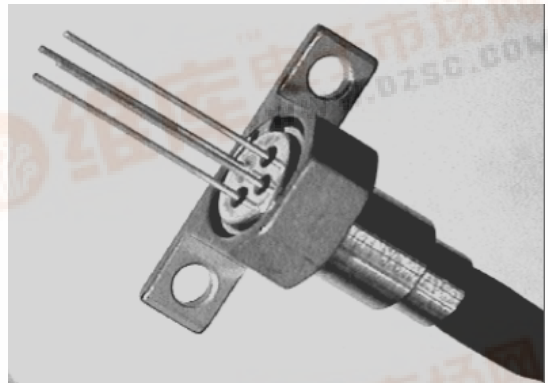


SIEMENS

STH91004x
STH91005x

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

- 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
- SM Pigtail with optional flange



Maximum Ratings

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

These are absolute stress ratings only. Values above maximum ratings can cause permanent damage to the device.

Module	Symbol	Values		Unit
		Min.	Max.	
Operating Temperature range at case	T_C	0	70	°C
Storage Temperature range	T_{sta}	-40	85	°C
Soldering Temperature $t_{max} = 10$ s, 2 mm distance from bottom edge of case	T_S		260	°C

Laserdiode	Symbol	Values		Unit
		Min.	Max.	
Direct forward current	$I_{F_{max}}$		120	mA
Radiant power CW	Φ_{av}		4	mW
Reverse Voltage	$V_{R_{max}}$		2	V

Monitor Diode	Symbol	Values		Unit
		Min.	Max.	
Reverse Voltage	$V_{R_{max}}$		10	V

Characteristics

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

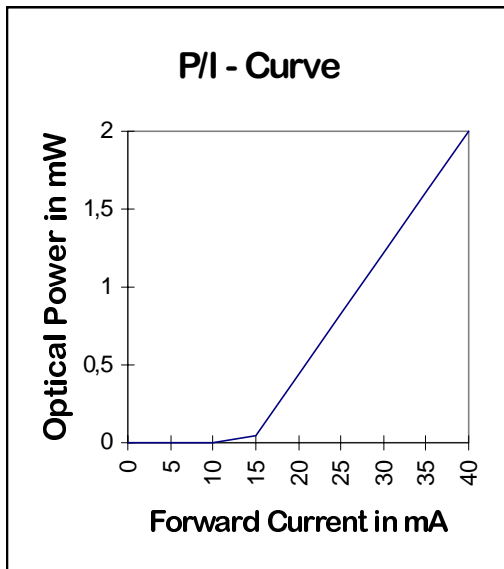
Laser Diode	Symbol	Values		Unit
		Min.	Max.	
Optical Peak Output Power	Φ_{pk}	2,4		mW
Optical Average Output Power	Φ_{av}	1,0		mW
Emission wavelength center of range $\Phi_{av} = 1 \text{ mW}^{1)}$	λ	1530	1570	nm
Spectral bandwidth $\Phi_{av} = 1 \text{ mW}$ (RMS)	$\Delta\lambda$		0,1	nm
Side mode suppression ratio	SSR	30		dB
Threshold current (0...+70°C)	I_{th}		55	mA
Forward voltage $\Phi_{av} = 1 \text{ mW}$	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 Time/Fall Time	t_R, t_F		0,5	ns
Temperature Coefficient of the emission wavelength center	$TC\lambda$		0,15	nm/K

Monitor Diode	Symbol	Values		Unit
		Min.	Max.	
Dark Current, $V_R = 5 \text{ V}$, $\Phi_{av} = 0$			10	nA
Photocurrent, $\Phi_{av} = 1 \text{ mW}$	I_P	100	1700	μA

1) Wavelength selection according ITU-Standard available on demand.

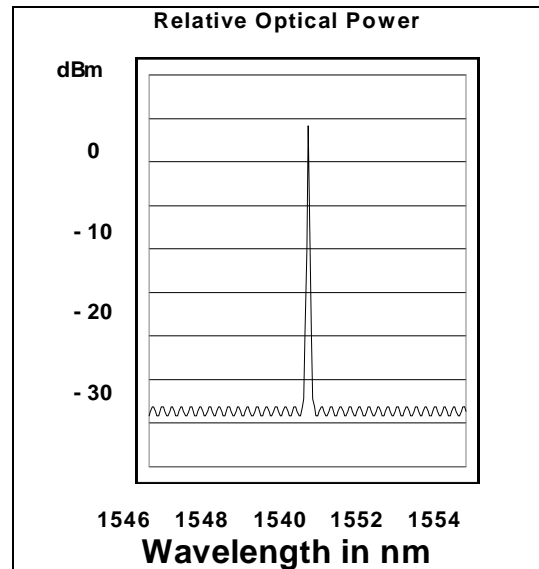
Laser Diode

Radiant Power in Singlemode Fibre



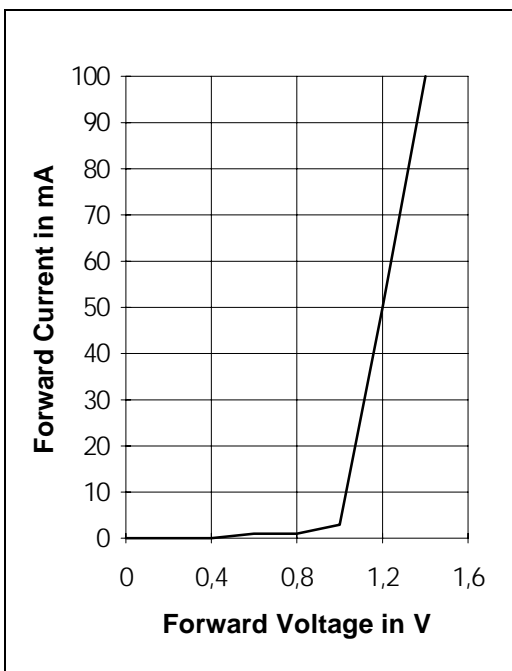
Relative Radiant Power

$$\Phi_{av} = f(\lambda)$$



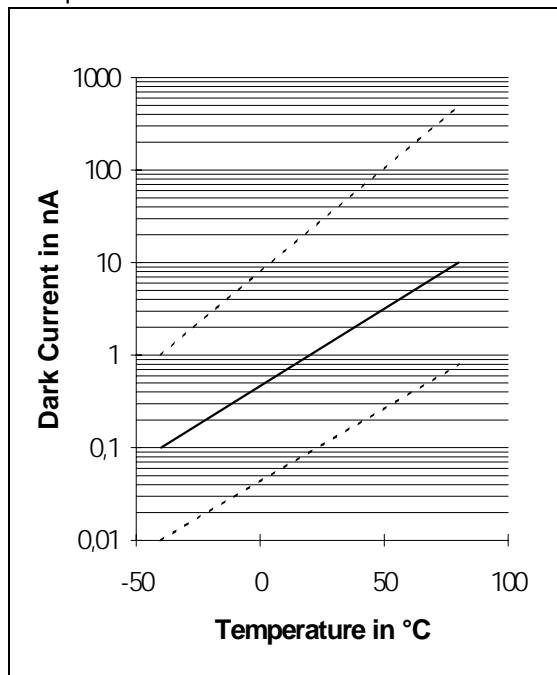
Laser Forward Current

$$I_F = f(V_F)$$



Monitor Diode Dark Current $I_R = f(T_A)$

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



Ordering Information:

Type	Ordering Code	Connector/Flange
STH91004G	Q62702-Pxxxx	FC / without flange
STH91004A	Q62702-Pxxxx	DIN / without flange
STH91005G	Q62702-Pxxxx	FC / with flange
STH91005A	Q62702-Pxxxx	DIN / with flange

Component with other connector types on request

Package Dimension:

STH91004x

STH91005x (with flange)

