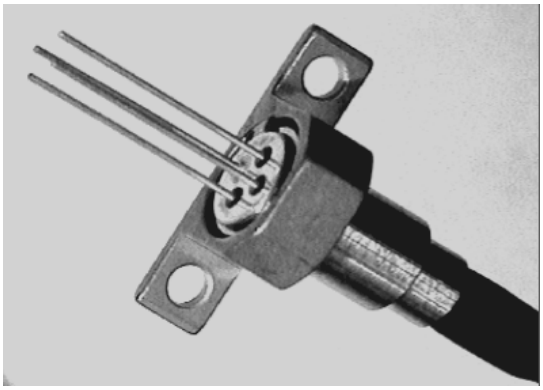
Target Specification
1550nm DFB Laser in Coaxial Package with SM-Pigtail, High Power



- 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_{stg}	-40	85	°C
Soldering Temperature tmax = 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

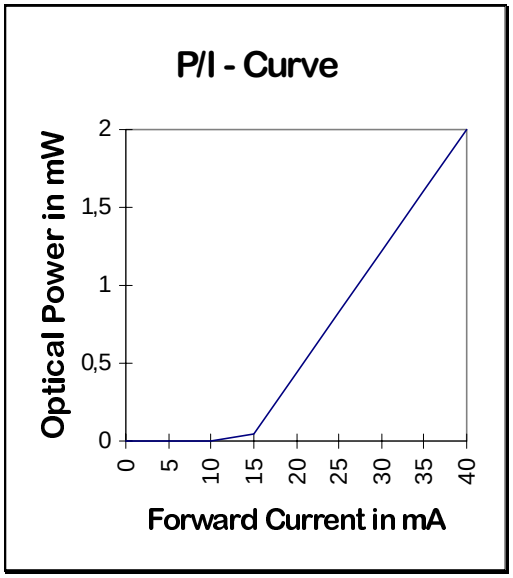
Characteristics
All optical data refer to a coupled 10/125µm SM fiber, Tc =25°C.

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 Φ_{av} =1 mW [1)]	λ	1530	1570	nm
Spectral bandwidth Φ_{av} =1mW (RMS)	$\Delta\lambda$		0,1	nm
Side mode suppression ratio	SSR	30		dB
Threshold current (0...+70°C)	I_{th}		55	mA
Forward voltage Φ_{av} =1mW	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	TCλ		0,15	nm/K

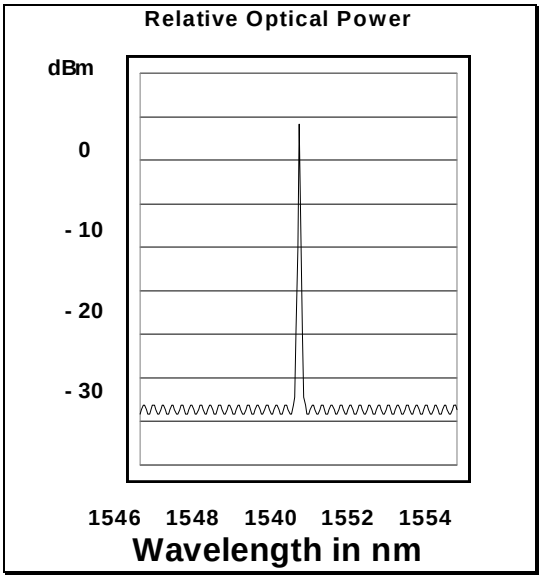
Monitor Diode	**Symbol**	**Values**		**Unit**
		Min.	Max.	
Dark Current, V_R =5V, Φ_{av}= 0			10	nA
Photocurrent, Φ_{av} =1mW	I_P	100	1700	µA

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

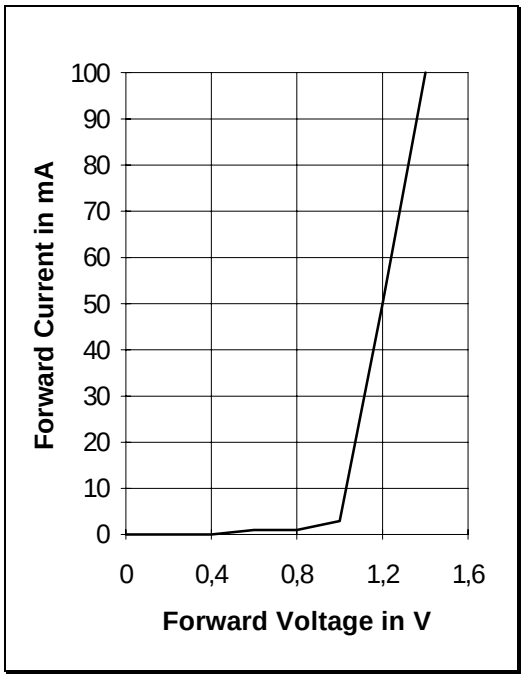
Laser Diode
Radiant Power in Singlemode Fibre



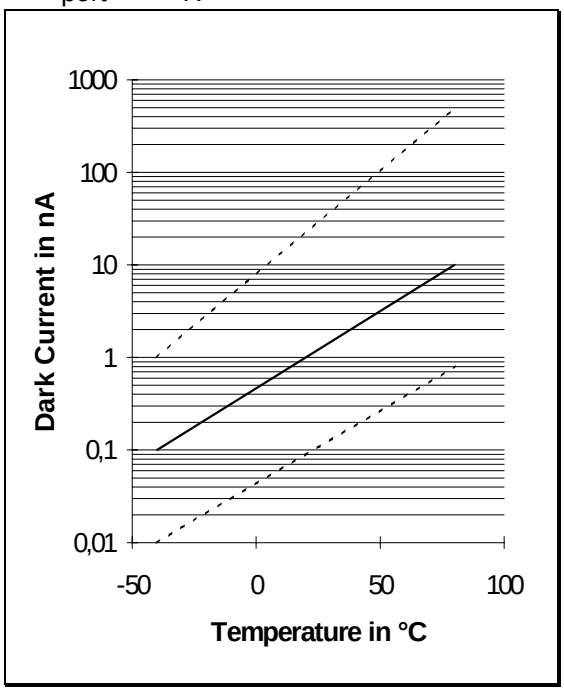
Relative Radiant Power
$\Phi_{av} = f(\lambda)$



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)