

## Optical Connector Performance

Connector Type	MU-Type Plug MU-Type Adaptor			
Item number	[Plug] LGC-PH60( ), LGC-2PH60( ), F2PH60( ) [Adaptor] LGC-A6( ), LGC-2A6( ), LGC-F2A6( ), LGC-4A6( ), LGC-8A6( ), LGC-16A6( )			
Quotation standard	JIS C5983 F14 Type Connectors for Optical Fiber Cables			
Classification		Test item	Requirement condition	Test method (JIS C 5961-1997)
	No.			
Structure	1	Appearance, Construction and Dimensions	Accordance to production drawing and quotation standard.	4. and 5.
	2	Fitting	Engagement without mechanical abnormality.	4.
Optical performance	3	Insertion Loss	Single mode optical fiber Ins. : $\leq 0.5\text{dB}$ (Plug) Ins. : $\leq 0.4\text{dB}$ (Adaptor) Graded index multi mode optical fiber Ins. : $\leq 0.3\text{dB}$ (Plug) Ins. : $\leq 0.3\text{dB}$ (Adaptor)	6.1 ·Kind of light source : Single-mode optical fiber : G Wavelength : $1.3\mu\text{m}$ LD ·Measuring method : 4 (Plug) ·Measuring method : 5 (Adaptor)
	4	Reflection Attenuation	Reflection : $\geq 25\text{dB}$ (PC Polishing Plug) Reflection : $\geq 40\text{dB}$ (AdPC Polishing Plug)	6.2 ·Wavelength : $1.3\mu\text{m}$ LD
Mechanical performance	5	Vibration		7.1 ·Vibration frequency range : 10~55Hz ·Amplitude(one side) : 0.75mm ·Axis : X,Y,Z 3 axes
	6	Shock	·Ins. loss after test : $\leq 0.5\text{dB}$ ·Reflection after test : $\geq 40\text{dB}$ ·There shall be no physical or mechanical damage to the connector.	7.2 ·Peak acceleration : $981\text{m/s}^2$ ·Test condition : 10 times in each X,Y,Z 3 axes
	7	Repetitive Operation (Plug engagement and disengagement)		7.3 ·Operation times : 500 times
	8	Gauge Retension Force	Retension force : 1.0~2.5N	7.4 ·Detail of gauge : $\phi 1.249 \pm 0.0005\text{mm}$
	9	Ferrule Thrust	Thrust : 5.5~6.5N	7.5
	10	Engagement and Separation Force (When simplex plug)	Engagement and Separation force : Single-ports : $\leq 20\text{N}$ 2-ports : $\leq 30\text{N}$	7.13
11	Robustness of Connection at Joint	Robustness of connection at joint : $\geq 68.6\text{N}$	7.6 (When simplex plug and duplex adaptor)	
12	Fibre cable retention		7.11 ·Tensile force : 70N (When simplex plug and duplex adaptor)	
13	Robustness of Optical Fiber Cord (Bending)	·Ins. loss after test : $\leq 0.5\text{dB}$ ·Reflection after test : $\geq 40\text{dB}$ ·There shall be no physical or mechanical damage to the connector.	7.12 ·Tensile force : 5N , $\pm 90^\circ$ ·Operation times : 100 times (When simplex plug and duplex adaptor)	

Classification	Test item		Requirement condition	Test method (JIS C 5961-1997)			
	No.						
Environmental performance	14	Salt mist	·There shall be no corrosion to the connector.  ·Ins. loss after test : $\leq 0.5\text{dB}$ ·Reflection after test: $\geq 40\text{dB}$ ·There shall be no physical or mechanical damage to the connector.	8.1 ·Test duration : 48h ·Concentration : $5 \pm 1\%$			
	15	Change of Temperature		8.2 ·Temperature : $-25 \sim 70^\circ\text{C}$ ·Class of Test : Nb ·Test duration : 1.5h/cyc. ,100cyc.			
	16	Humidity (cyclic)		8.4 ·Temperature : $-10 \sim 25 \sim 65^\circ\text{C}$ ·Humidity : $93 \pm 3\%$ ·Test duration : 24h/cyc. ,20cyc.			
	17	Dry Heat		8.5 ·Temperature : $85^\circ\text{C}$ ·Test duration : 240h			
	18	Cold		8.6 ·Temperature : $-25^\circ\text{C}$ ·Test duration : 240h			
Note	·Insertion loss measurement was measured by master code. ·The adapter was evaluated together with the plug. ·When a outside diameter of fiber was $\phi 0.9\text{mm}$ , No.12 and No.13 of an test item did not measure.				Prepared	Checked	Approved
				By	<i>Ngoto</i>	<i>T.Yoshizaki</i>	<i>T.Nakano</i>
				Signature	<i>n goto</i>	<i>J.Yoshizaki</i>	<i>T.Nakano</i>
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