

Note:  
ROHS 3.0 AND REACH Compliant

Test:

|  |                           |               |
|--|---------------------------|---------------|
| Test Grade Designation:Each to Reference |                           |               |
| Grade IL/RL                              | IEC61753 Grade B          |               |
| Insertion Loss (IL)                      | 97%≤0.25dB<br>mean≤0.12dB | IEC 61300-3-4 |
| Return Loss (RL)                         | ≥50dB                     | IEC 61300-3-6 |
| Test Wavelength                          | 1310nm                    | Single-Mode   |
| End face inspection                      | ×400                      |               |

MATERIAL LIST:

|    |  |       |        |
|----|--|-------|--------|
| ⑧  | Fiber Optical Cable Duplex $\phi$ 2.0 OS2 G652.D 9/125um Yellow LSZH | L     |        |
| ⑦  | Black Heat shrink tubing   | 2     |        |
| ⑥  | Ring 1, 2  | 4     |        |
| ⑤  | LC White Boot  | 4     |        |
| ④  | LC blue Clip   | 2     |        |
| ③  | LC 2.0 SM Blue Duplex Connector                                      | 4     |        |
| ②  | LC/UPC SM Ferrule $\phi$ 125-126um                                   | 4     |        |
| ①  | LC White Dust cap  | 4     |        |
| NO | SPECIFICATION STANDARD   | QT' Y | REMARK |

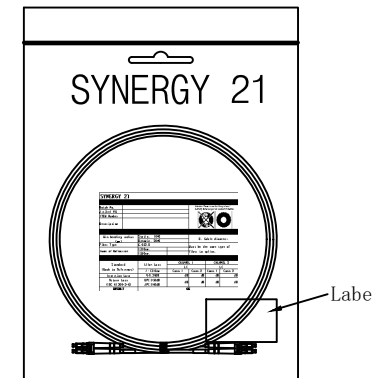
|              |  |                     |            |          |               |  |  |
|--------------|--|---------------------|------------|----------|---------------|--|--|
| SYNERGY 21   |  |                     |            |          |               |  |  |
| CUSTOMER     |  |                     |            | ITEM NO. | See the chart |  |  |
| PRODUCT NAME | LC/UPC-LC/UPC OS2 9/125um Duplex LSZH Patch cord | Manufacture country | CHINA      | UNIT     | MM            |  |  |
| DRAWNBY      | CHECKBY  | APPOBY              | DATE       |          |               |  |  |
| SYNERGY 21   | SYNERGY 21                                       | SYNERGY 21          | 2017-10-15 |          |               |  |  |

|    |     |                                |            |      |
|----|-----|--------------------------------|------------|------|
|    |     | Changed the ring number to 1,2 | 2022-11-1  | A2   |
|    |     | Update test data               | 2022-4-06  | A1   |
|    |     | NEW                            | 2017-10-15 | A    |
| BY | CHK | REVISION RECORD MODIFICATIONS  | DATE       | REV. |

chart:

| NO. | ITEM NO. | LENGTH. | color  | EAN Nummer    | PACKING          |
|-----|----------|---------|--------|---------------|------------------|
| 1   | S216746  | 0.5M    | Yellow | 4038816068842 | SYNERGY 21 BAG A |
| 2   | S216747  | 1M      | Yellow | 4038816147608 | SYNERGY 21 BAG A |
| 3   | S216748  | 1.5M    | Yellow | 4038816068866 | SYNERGY 21 BAG A |
| 4   | S216749  | 2M      | Yellow | 4038816068873 | SYNERGY 21 BAG A |
| 5   | S216750  | 3M      | Yellow | 4038816068880 | SYNERGY 21 BAG B |
| 5   | S216751  | 5M      | Yellow | 4038816068910 | SYNERGY 21 BAG B |
| 5   | S216752  | 7.5M    | Yellow | 4038816147615 | SYNERGY 21 BAG B |
| 5   | S216753  | 10M     | Yellow | 4038816068927 | SYNERGY 21 BAG B |

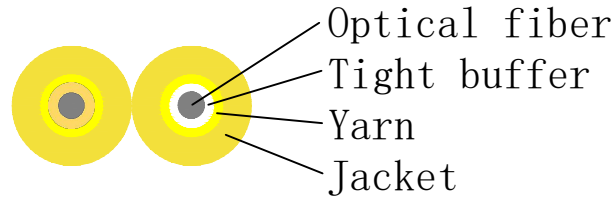
PACKING DRAW



PACKING:SYNERGY 21 PE BAG+LABEL

| SYNERGY 21   |     |                                   |            |  |            |                     |      |               |         |
|--------------|-----|-----------------------------------|------------|--|------------|---------------------|------|---------------|---------|
| CUSTOMER     |     |                                   |            |  |            | ITEM NO.            |      | See the chart |         |
| PRODUCT NAME |     |                                   |            | LC/UPC-LC/UPC OS2 9/125um Duplex LSZH Patch cord |            | Manufacture country |      | CHINA         | UNIT MM |
| DRAWNBY      |     |                                   | CHECKBY    |  |            | APPOBY              |      | DATE          |         |
| SYNERGY 21   |     |                                   | SYNERGY 21 |  |            | SYNERGY 21          |      | 2017-10-15    |         |
| BY           | CHK | NEW REVISION RECORD MODIFICATIONS |            |  | 2017-10-15 | A                   | DATE | REV.          |         |

### Cable cross-section



G652D Characteristic of Optical Fiber

| Item                                    |                                   | Unit                      | Specification |
|---|-----------------------------------|---------------------------|---------------|
|   |                                   |                           | G. 652D       |
| Mode field diameter                     | 1310nm                            | μm                        | 9.2 ± 0.4     |
|   | 1550nm                            | μm                        | 10.4 ± 0.5    |
| Cladding diameter                       |                                   | μm                        | 124.3~125.0   |
| Cladding non-circularity                |                                   | %                         | ≤1.0          |
| Core concentricity error                |                                   | μm                        | ≤0.5          |
| Coating diameter                        |                                   | μm                        | 245 ± 5       |
| Coating/cladding concentricity error    |                                   | μm                        | ≤10           |
| Cable cut-off wavelength                |                                   | nm                        | ≤ 1260        |
| Attenuation Coefficient                 | 1310nm                            | dB/km                     | ≤0.35         |
|   | 1550nm                            | dB/km                     | ≤0.21         |
| Macro-bend loss (100 turn, 60mm radius) | 1550nm                            | dB                        | ≤0.03         |
|   | 1625nm                            | dB                        | ≤0.05         |
| Proof stress level                      |                                   | kpsi                      | 100           |
| PMD                                     | Maximum Individual Fiber          | ps/√km                    | ≤0.2          |
|   | Link Design Value (M=20, Q=0.01%) | ps/√km                    | ≤0.1          |
| Effective group index of refraction     | 1310nm                            | /                         | 1.4672        |
|   | 1550nm                            | /                         | 1.4683        |
| Zero dispersion wavelength              |                                   | nm                        | 1300~1324     |
| Zero dispersion slope                   |                                   | ps/(nm <sup>2</sup> · km) | ≤0.091        |
| Zero dispersion slope typical value     |                                   | ps/(nm <sup>2</sup> · km) |               |

Other parameters meet standard ITU-T G.652D

Cable structure and parameter

| Item                   | Contents   | Unit    | Value  |                     |
|------------------------|------------|---------|--|---------------------|
| Tight buffer fiber     | Diameter   | mm      | 0.9±0.05   |                     |
|                        | Material   | /       | LSZH   |                     |
| Filler                 | Material   | /       | Yarn   |                     |
|                        | Diameter   | mm      | 2.0(±0.1)×4.1(±0.2)  | 3.0(±0.1)×6.1(±0.2) |
| Outer jacket           | Material   | /       | LSZH   |                     |
|                        | Color      | /       | SM: Yellow<br>OM1/OM2: Orange<br>OM3:Aqua<br>OM4:Violet                          |                     |
| Tensile performance    | Short term | N       | Cable OD:1.2(±0.1)mm; 1.6(±0.1)mm  | 30                  |
|                        |            |         | Cable OD:3.0(±0.1)*6.0(±0.2)mm;<br>2.0(±0.1)*4.0(±0.2)mm                         | 40                  |
|                        | Long term  | N       | Cable OD:1.2(±0.1)mm   | 20                  |
|                        |            |         | Cable OD:1.6(±0.1)mm<br>Cable OD:3.0(±0.1)*6.0(±0.2)mm;<br>2.0(±0.1)*4.0(±0.2)mm | 40                  |
| Crush                  | Short term | N/100mm | Cable OD:1.2(±0.1)mm   | 200                 |
|                        |            |         | Cable OD:1.6(±0.1)mm;3.0(±0.1)*6.0(±0.2)mm;<br>2.0(±0.1)*4.0(±0.2)mm             | 500                 |
| Crush                  | Long term  | N/100mm | Cable OD:1.2(±0.1)mm;1.6(±0.1)mm   | 100                 |
|                        |            |         | Cable OD:3.0(±0.1)*6.0(±0.2)mm;<br>2.0(±0.1)*4.0(±0.2)mm                         | 200                 |
| Cable attenuation      |            | dB/km   | SM: ≅ 0.4 at 1310nm, ≅ 0.3 at 1550nm<br>MM: ≅ 1.0 at 1300nm, ≅ 3.0 at 850nm      |                     |
| Cable weight (Approx.) |            | kg/km   | 7.3  | 13.5                |

### SYNERGY 21

|    |     |                               |            |     |              |                   |                     |               |      |    |
|----|-----|-------------------------------|------------|-----|--------------|-------------------|---------------------|---------------|------|----|
|    |     |                               |            |     | CUSTOMER     |                   | ITEM NO.            | see the chart |      |    |
|    |     |                               |            |     | PRODUCT NAME | Fiber optic cable | Manufacture country | CHINA         | UNIT | MM |
|    |     | NEW                           | 2021-11-08 | A   | DRAWNBY      | CHECKBY           | APPOBY              | DATE          |      |    |
| BY | CHK | REVISION RECORD MODIFICATIONS | DATE       | REV | SYNERGY 21   | SYNERGY 21        | SYNERGY 21          | 2021-11-08    |      |    |