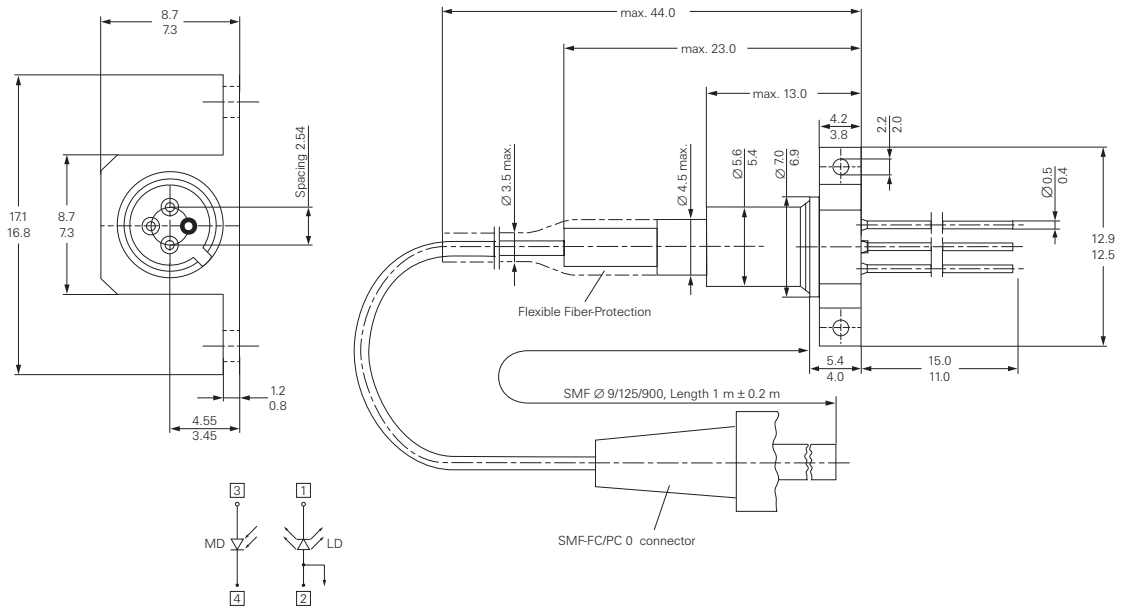
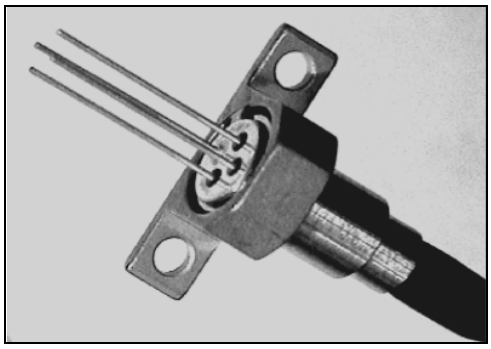
STH91004
STH91005

1550 nm DFB Laser in Coaxial Package with SM-Pigtail, High Power

Dimensions in mm





Absolute Maximum Ratings

Output power ratings refer to the SM fiber output. The operating temperature of the submount is identical to the case temperature

Module

Operating case temperature (T_C) ..... 0 to +70°C
Storage temperature (T_{stg}) ..... –40 to +85°C
Soldering temperature[1] (T_S) ..... 260°C

Laser Diode

Direct forward current (I_{Fmax}) ..... 120 mA
Radiant power CW (Φ_e) ..... 4 mW
Reverse voltage (V_{Rmax}) ..... 2 V

Monitor Diode

Reverse voltage (V_{Rmax}) ..... 10 V

Note

1. t_{max} = 10 s, 2 mm distance from bottom edge of case

DESCRIPTION

Designed for application in high-speed and long-haul fiber-optic networks

Laser Diode with Multi-Quantum-Well and gain coupled structure

Suitable for bit rates up to 622 Mbit/s (STM-4) without thermoelectric cooler and optical isolator

Ternary photodiode at rear mirror for monitoring and control of radiant power

Hermetically sealed subcomponent, similar to TO 18

Pigtail with optional flange

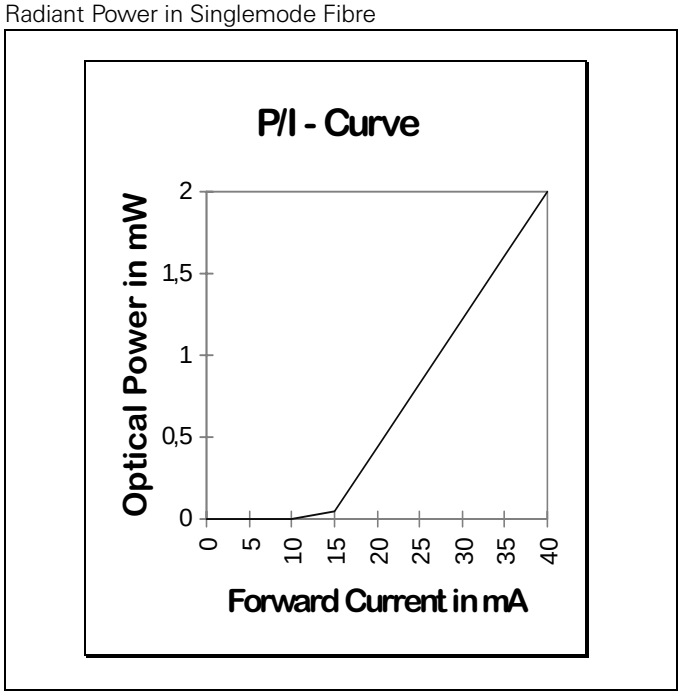
Characteristics

All optical data refer to a coupled 10/125µm SM fiber, T_C=–25°C.

Laser diode	**Symbol**	**Min.**	**Max.**	**Units**
Optical Output Power	Φ_e	2.4		mW
Emission wavelength center of range Φ_e =1 mW	λ	1530	1570	nm
Spectral bandwidth Φe =1 mW (RMS), f<5 GHz	$\Delta\lambda$		0.1	
Side mode suppression ratio	SSR	30		dB
Threshold current (0...+70°C)	I_{th}		55	mA
Forward voltage Φ_e =1 mW	V_F		1.5	V
Radiant power at threshold	Φ_{eth}		80	µW
Slope Efficiency (0...+70°C)	η	30	150	mW/A
Differential series resistance	R_S		8	Ω
Rise and fall time	t_R t_F		0.5	ns
Temperature Coefficient of the emission wavelength center	TC_λ		0.15	nm/K
Monitor diode				
Dark current, V_R = 5 V, Φ_e = 0	I_R		10	nA
Photocurrent, Φ_e = 1 mW	I_P	100	1700	µA

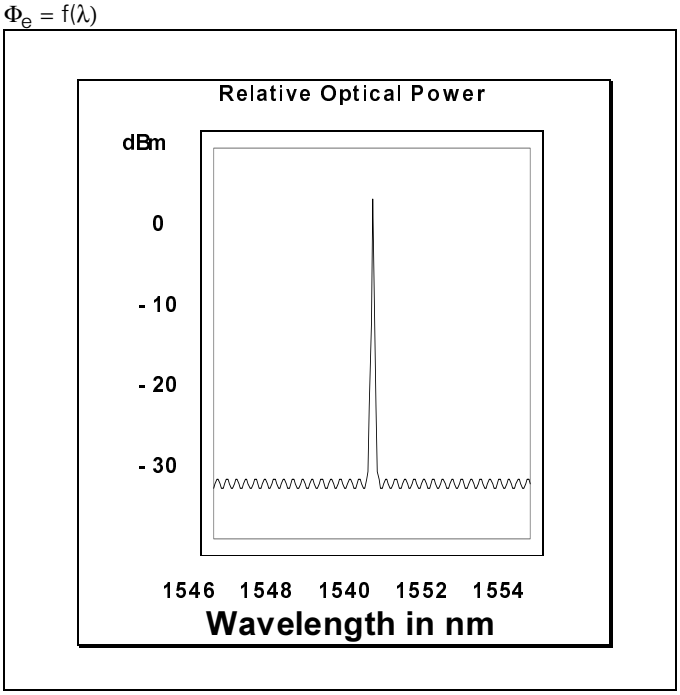
Laser Diode

Radiant Power in Singlemode Fibre



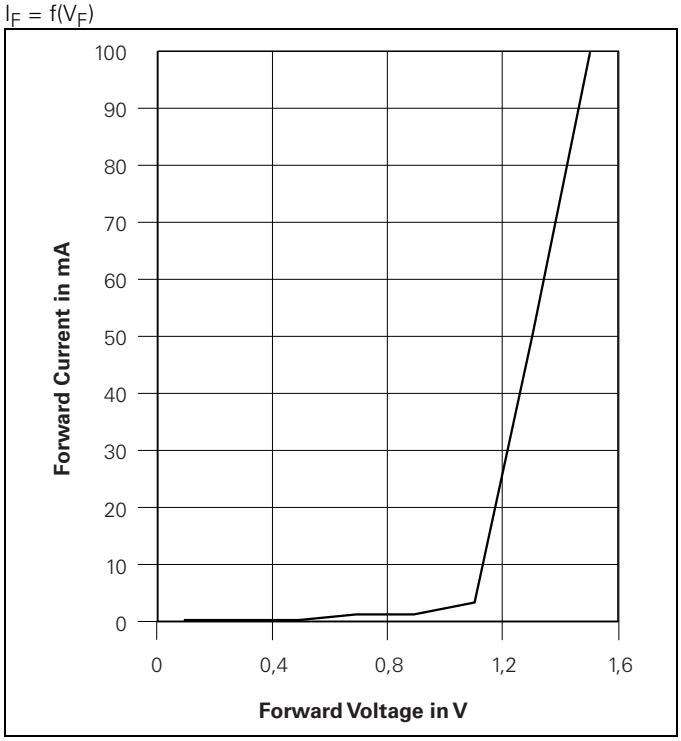
Relative Radiant Power

$\Phi_e = f(\lambda)$



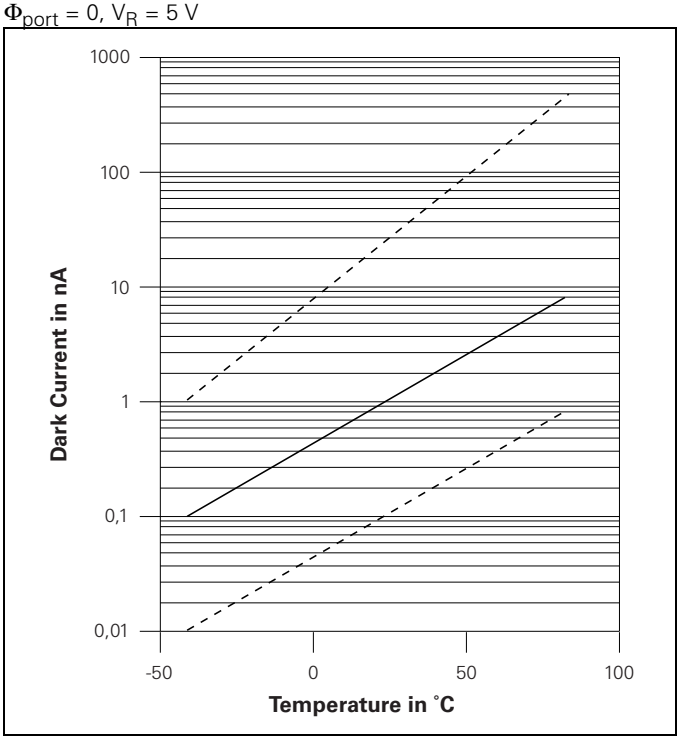
Laser Forward Current

$I_F = f(V_F)$



Monitor Diode Dark Current

$\Phi_{port} = 0$, $V_R = 5$ V



Type	Connector/Flange
STH91004G	FC / without flange
STH91004A	DIN / without flange
STH91005G	FC / with flange
STH91005A	DIN / with flange

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