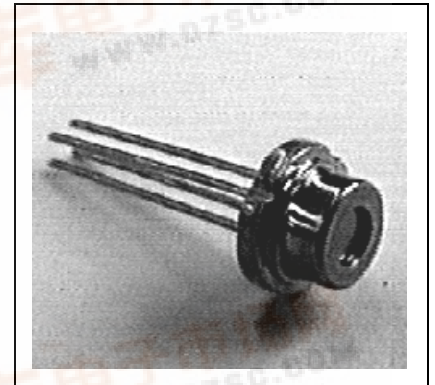


SIEMENS

STH81002Z

1550nm Laser in Coaxial TO-Package

- Designed for application in fiber-optic networks
- Laser Diode with Multi-Quantum Well structure
- Suitable for bit rates up to 1 Gbit/s
- Ternary photodiode at rear mirror for monitoring and control of radiant power
- Hermetically sealed subcomponent, similar to TO 18
- with integrated Silicon-Optics for high coupling efficiencies



Maximum Ratings

Output power ratings refer to the optical port. The operating temperature of the submount is identical to the case temperature

Module	Symbol	Values	Unit
Operating Temperature range at case	T_C	- 40... +85	°C
Storage Temperature range	T_{sta}	- 40... +85	°C
Soldering Temperature tmax = 10 s, 2 mm distance from bottom edge of case	T_S	260	°C

Laserdiode	Symbol	Values	Unit
Direct forward current	$I_{F\ max}$	120	mA
Radiant power CW	Φ_e	10	mW
Reverse Voltage	$V_{R\ max}$	2	V

Monitor Diode	Symbol	Values	Unit
Reverse Voltage	$V_{R\ max}$	10	V

Characteristics

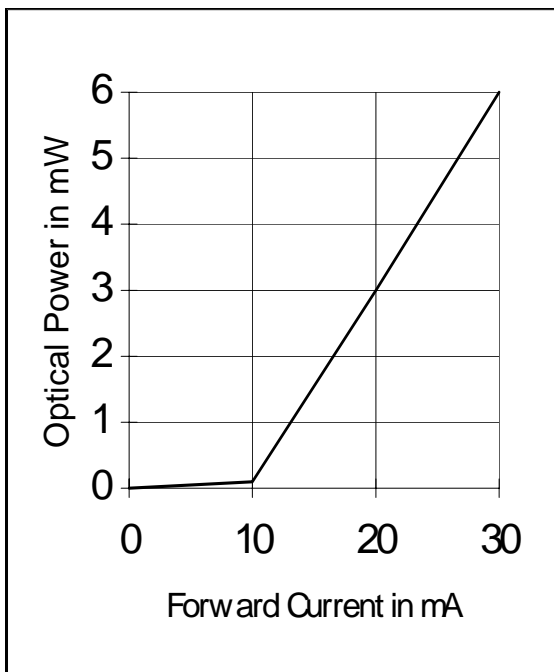
All optical data refer to the optical port.

Laser Diode	Symbol	Values	Unit
Optical Output Power	Φ_e	>6	mW
Emission wavelength center of range $\Phi_e = 3 \text{ mW}$	λ	1510...1590	nm
Spectral bandwidth $\Phi_e = 3 \text{ mW}$ (RMS)	$\Delta\lambda$	<5	nm
Threshold current	I_{th}	< 15	mA
Forward voltage $\Phi_e = 3 \text{ mW}$	V_F	< 1,5	V
Radiant power at threshold	Φ_{eth}	< 200	μW
Slope Efficiency	η	> 200	mW/A
Differential series resistance	r_S	< 8	Ω
Rise Time/Fall Time	t_R, t_F	< 1	ns

Monitor Diode	Symbol	Values	Unit
Dark Current, $V_R = 5\text{V}$, $\Phi_e = 0$	I_R	<500	nA
Photocurrent, $\Phi_e = 3 \text{ mW}$	I_P	150...1500	μA

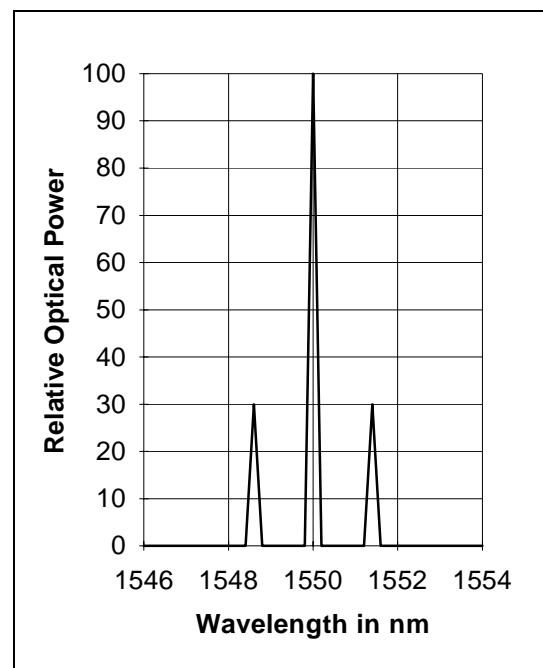
Laser Diode

Radiant Power in Singlemode Fibre



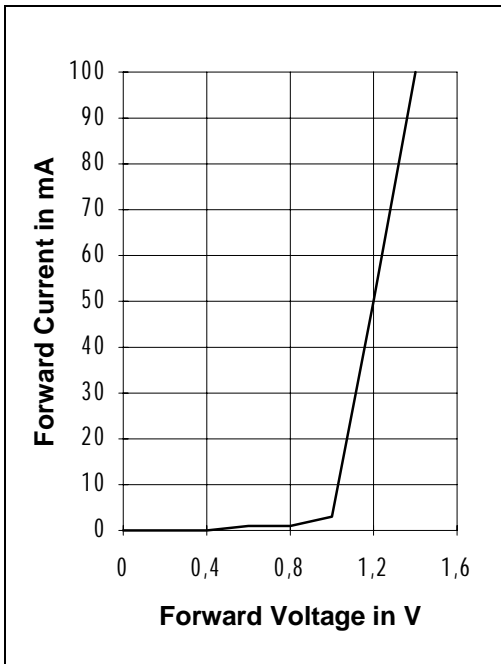
Relative Radiant Power

$\Phi_e = f(\lambda)$



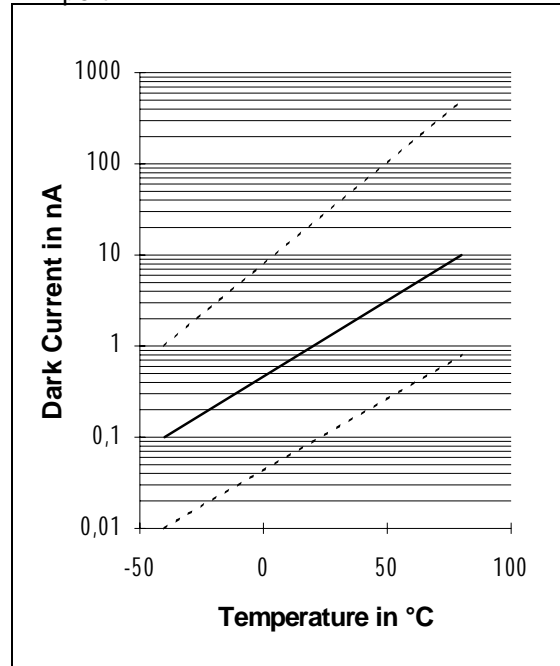
Laser Forward Current

$$I_F = f(V_F)$$



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

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



Ordering Information:

Type	Ordering Code
STH81002Z	Q62702-Pxxxx

Component with other Pinout on request