

JIS

JAPANESE INDUSTRIAL STANDARD

**F07 Type Connectors for
Optical Fiber Cords**

JIS C 5976—1990

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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F07 Type Connectors for Optical Fiber Cords

C 5976-1990

1. Scope

This Japanese Industrial Standard specifies, based on JIS C 5962, F07 type connectors for optical fiber cords (hereafter referred to as the "optical connectors") which are applicable to the plastic cladding multimode optical fibers, multicomponent glass multimode optical fibers and all plastic multimode optical fibers, that are mainly used in a device, between devices and between floors.

Remarks 1. F07 type optical connectors are employing two push-on engagement systems i.e. lever-lock mechanism or friction-lock mechanism, and also the following systems:

- (1) Optical engagement system: butt joint system
- (2) Mechanical engagement system: plug-adapter-plug system
- (3) Optical fiber array system: ferrule system (outside diameter 2.5 mm)

The plugs have two kinds of construction i.e. lever-lock and friction-lock, and the adapters are so constructed that they are applicable to the plugs of two kinds.

2. The units and numerical values given in { } in this Standard are based on the traditional unit system and are currently the criteria in force.

2. Definitions

For the main terms used in this Standard the definitions in JIS C 5962 apply, and the rest of the terms shall be as follows:

- (1) lever-lock mechanism Such a mechanism that the adapter and the plug are engaged and locked by insertion of the plug into the adapter, and they are separated by withdrawal of the plug while releasing the lock by pressing the lock lever attached to the plug.
- (2) friction-lock mechanism Such a mechanism that the adapter and the plug are engaged and locked by insertion of the plug into the adapter, and they are separated, due to release of the lock, when the plug is withdrawn at a prescribed force or more.

Applicable Standards:

JIS C 5961-Test Methods for Connectors for Optical Fiber Cords

JIS C 5962-General Rules of Optical Connectors for Glass Fiber Cords

JIS C 6820-General Rules of Optical Fibers

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3. Structure of Type Designation

The structure of type designation shall be as specified in 3.1 of JIS C 5962.

4. Classification and Grading

4.1 Classification Optical connectors are classified as given in Table 1 (expressed by type designation)

Table 1. Classification of Optical Connector

Type designation	Shape of optical connector	Shape of ferrule array	Grade	Type designation of applicable optical fiber cord (see JIS C 6820)	Shape and dimension
CNF07PAL	Adapter	F-F	L	—	Attached Fig. 1
CNF07PAN			N		
CNF07SPM310L41 ⁽¹⁾	Plug	M	L	OFC4.4-Y-RSI-200/300	Attached Fig. 2
CNF07SPM1.0N42 ⁽²⁾			N	OFC4.4-PSI-980/1000	Attached Fig. 3
CNF07SPM1.0Q43 ⁽³⁾			Q		Attached Fig. 4

Notes ⁽¹⁾ Optical connector with lever-lock mechanism applicable to plastic cladding multimode optical fiber (see Attached Fig. 2)

⁽²⁾ Optical connector with lever-lock mechanism applicable to all plastic multimode optical fiber (see Attached Fig. 3)

⁽³⁾ Optical connector with friction-lock mechanism applicable to all plastic multimode optical fiber (see Attached Fig. 4).

4.2 Grading Optical connectors are graded as follows:

(1) Adapter Adapters are graded as given in Table 2.

Table 2. Grading of Adapter

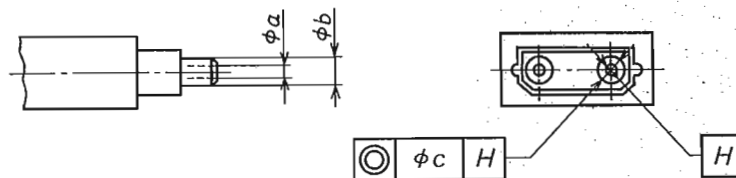
Grade	Insertion loss dB(⁴)	
	OFC4.4-Y-RSI-200/300	OFC4.4-PSI-980/1000
L	2.0 max.	—
N	—	2.0 max.

Note ⁽⁴⁾ The value when this component is connected with the master optical connector is shown.

(2) Plug Plugs are graded as given in Table 3.

Table 3. Grading of Plug

Grade	Insertion loss dB ⁽⁴⁾		Dimension of ferrule mm		
	OFC4.4-Y-RSI-200/300	OFC4.4-PSI-980/1000	Tolerance on dimension <i>a</i>	Dimension <i>b</i>	Dimension <i>c</i>
L	2.0 max.	—	± 0.01	$2.5 \begin{smallmatrix} 0 \\ -0.01 \end{smallmatrix}$	0.02 max.
N	—	2.0 max.	± 0.01	$2.5 \begin{smallmatrix} 0 \\ -0.01 \end{smallmatrix}$	0.02 max.
Q	—	3.0 max.	$\begin{smallmatrix} +0.05 \\ -0.01 \end{smallmatrix}$	$2.5 \begin{smallmatrix} 0 \\ -0.08 \end{smallmatrix}$	0.1 max.



5. Construction

The construction, shapes and dimensions of the engagement parts of optical connectors shall be as given in Figures 1 to 3. The dimensions of individual connector shall be as given in Attached Figures 1 to 4 specified in Table 1. If dimensions of the same part are specified in Figure 1 to 3 and Attached Figures 1 to 4, Attached Figures 1 to 4 preceed.

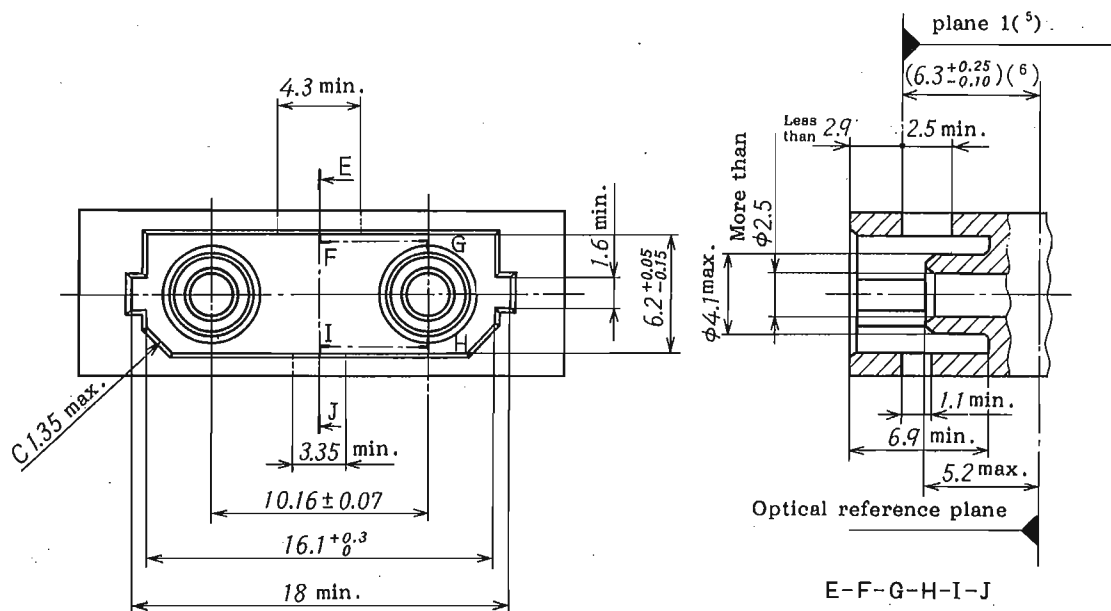
The dimensions of metal parts are those after surface treatment.

The construction and shape of the part for which no dimension is specified are exemplified as an informative reference.

The tolerances on the part for which dimensional tolerances are not specified shall be as specified in 4.1 of JIS C 5962.

Fig. 1. Engaging Part of Optical Connector (Adapter)

Unit: mm

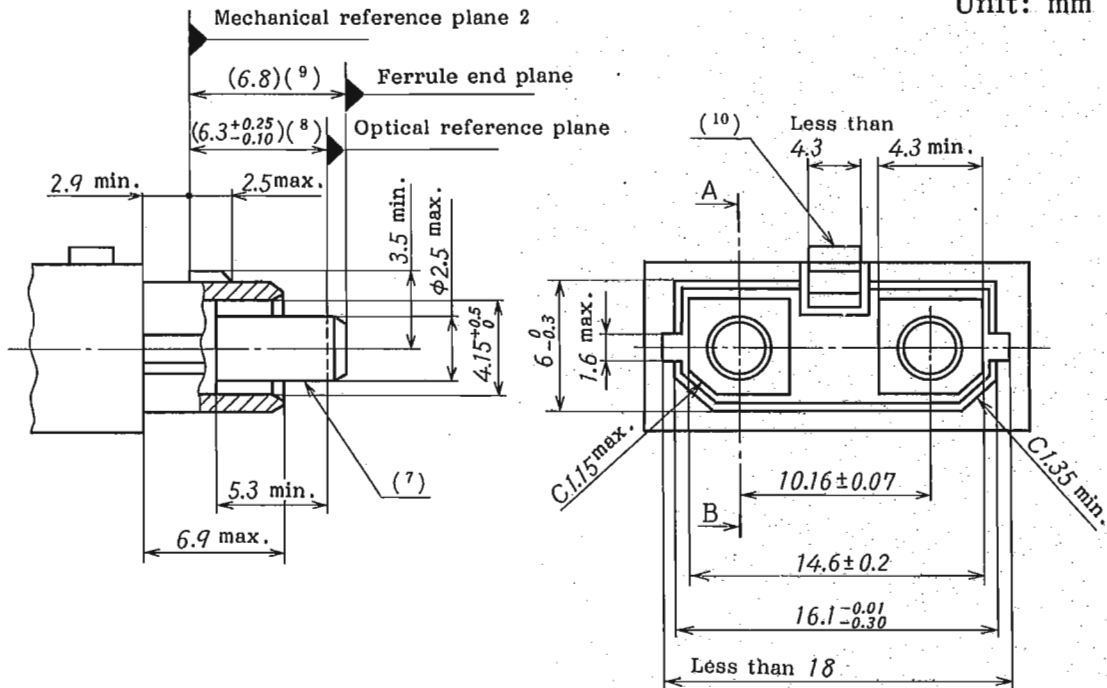


Notes (5) The mechanical reference plane 1 is the plane which corresponds to the mechanical reference plane 2 of plug engagement part (see Fig. 2) and the mechanical reference plane 3 of plug engagement part (see Fig. 3.).

(6) This dimension is the designed distance from the mechanical reference plane to the ferrule end plane in adapter under optically connected state engaged with the plug, and is not the subject of measurement.

Fig. 2. Engaging Part of Optical Connector (Plug) Lever-lock Type

Unit: mm



Notes (7) The ferrule shall be so constructed that it can move to the left in this figure against the elastic force.

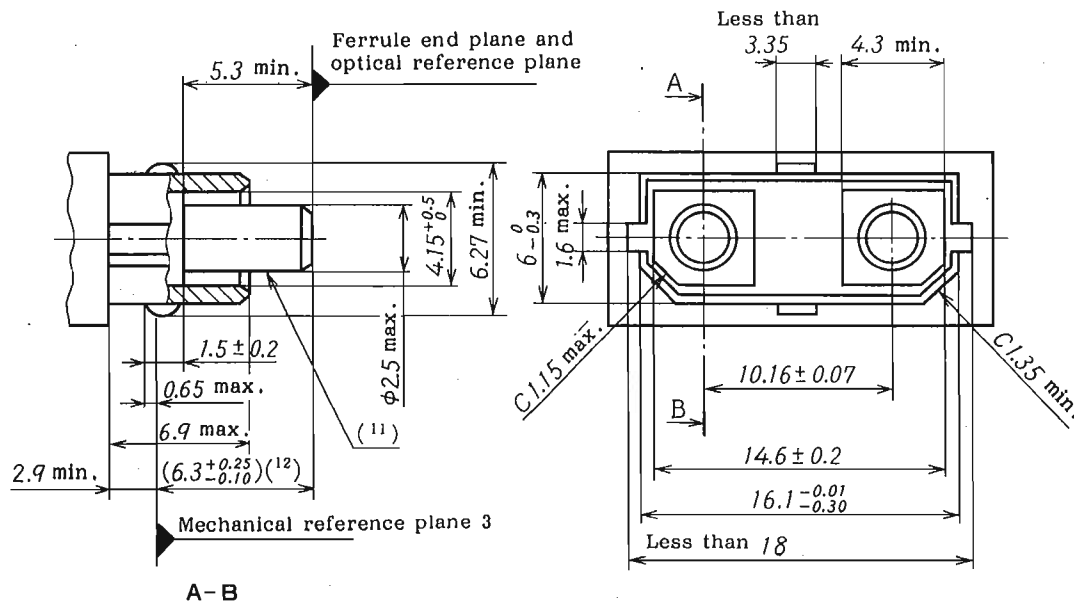
(8) This dimension is the designed distance from the mechanical reference plane to the ferrule end plane under optically connected state engaged with the mate optical connector, and is not the subject of measurement.

(9) This dimension is the minimum necessary dimension after grinding of ferrule end plane and is not the subject of measurement.

(10) This indicates the lever.

Fig. 3. Engaging Part of Optical Connector (Plug) Friction-lock Type

Unit: mm



Notes (¹¹) The ferrule shall be so constructed that it can not deviate.

(¹²) This dimension is the designed distance from the mechanical reference plane to the ferrule end plane under optically connected state engaged with the mate optical connector and is not the subject of measurement.

6. Performances

The performances shall be as given in Table 4.