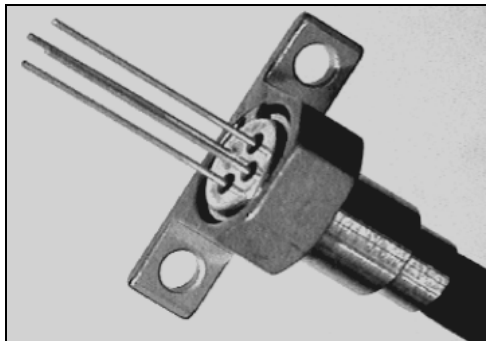
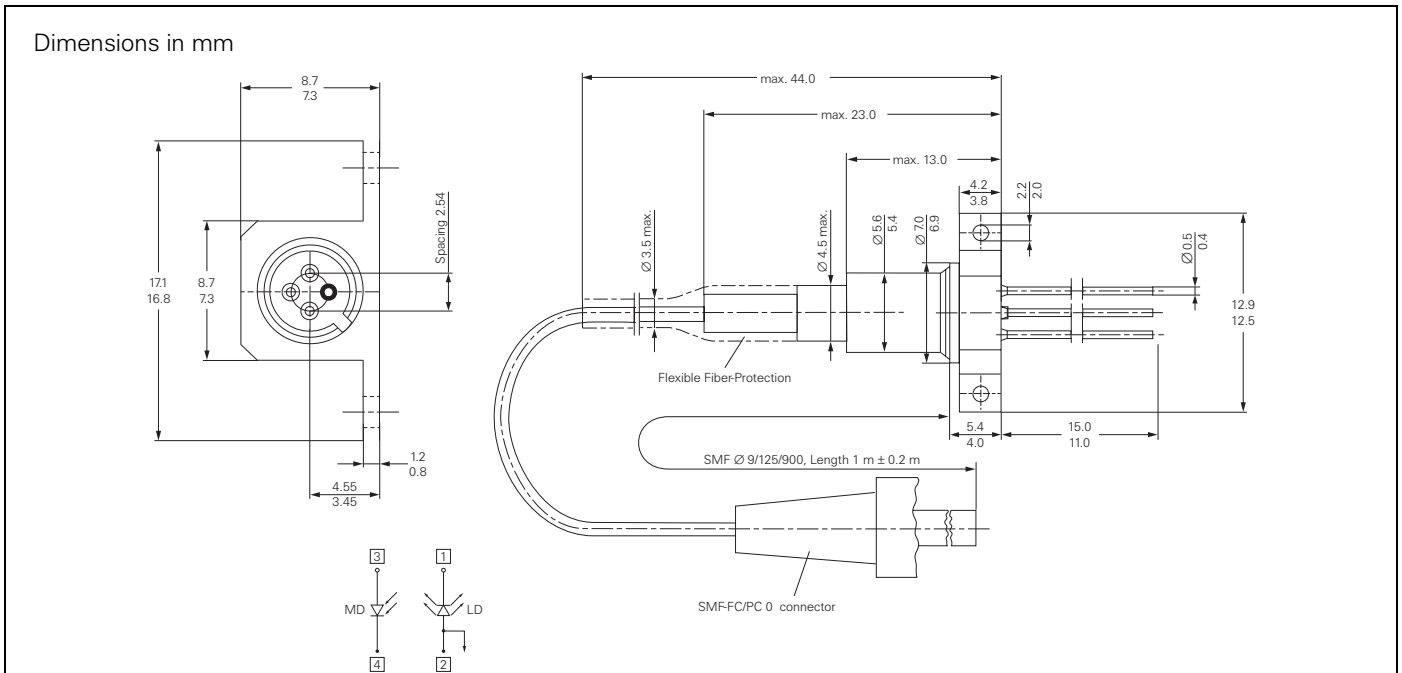


## 1550 nm DFB Laser in Coaxial Package with SM-Pigtail, Medium Power



### 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

SM Pigtail with optional flange

### 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<sup>(1)</sup> ( $T_S$ )..... 260°C

#### Laser Diode

Direct forward current ( $I_{Fmax}$ )..... 120 mA  
 Radiant power CW ( $\Phi_e$ )..... 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

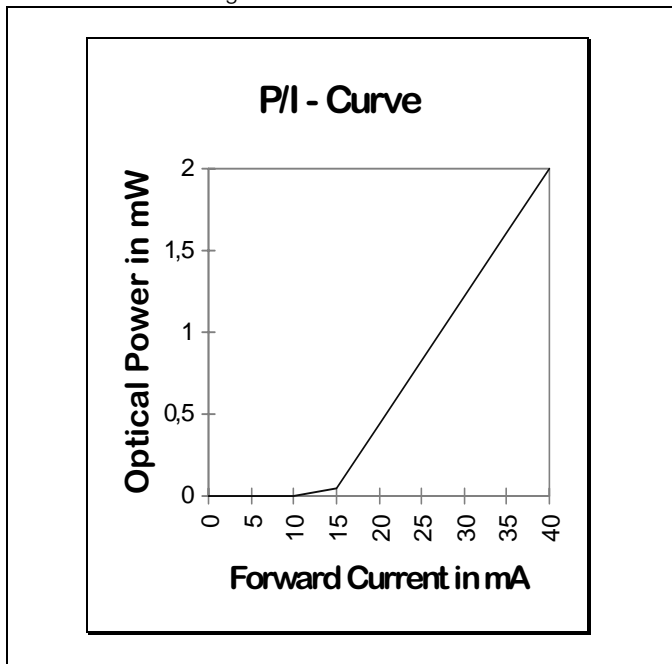
## Characteristics

All optical data refer to a coupled 10/125µm SM fiber,  $T_C = -25^\circ\text{C}$ .

Laser diode	Symbol	Min.	Max.	Units
Optical Output Power	$\Phi_e$	1.2		mW
Emission wavelength center of range $\Phi_e = 1 \text{ mW}$	$\lambda$	1530	1570	nm
Spectral bandwidth $\Phi_e = 1 \text{ mW (RMS)}$ , $f < 5 \text{ GHz}$	$\Delta\lambda$		0.1	
Side mode suppression ratio	SSR	30		dB
Threshold current (0...+70°C)	$I_{th}$		55	mA
Forward voltage $\Phi_e = 1 \text{ mW}$	$V_F$		1.5	V
Radiant power at threshold	$\Phi_{eth}$		80	µW
Slope Efficiency (0...+70°C)	$\eta$	20	100	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	$TC_\lambda$		0.15	nm/K
<b>Monitor diode</b>				
Dark current, $V_R = 5 \text{ V}$ , $\Phi_e = 0$	$I_R$		10	nA
Photocurrent, $\Phi_e = 1 \text{ mW}$	$I_P$	100	1700	µA

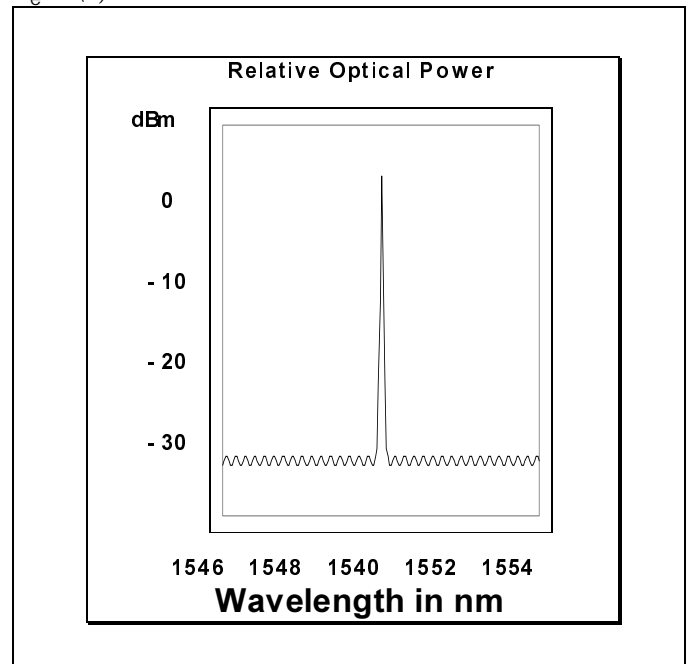
### Laser Diode

Radiant Power in Singlemode Fibre



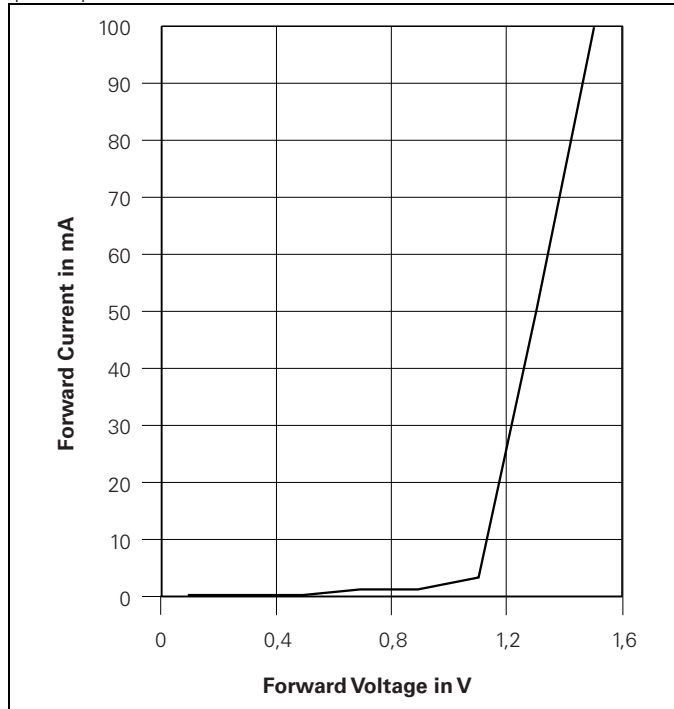
### Relative Radiant Power

$\Phi_e = f(\lambda)$



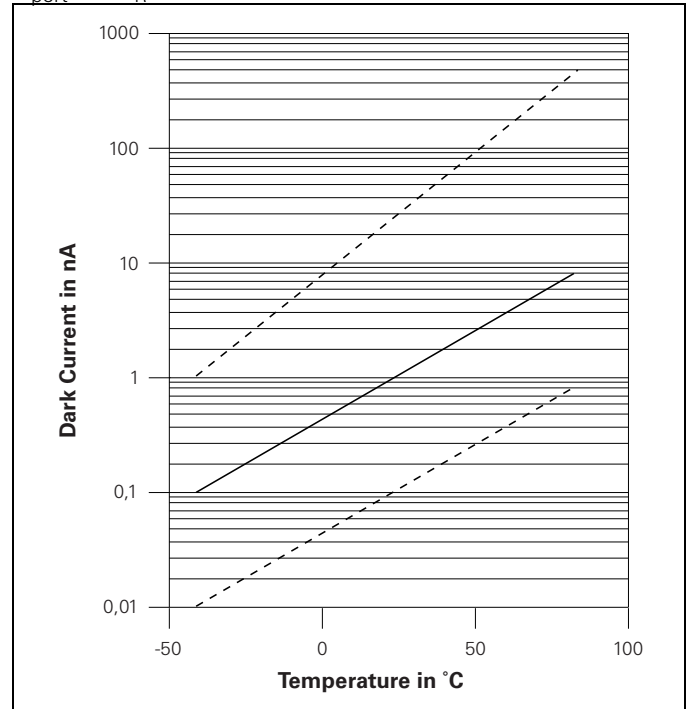
### Laser Forward Current

$$I_F = f(V_F)$$



### Monitor Diode Dark Current

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



Type	Connector/Flange
STM91004G	FC / without flange
STM91004A	DIN / without flange
STM91005G	FC / with flange
STM91005A	DIN / with flange