

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⁽¹⁾ (T_S) 260°C

Laser Diode

Direct forward current (I_{Fmax}) 120 mA
 Radiant power CW (Φ_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

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 2.5 Gbit/s (STM-16) with optical isolator, without cooler

Ternary photodiode at rear mirror for monitoring and control of radiant power

Hermetically sealed subcomponent, similar to TO 18 SM Pigtail with optional flange

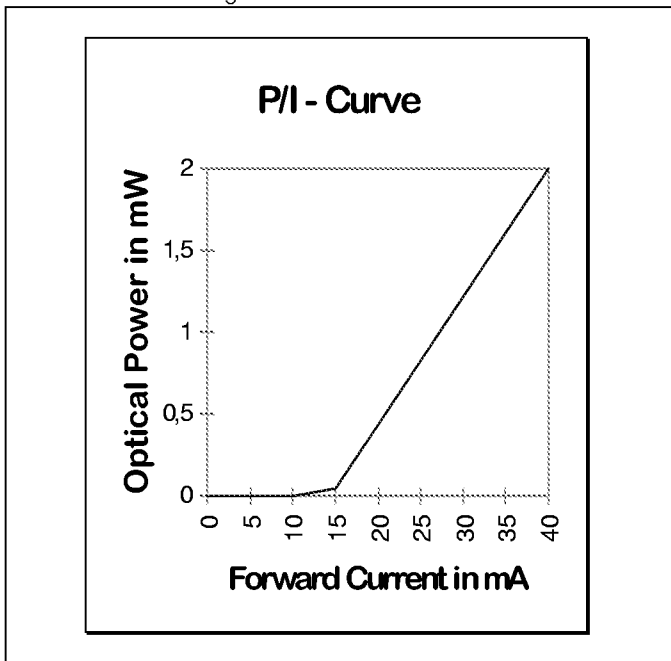
Characteristics

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	Φ_e	2.4		mW
Emission wavelength center of range $\Phi_e = 1 \text{ mW}$	λ	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}	5	55	mA
Forward voltage $\Phi_e = 1 \text{ mW}$	V_F		1.5	V
Radiant power at threshold	Φ_{eth}		80	µW
Slope Efficiency (0...+70°C)	η	25	150	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_λ		0.15	nm/K
Optical Isolation (T=25°C)		30		dB
Monitor diode				
Dark current, $V_R = 5 \text{ V}$, $\Phi_e = 0$	I_R		500	nA
Photocurrent, $\Phi_e = 1 \text{ mW}$	I_P	100	1400	µA

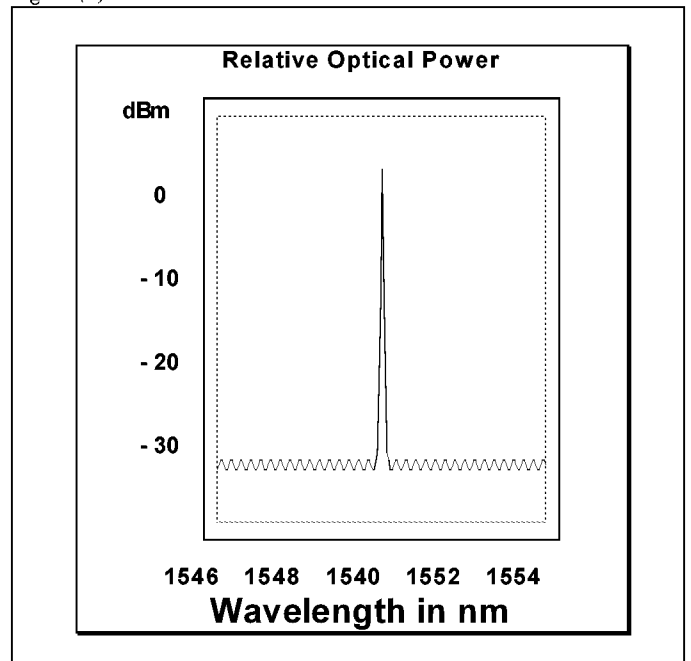
Laser Diode

Radiant Power in Singlemode Fibre



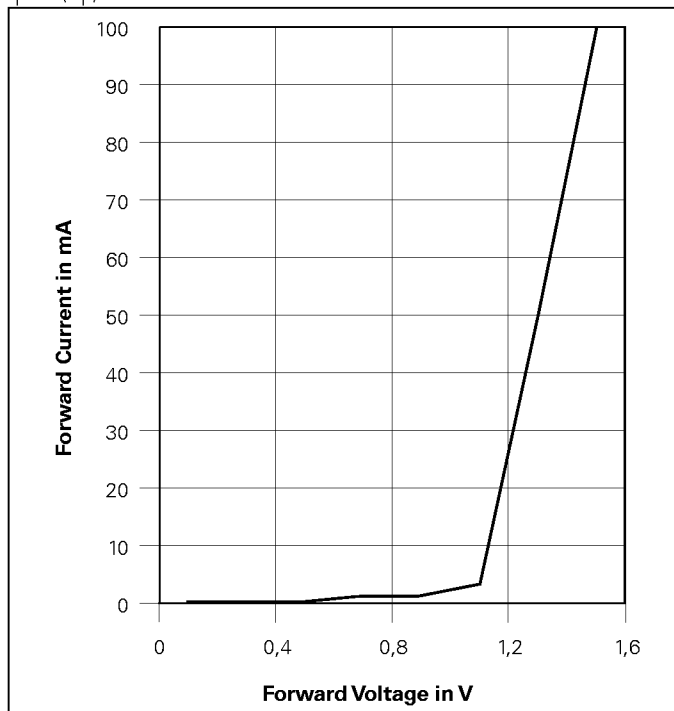
Relative Radiant Power

$\Phi_e = f(\lambda)$



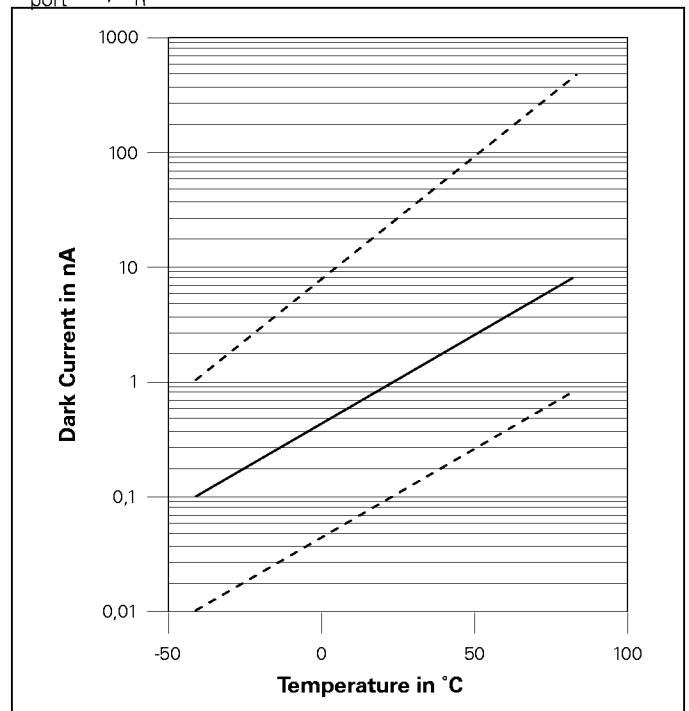
Laser Forward Current

$$I_F = f(V_F)$$



Monitor Diode Dark Current

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



Type	Connector/Flange
STH91008G	FC / without flange
STH91008A	DIN / without flange