Vietnam Ltd.
-Lot number ; Fujikura PO no. - MMDD
MMDD: Originally planned shipping date,
MM: month, DD: day , ex. Aug.29 : "0829"
-Sanmina part number ; Refer to Table1
-Lot number
-Quantity
-Date
-Signature
-Format ; Refer to Fig.1 and Fig.2

12.4 Electric data

Save Certificate of Conformance data to the specific FTP server for Test Report data to CNC, then inform it FS-sho by e-mail.

~~Send PDF file of Test report for Sanmina to the following adress.~~

~~Wataru Kobayashi / Fujikura Ltd.~~
~~Global Telecommunication Sales & Marketing Dept.II~~
~~E-mail: wataru.kobayashi@jp.fujikura.com~~

Send PDF file of Test report for Fabrinet to the following adress

TO FAL mark.zhang@sg.fujikura.com
eunice.lim@sg.fujikura.com
keith.wong@sg.fujikura.com
joyce.ho@sg.fujikura.com

C.C. ~~Wataru Kobayashi/ FJK Sales; wataru.kobayashi@jp.fujikura.com~~
Minoru Watanabe / FJK QA ; minoru.watanabe@jp.fujikura.com
Banchar Kruaboon / FAL Sales Eng. ; banchar.kruaboon@sg.fujikura.com

12.5 Fiber pitch and Fiber parallel data, and Array polished angle data to Acacia

Send Fiber pitch and parallel data, and array polished angle data (8deg. and 90deg.(V-groove side) of all the products shipped out for a month to FAL Mr.Banchar and Fujikura QA with Excel file by e-mail on the last Friday of the month.

-Use one Excel file for one week, one spreadsheet for one shipping(refer to Fig.4)
-E-mail attention:

FAL Mr.Banchar: banchar.kruaboon@sg.fujikura.com
Fujikura QA : Mr.Watanabe : minoru.watanabe@jp.fujikura.com
Mr.Sumida : koji.sumida@jp.fujikura.com

13.Ongoing Reliability Testing (ORT)

To confirm reliability of the products, regurally apply Temp. Cycle and Fiber integrity test to the representative samples from the normal production flow. Minor apperance defect that don't affect the test result, can be acceptable for the samples.

Save the test data to the specific FTP server for Test Report data to CNC, then inform it FS-sho/CNC by e-mail.

Table 4

Item	Conditions	Number of samples	Pass/Fail criteria	Frequency
Temp. Cycle	-40/+85 deg.C (30 min. at each temp./cycle), 100cycles	6pcs	ER ≧ 18dB RL ≧ 50dB ΔIL≦ 0.3dB Leak rate< 3 e- 9 atm･cc/sec	Once in a quorter
Fiber Integrity	1)Staight pull of each fiber, 500g, 1min 2)Twist of each fiber, 500g, 10 cycles from 0° to 90° to −90° to 0°,at 3cm from fixed ferrule	6pcs	ER ≧ 18dB RL ≧ 50dB ΔIL≦ 0.3dB Leak rate< 3 e- 9 atm･cc/sec	Once in a quorter

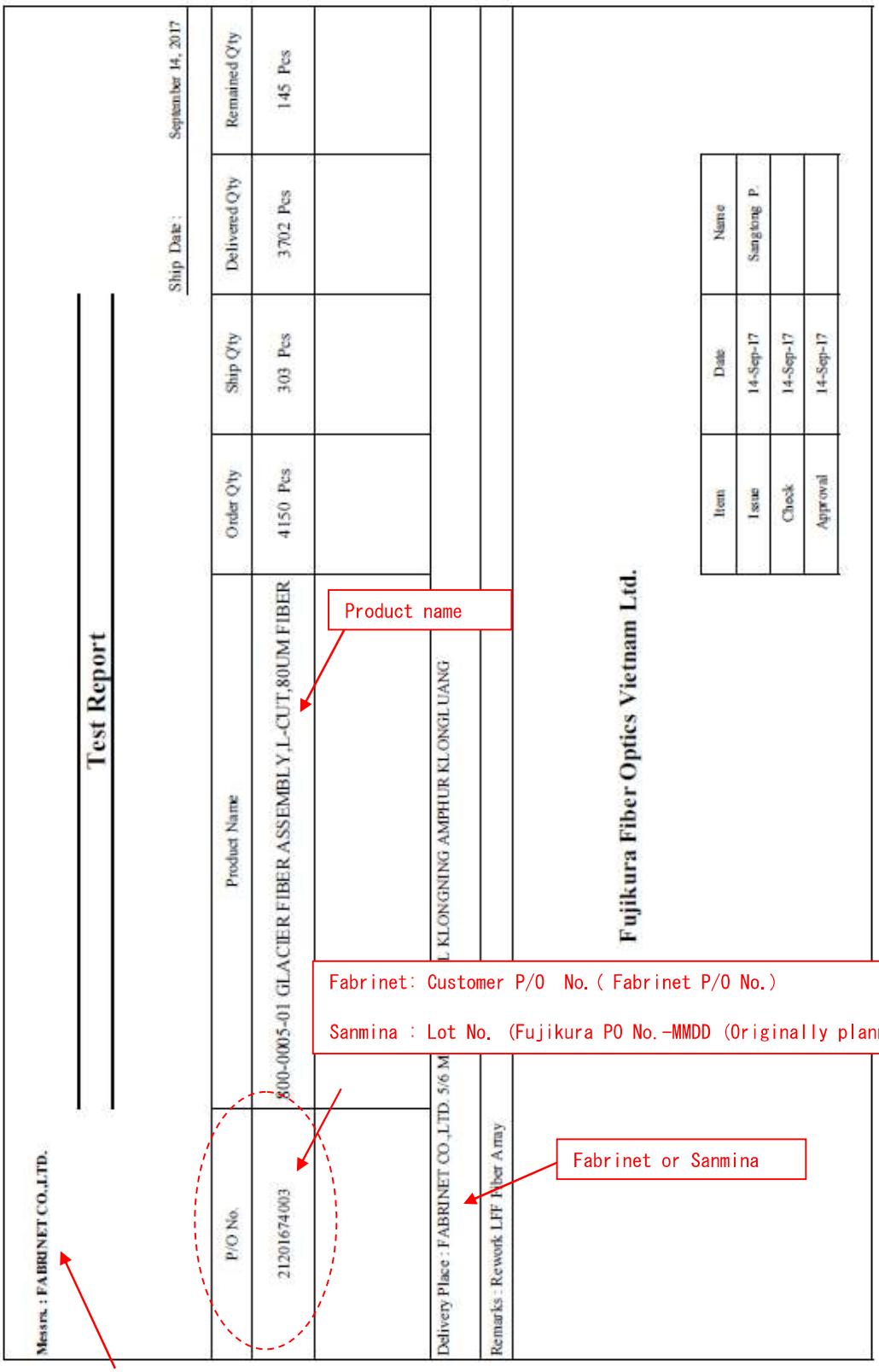
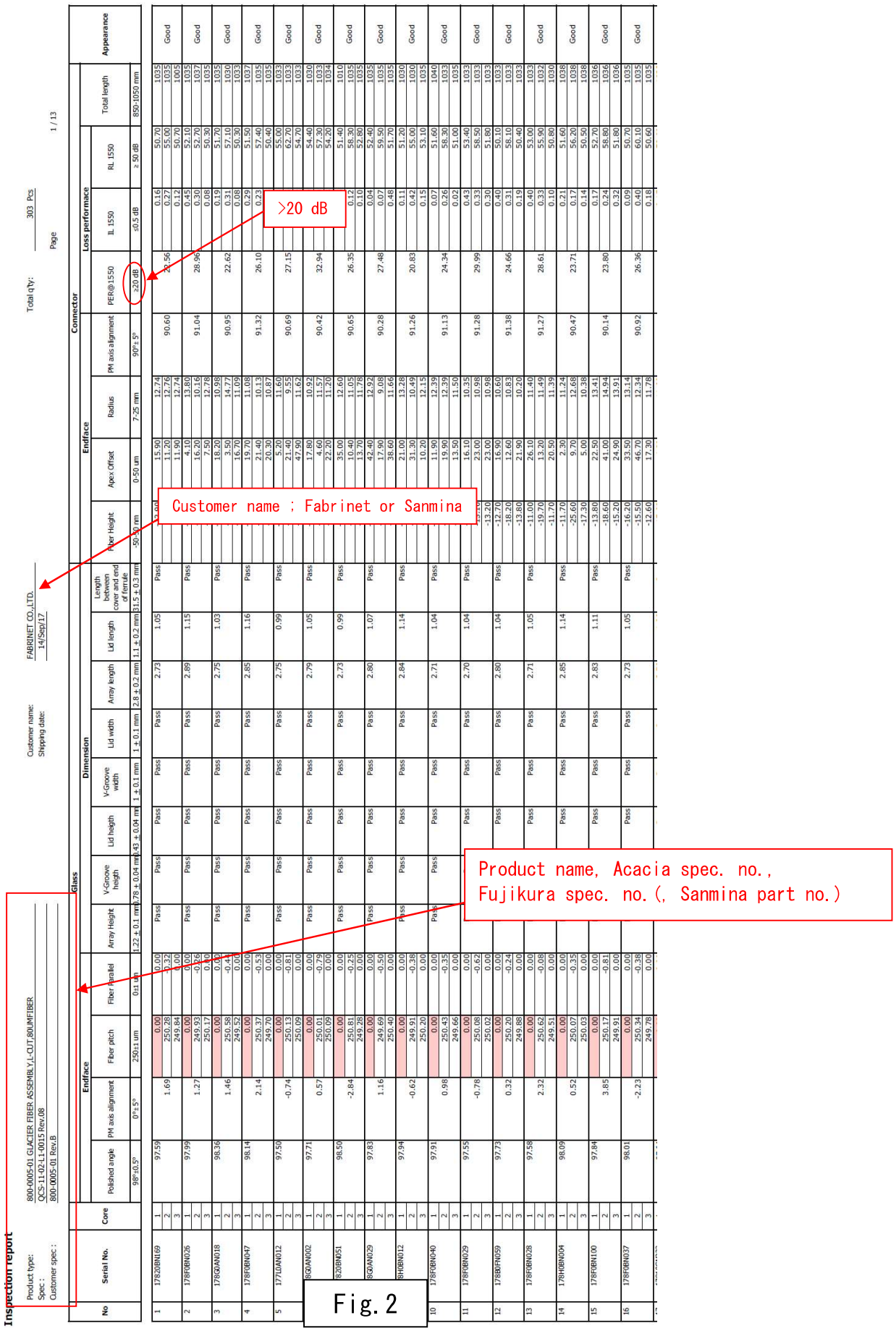

Test Report
Ship Date : September 14, 2017
Messrs. : FABRINET CO.,LTD.
P/O No.
Product Name
Order Q'ty
Ship Q'ty
Delivered Q'ty
Remained Q'ty
21201674003
800-0005-01 GLACIER FIBER ASSEMBLY,L-CUT,80UM FIBER
4150 Pcs
303 Pcs
3702 Pcs
145 Pcs
Delivery Place : FABRINET CO.,LTD. 5/6 M KLONGNING AMPHUR KLONGLUANG
Remarks : Rework LFF Fiber Array
Fujikura Fiber Optics Vietnam Ltd.
Item
Date
Name
Issue
14-Sep-17
Sangtong P.
Check
14-Sep-17
Approval
14-Sep-17
Product name
Fabrinet: Customer P/O No.(Fabrinet P/O No.)
Sanmina : Lot No. (Fujikura PO No.-MMDD (Originally planned Shipping date))
Fabrinet or Sanmina
Customer name : Fabrinet or Sanmina

Fig. 1


Inspection report
Product type:
Spec :
Customer spec :
800-0005-01 GLACIER FIBER ASSEMBLY,1-CUT,80UMFIBER
QCS-11-02-11-0015 Rev.08
800-0005-01 Rev.B
Customer name:
Shipping date:
FABRINET CO.,LTD.
14/Sep/17
Total q'ty:
303 Pcs
Page
1 / 13
Glass
Endface
Dimension
Endface
Connector
Loss performance
Appearance
No
Serial No.
Core
Polished angle
PM axis alignment
Fiber pitch
Fiber Parallel
Array Height
V-Groove height
Lid height
V-Groove width
Lid length
Array length
Lid length
Length between cover and end of ferrule
Fiber Height
Apex Offset
Radius
PM axis alignment
PER@1550
IL 1550
RL 1550
Total length
98°±0.5°
0°±5°
250±1um
0±1 um
1.22 ± 0.1 mm
1.78 ± 0.04 mm
1.43 ± 0.04 mm
1 ± 0.1 mm
1 ± 0.1 mm
2.8 ± 0.2 mm
1.1 ± 0.2 mm
1.5 ± 0.3 mm
50 ±50 nm
0-50 um
7-25 mm
90°± 5°
≥20 dB
≤0.5 dB
≥ 50 dB
850-1050 mm
>20 dB
Customer name ; Fabrinet or Sanmina
Product name, Acacia spec. no.,
Fujikura spec. no.(, Sanmina part no.)
Fig. 2

1440, MUTSUZAKI, SAKURA,
CHIBA 285-8550, JAPAN

TEL. +81-43-484-3972
FAX. +81-43-484-3980

Date: April 2, 2019

Messrs. Fabrinet Co.,Ltd

Dear Sirs,

This official letter is described about certificate for RoHS compliance for following products.

Customer P/N	Fujikura P/N	Product Description	Applicable RoHS Exemption
820-0005-03 Rev. B	PNJHI-0485-64-09	HERMETIC SFF FIBER ARRAY ASSEMBLY WITH BOOT	6(c) 7(c)-I

Regarding the management of environment, we Fujikura Ltd. represent and warrant that above products which we supply to you does not include any of the following prohibited hazardous ingredients in accordance with RoHS Directive 2011/65/EU and Directive 2015/863/EU:

a) Cadmium(Cd)
b) Lead(Pb)
c) Hexavalent chromium(Cr Vl)
d) Mercury(Hg)
e) Polybrominated Biphenyls(PBB)
f) Polybrominated Diphenyl Ethers(PBDE)
g) Di-(2-ethylhexyl)phthalate(DEHP) (CAS No. 117-81-7)
h) Benzyl butyl phthalate(BBP) (CAS No. 84-74-2)
i) Di-n-butylphthalate(DBP) (CAS No. 85-68-7)
j) Diisobutyl Phthalate(DIBP) (CAS No. 84-69-5)

Sincerely,

Chisato Kikuchi

Manager,
Optical Fiber Systems Quality Assurance Department,
Quality Assurance Center,
Power & Telecommunication Systems Company,
Fujikura Ltd.

Fig. 3

Inspection report of Fiber pitch & Fiber Parallel

Product type:	HERMETIC SFF FIBER ARRAY ASSEMBLY WITH BOOT (ALLOY 50 FERRULE)	Customer name:	Fabrinet Co.,Ltd.
Spec:	PNJHI-0485-64-09	Shipping date:	16-May-19
Customer spec:	820-0005-03Rev.B	Total q'ty:	100
~~PO:~~	~~FPO1900249791~~		
Total judgement	Good		

Lot No. (Fujikura PO No.-MMDD (Originally planned shipping da

No	Serial No.	Core	Fiber pitch	Fiber Parallel	Judgement
			250±1 um	0±1 um	
1	A190500001	1	0.00	0.00	Good
		2	250.14	0.00	
		3	249.86	0.00	
2	A190500002	1	0.00	0.00	Good
		2	249.98	-0.11	
		3	250.04	0.00	
3	A190500003	1	0.00	0.00	Good
		2	249.82	-0.02	
		3	250.19	0.00	
4	A190500004	1	0.00	0.00	Good
		2	249.93	-0.10	
		3	250.10	0.00	
5	A190500005	1	0.00	0.00	Good
		2	250.15	-0.51	
		3	249.86	0.00	
6	A190500006	1	0.00	0.00	Good
		2	250.15	-0.21	
		3	249.87	0.00	
7	A190500007	1	0.00	0.00	Good
		2	250.43	0.26	
		3	249.59	0.00	
8	A190500008	1	0.00	0.00	Good
		2	250.47	-0.10	
		3	249.54	0.00	
9	A190500009	1	0.00	0.00	Good
		2	250.22	-0.33	
		3	249.80	0.00	
10	A190500010	1	0.00	0.00	Good
		2	249.93	0.14	
		3	250.08	0.00	
11	A190500011	1	0.00	0.00	Good
		2	249.98	-0.01	
		3	250.04	0.00	
12	A190500012	1	0.00	0.00	Good
		2	250.06	-0.28	
		3	249.94	0.00	
13	A190500013	1	0.00	0.00	Good
		2	250.05	-0.50	
		3	249.96	0.00	
14	A190500014	1	0.00	0.00	Good
		2	250.30	-0.12	
		3	249.70	0.00	
15	A190500015	1	0.00	0.00	Good
		2	250.42	-0.04	
		3	249.63	0.00	
16	A190500016	1	0.00	0.00	Good
		2	249.76	0.11	
		3	250.24	0.00	
17	A190500017	1	0.00	0.00	Good
		2	250.01	-0.62	
		3	250.04	0.00	
18	A190500018	1	0.00	0.00	Good
		2	249.90	0.08	
		3	250.12	0.00	
19	A190500019	1	0.00	0.00	Good
		2	249.84	-0.73	
		3	250.18	.00	
20	A190500020	1	0.00	.00	Good
		2	249.62	.50	
		3	250.40	0.00	

Fig. 4

添付資料

~~Appendix A~~

~~・820-0005-03 Rev.A~~

~~・PNJHI-0485-64-06A~~

~~PNJHI-0485-72-01~~

Rev.	Date	Description	Reason	Issued	Checked	Approved
-	MAR.19, 2019			Sawada	Shida	Hanya
A	2019. 4.8	-Changed product name in accordance with Acacia drawing -Added Acacia drawing no. to Table1 -Changed revision of Fujikura specification -Added 1.3 Drawing for manufacturing, changed CPAS4-215A4 to PNJHI-0485-72-01 -Changed spec. for glass sealing Alignment; 87.5um +/-40um --> 87.5um +/-25um Glass solder depth; more than 80% --> more than 60% Voids/Airbubbles; changed totally -Added 10.Inspection items -Changed name of lable on Table2, TT727 --> TT327	-Customer drawing was issued, officially - Reviewed of internal spec. -Maker changed the name of label	Sawada	Uenoyama	Hanya
B	2019. 4.26	-Changed "10.Inspection items" to "3.Product specification" -Deleted Test method and Inspection from Table4 -Momved "3. 3)X-ray photo" , "6.Leak Test" "9.Fiber Appearance Inspection" to 8.Inspection	-	Sawada	Araki	Hanya
C	2019. 5.27	-Added 12.4 Fiber pitch and Fiber parallel data to Acacia -Added Fig.4	-Customer request	Sawada	Araki	Uenoyama
D	2019. 8.22	-Changed criteria for voids in glass solder -Changed leak test procedure	-Reviewed criteria -Reduced leak test time	Sawada	Araki	Uenoyama

Rev.	Date	Description	Reason	Issued	Checked	Approved
E	2019. 8.30	-Added Sanmina part no. to Table1 -Added 11.2 Label for Sanmina -Added 12.3 Certificate of Conformance for Sanmina -Added Array polished angle to 12.4	-Customer request	Sawada	Araki	Hanya
F	2019. 9.30	9.Packing 1) Added"It is allowed to set fibers in the 8th slot if fiber length is too short for 9th slot"	-Countermeasure for the packing trouble of short fibers	Sawada	Araki	Hanya
G	2019. 11.19	Table2 -Changed model of LC connector parts -Added spec. no. for Hytrel tube -Changed definition of Lot no. to Sanmina MMDD: shipping date -->MMDD: originally planned shipping date -Discontinue printed test report (CoC) attachment to the products for Sanmina	-Customer request, EOL of boot material, Cost down (生産条件変更申請書JEHI-58-19-0027) -Updated - To avoid re-making labels and documents in case of shipping schedule change -Cost down	Sawada	Araki	Hanya
H	2019. 11.28	Table2 -Changed revision of the drawing for LC connector(P) and Ferrule unit LC(P)B. CPAI1-006H → CPAI1-006I CPAI2-036D → CPAI2-036E -Added 13.Ongoing Reliability Testing (ORT)	-Updated -Customer request	Sawada	Araki	Hanya

Rev.	Date	Description	Reason	Issued	Checked	Approved
1	2020. 9.17	-Changed document no. from PNJHI-0485-25-08H to SPPU-10383(1) -Changed box count/case no. on the box label for Fabrinet -Changed test report to Fabrinet -Changed UV adhesive for fiber array from World Rock 8776NL5 to World Rock 8776NL5F -Revised drawing PNJHI-0485-72-01 → PNJHI-0485-72-01A	-CNC document control system changed -Customer request (ref.JEHI-53-20-0004(2)) -EOL of World Rock 8776NL5 (ref. JEHI-53-2 0-0006) -Specified the minimum lid length	Sawada	Araki	Hanya
2	2020. 10.20	-12.4 Electric data Canceled sending Test Report PDF file to Fujikura Sales.	-Because FS-sho issue C oC based on FOV TR, and the sales send the CoC to Sanmina instead of FOV TR.	Sawada	Araki	Hanya
3	2020. 11.17	-Changed Appearance criteri a AppendixA -> RQAP-00005 -Changed microscope magnifi cation for Fiber appearanc e inspection 20x -> 25x	-JE-58-20-1024	Sawada	Araki	Hishikawa
4	2022. 3.9	Table-2 item 20,21 Pink sponge size change 9.Packing Added photo of new packing method Table-2 Revised drawing 3CH array Registered OBL DRPT-10953 Table-4 PER changed from ≧20dB to >20dB. (not include '=') Page 17/19 Test report format shall be changed from ≧20dB to >20dB.	Packing method change Make clear applied to preventive action of fiber damage. Approved 4M change JE-58-20-1030 Make clear tolerance Of Angle Correction Apply to customer spec	Araki	Sawada	Hishikawa

Rev.	Date	Description	Reason	Issued	Checked	Approved
5	2022. 6.13	10.1 label for Sanmina (1) tray label (2) inner box label Added product name 10.2 label for Fabrinet (1) tray label Added product name	Request from Vietnam custom mention production description or product name to inner packing	Araki	Sawada	Hishikawa
6	2024. 3.14	[1]Changed 820-0005-03Rev.A to Rev.B in the spec. [2]Added note in table1 [3]Changed DRAS-12911(1)/ PNJHI-0485-72-01A to DRAS-12911(2)/PNJHI-0485-72-01B in the spec. [4]Changed PNJHI-0485-64-06A to PNJHI-0485-64-09 in spec.	[1]For Revision of cusotmer spec. [2]To clearly state customer agreements during last-buy manufacturing. [3][4]For Change of FJK spec.(to cusotmer) . (Changed color marking on fiber to Laser marking on boot.)	Nakane	Araki	Hishikawa
7	2024. 3.27	[1]Changed DRAS-12911(2)/ PNJHI-0485-72-01B to DRAS-12911/PNJHI-0485-72-01 (Latest version) in the spec.	[1] The drawings have been revised to correct errors. Changed the expression so that SPPU does not need to be revised every time the drawing is revised.	Nakane	Araki	Hishikawa