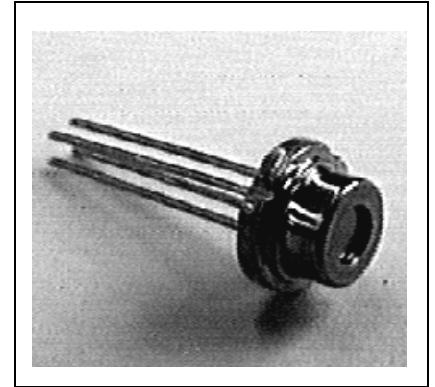


### 1550nm Laser in Coaxial TO-Package

- 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	$\Phi_e$	10	mW
Reverse Voltage	$V_{R\ max}$	2	V

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

## Characteristics

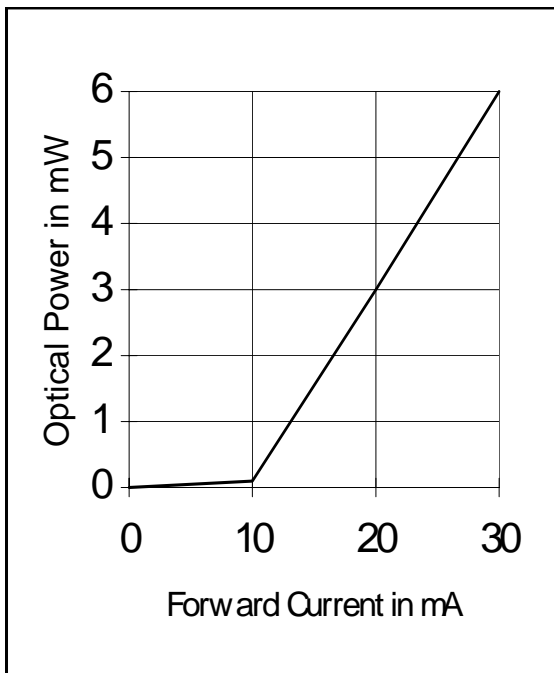
All optical data refer to the optical port.

Laser Diode	Symbol	Values	Unit
Optical Output Power	$\Phi_e$	>6	mW
Emission wavelength center of range $\Phi_e = 3 \text{ mW}$	$\lambda$	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	$\Phi_{eth}$	< 200	$\mu\text{W}$
Slope Efficiency	$\eta$	> 200	mW/A
Differential series resistance	$r_S$	< 8	$\Omega$
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	$\mu\text{A}$

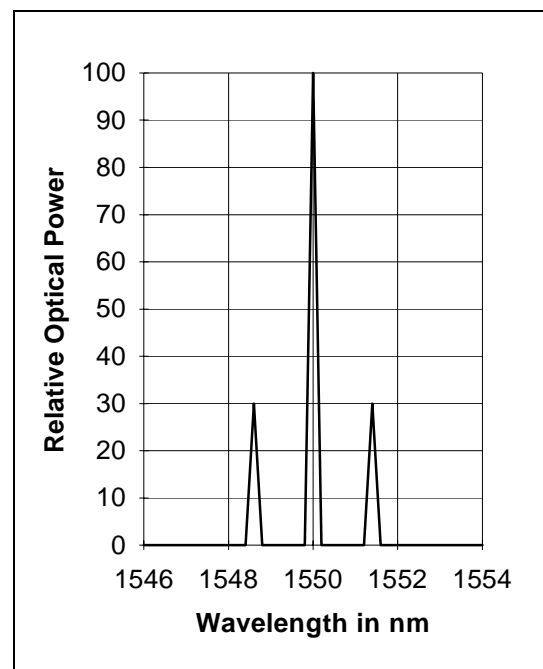
### Laser Diode

Radiant Power in Singlemode Fibre



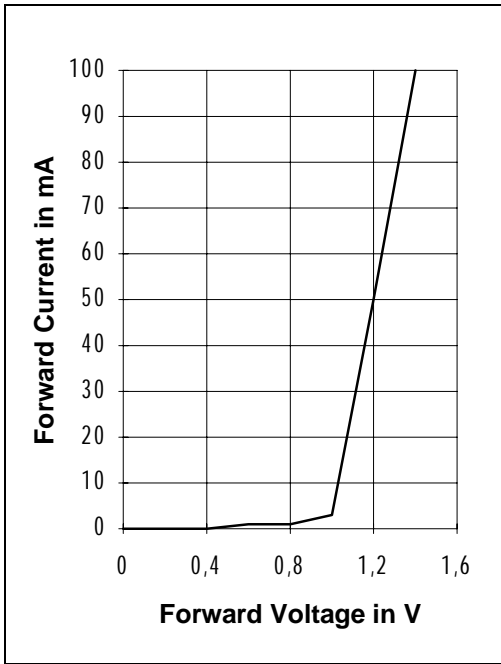
### Relative Radiant Power

$\Phi_e = f(\lambda)$



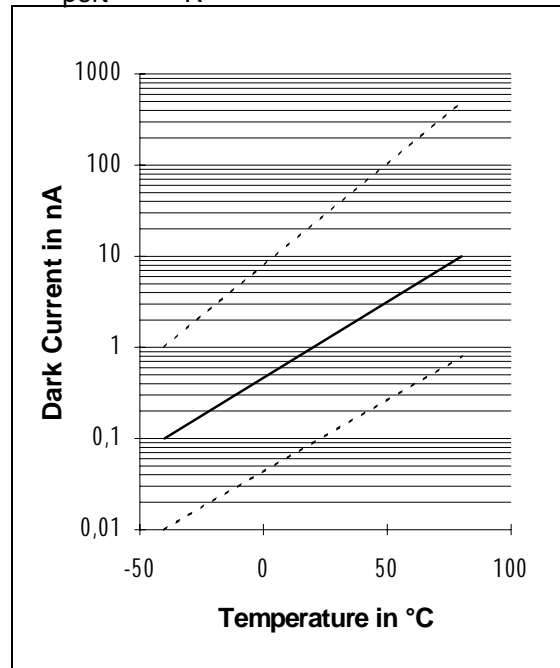
### Laser Forward Current

$$I_F = f(V_F)$$



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

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



### Ordering Information:

Type	Ordering Code
STH81002Z	Q62702-Pxxxx

Component with other Pinout on request