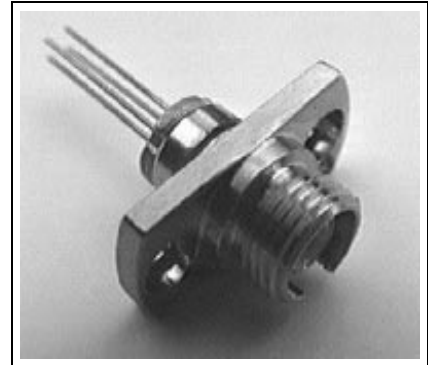


1300 nm Laser in Receptacle Package, Low Power

STL 51007X

- 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 subcomponents, similar to TO 18
- SM Receptacle with 2- hole flange



Type	Ordering Code	Connector/Flange
STL 51007G	Q62702-P3004	FC, 2-hole

Maximum Ratings

Output power ratings refer to the SM fiber output. The operating temperature of the submount is identical to the case temperature.

Parameter	Symbol	Values	Unit
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Module

Operating temperature range at case	T_C	- 40 ... + 85	°C
Storage temperature range	T_{stg}	- 40 ... + 85	°C
Soldering temperature $t_{max} = 10$ s, 2 mm distance from bottom edge of case	T_S	260	°C

Laser Diode

Direct forward current	$I_{F max}$	120	mA
Radiant power CW	Φ_e	1	mW
Reverse voltage	$V_{R max}$	2	V

Monitor Diode

Reverse voltage	$V_{R max}$	10	V
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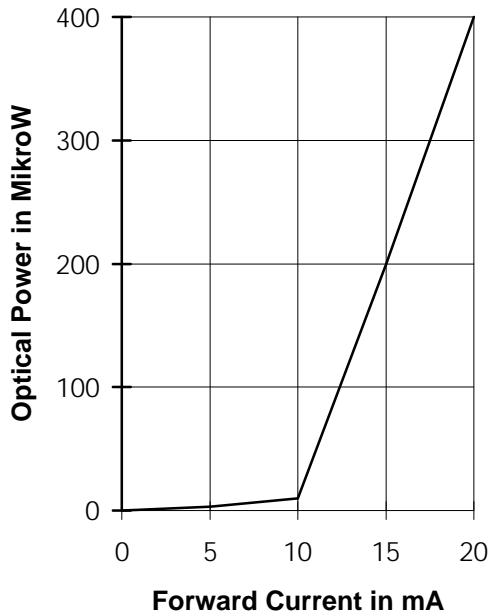
Characteristics

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

Parameter	Symbol	Values	Unit
Laser Diode			
Optical output power	Φ_e	> 0.4	mW
Emission wavelength center of range $\Phi_e = 0.2\text{ mW}$	λ	1280 ... 1330	nm
Spectral bandwidth $\Phi_e = 0.2\text{ mW}$ (RMS)	$\Delta\lambda$	< 5	nm
Threshold current ($-40\text{ }^\circ\text{C}$... $+85\text{ }^\circ\text{C}$)	I_{th}	2 ... 45	mA
Forward voltage $\Phi_e = 0.2\text{ mW}$	V_F	< 1.5	V
Radiant power at threshold	Φ_{eth}	< 10	μW
Slope efficiency	η	8 ... 60	mW/A
Differential series resistance	r_S	< 8	Ω
Rise time/fall time	t_R, t_F	< 1	ns
Monitor Diode			
Dark current, $V_R = 5\text{ V}$, $\Phi_e = 0$	I_R	< 500	nA
Photocurrent, $\Phi_e = 0.2\text{ mW}$	I_P	100 ... 1000	μA

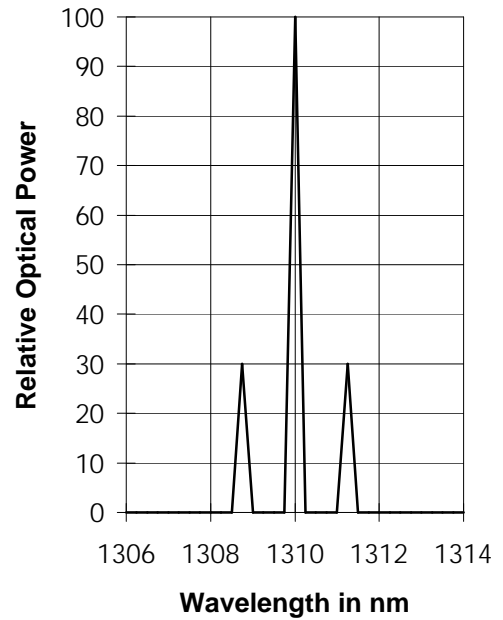
Laser Diode

Radiant Power in Singlemode Fiber



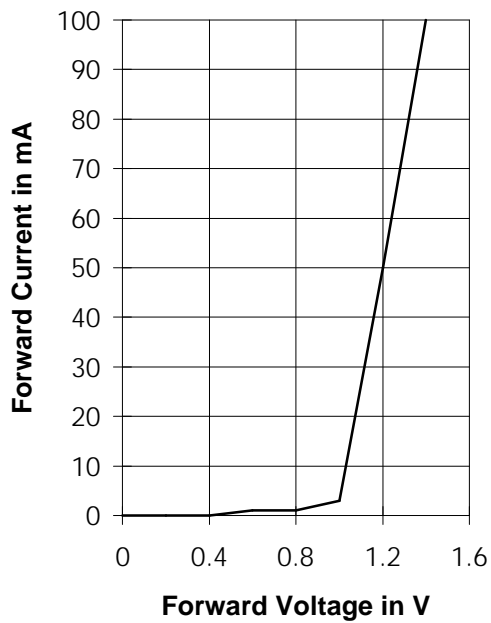
Relative Radiant Power

$\Phi_e = f(\lambda)$



Laser Forward Current

$I_F = f(V_F)$



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

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

