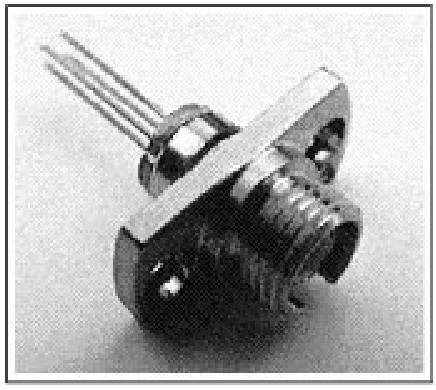
SIEMENS

1300 nm Laser in Receptacle Package, Medium Power

STM 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
STM 51007G	Q62702-P3014	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.

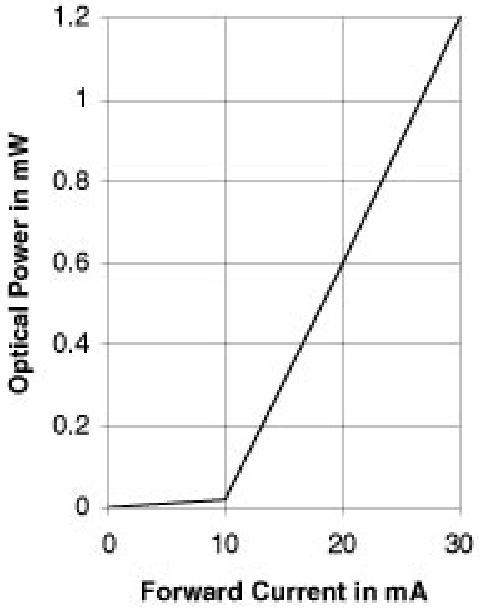
Parameter	Symbol	Values	Unit
Module			
Operating temperature range at case	T_C	– 40 ... + 85	°C
Storage temperature range	T_{stg}	– 40 ... + 85	°C
Soldering temperature t_{max} = 10 s, 2 mm distance from bottom edge of case	T_S	260	°C
Laser Diode			
Direct forward current	$I_{F\,max}$	120	mA
Radiant power CW	Φ_e	2	mW
Reverse voltage	$V_{R\,max}$	2	V
Monitor Diode			
Reverse voltage	$V_{R\,max}$	10	V

Characteristics

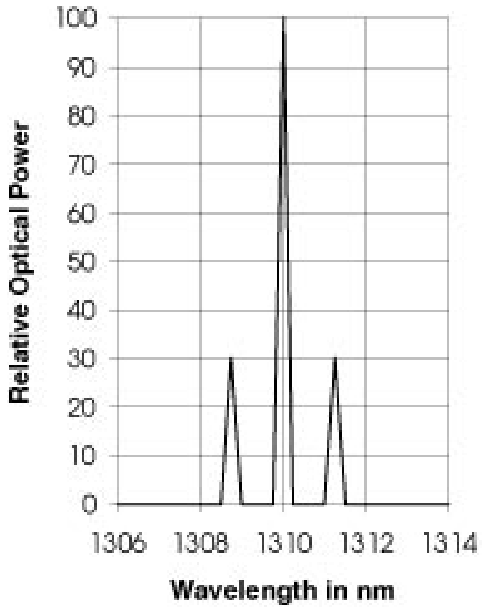
All optical data refer to a coupled 10/125 µm SM fiber, T_C = 25 °C.

Parameter	Symbol	Values	Unit
Laser Diode			
Optical output power	Φ_e	> 1.2	mW
Emission wavelength center of range Φ_e = 0.5 mW	λ	1280 ... 1330	nm
Spectral bandwidth Φ_e = 0.5 mW (RMS)	$\Delta\lambda$	< 5	nm
Threshold current (– 40 ... + 85 °C)	I_{th}	2 ... 45	mA
Forward voltage Φ_e = 0.5 mW	V_F	< 1.5	V
Radiant power at threshold	Φ_{eth}	< 40	µW
Slope efficiency	η	20 ... 100	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 V, Φ_e = 0	I_R	< 500	nA
Photocurrent, Φ_e = 0.5 mW	I_P	100 ... 1000	µA

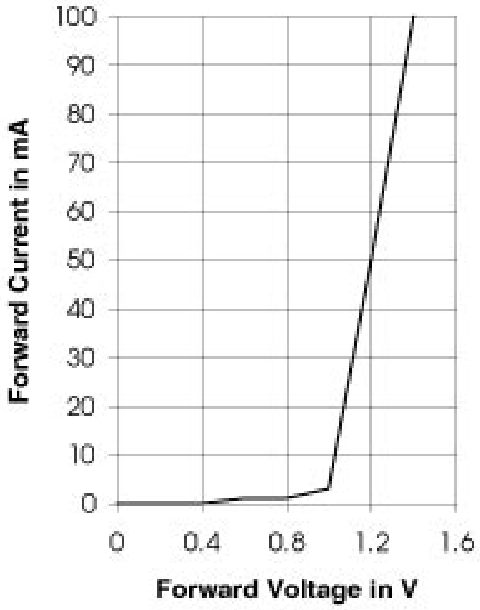
Laser Diode
Radiant Power in Singlemode Fiber



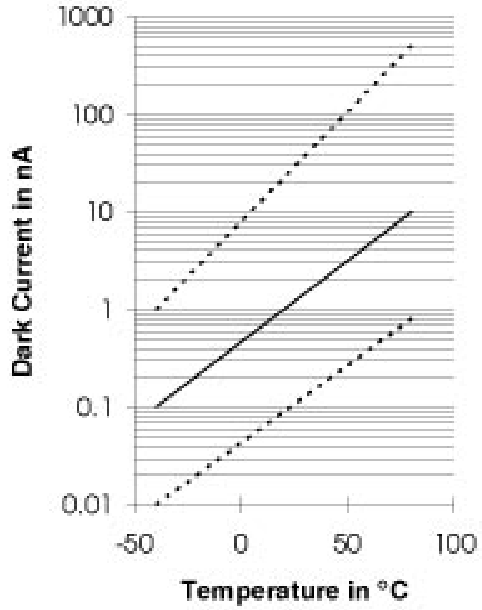
Relative Radiant Power
$\Phi_e = f(\lambda)$



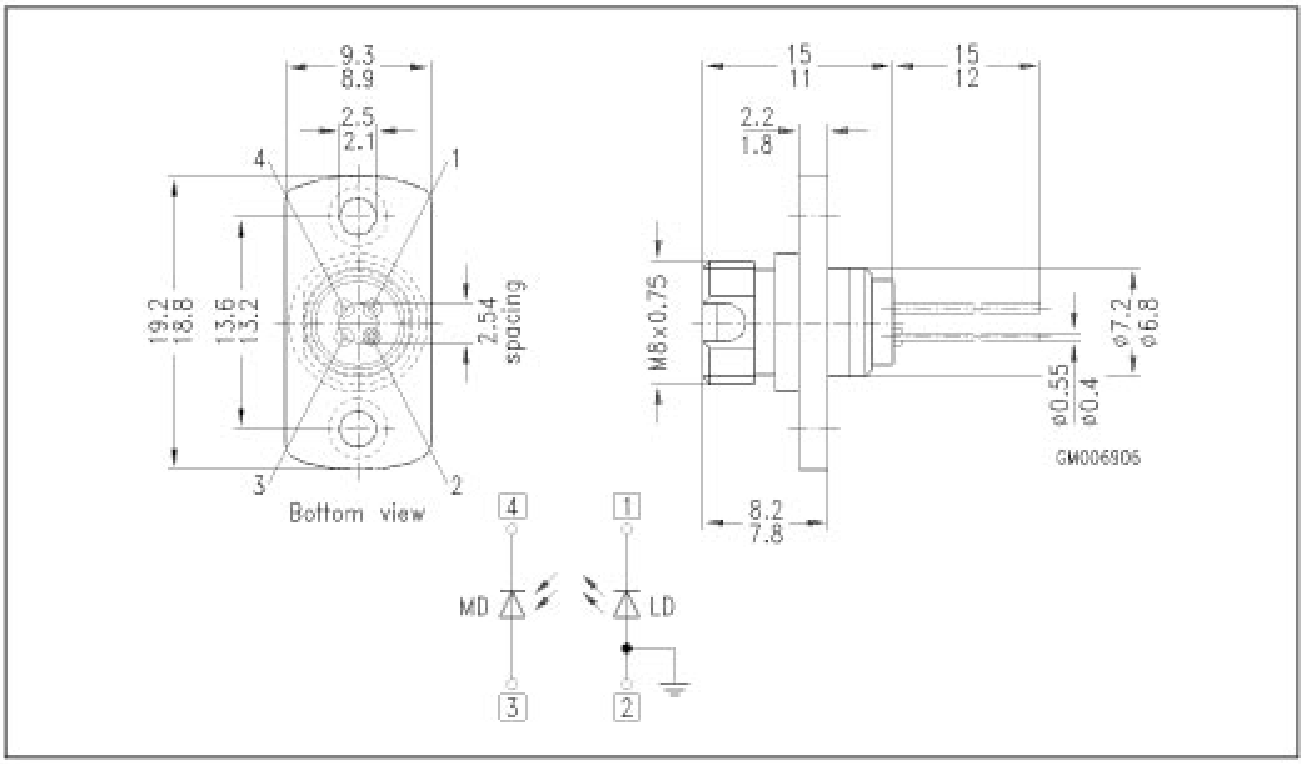
Laser Forward Current
$I_F = f(V_F)$



Monitor Diode Dark Current $I_R = f(T_A)$
$\Phi_{port} = 0$, $V_R = 5$ V



Package Outlines (Dimensions in mm)



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