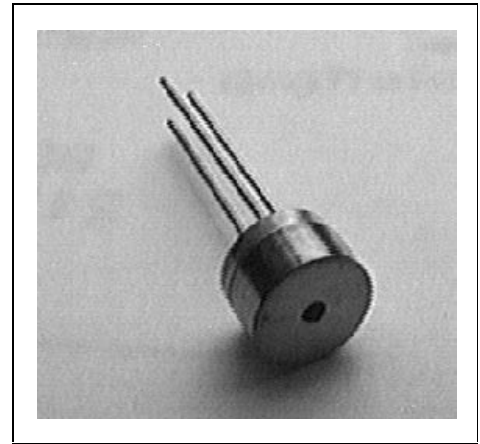


## IRED in TO-Package

STL 39002Z

- InGaAsP/InP - IRED
- Designed for application in fiber-optic
- Datacom systems
- Transmitter for the 2<sup>nd</sup> optical window (1300 nm)
- Suitable for bit rates up to 50 Mbit/s
- 200 Mbit/s with appropriate pulse shaping of the modulation current
- High output power with double heterostructure
- High coupling efficiency into multimode fibers
- No z-adjustment necessary (optimum coupling on cap surface)
- Hermetically sealed 3-pin metal case



Type	Ordering Code	Connector/Flange
STL 39002Z	Q62702-P3009	TO, with optics

### Maximum Ratings

Parameter	Symbol	Values	Unit
Forward current (DC)	$I_F$	60	mA
Forward current ( $\tau \leq 10 \mu\text{s}$ , $D \leq 1$ )	$I_{FSM}$	100	mA
Reverse voltage	$V_R$	0.5	V
Operating and storage temperature	$T_A, T_{stg}$	- 40 ... + 85	°C
Junction temperature	$T_j$	125	°C
Soldering time (wave / dip soldering), distance between solder point and base plate $\geq 2 \text{ mm}$ , 260 °C	$t_s$	10	s

## Characteristics

All optical data refer to an ambient temperature of 25 °C.

Parameter	Symbol	Values	Unit	Notes
Emission wavelength	$\lambda_c$	1310 ± 30	nm	1
Spectral bandwidth at 50 % of $\Phi_{max}$	$\Delta\lambda$	130 ± 30	nm	1
Opt. power coupled into 62.5 μm multimode fiber, NA = 0.27	$\Phi_e$	- 17.5 ... - 13.5	dBm	1.2
Opt. power coupled into 50 μm multimode fiber, NA = 0.2	$\Phi_e$	- 20.5 ... - 16.5	dBm	1.2
Forward voltage, $I_F = 50$ mA DC	$V_F$	1.2 (≤ 1.5)	V	
Rise and fall time (10 % - 90 %) $R_L = 50 \Omega$ , $I_F = 50$ mA	$t_r$ ; $t_f$	3; 4	ns	
Capacitance $V_R = 0$ , $f = 1$ MHz	$C_0$	100	pF	
Temp. coefficient of forward voltage, $I_F = 50$ mA	$TC_{VF}$	- 1.3	mV/K	
Temp. coefficient of wavelength, $I_F = 50$ mA	$TC_\lambda$	0.5	nm/K	
Temp. coefficient of opt. power, $I_F = 50$ mA	$TC_\Phi$	- 0.7	%/K	

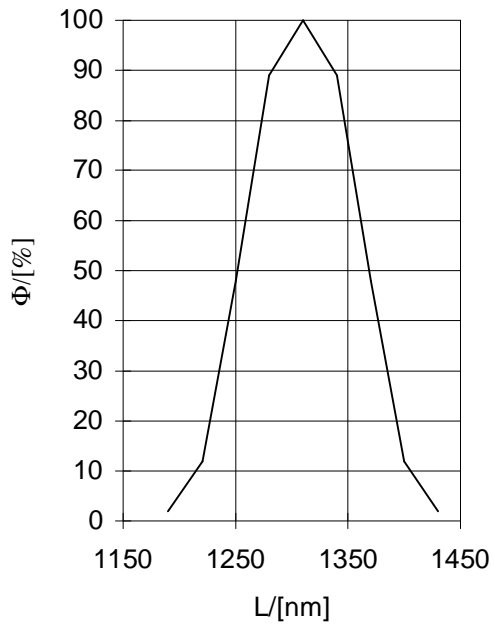
## Operating Instructions

In order to achieve an operating lifetime > 10<sup>5</sup> h, which is required for Telcom applications, a forward current of  $I_F = 50$  mA DC is recommended.

- Notes:**
- 1) Driving current is a square wave, 50 % duty cycle, 60 mA<sub>pk</sub> current at 1 MHz.  
 $\Phi_e$  is the average optical power coupled into the specified fiber.
  - 2) Optimum coupling on cap surface, no adjustment in z-axis necessary.

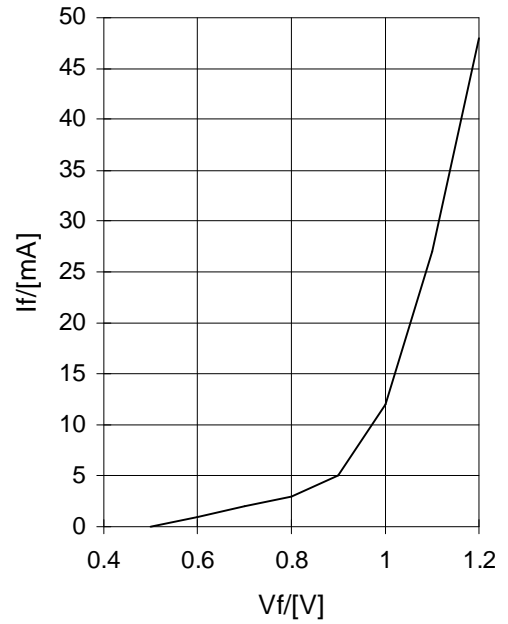
### Rel. Spectral Emission

$$\Phi_e = \Phi_e(\lambda)$$

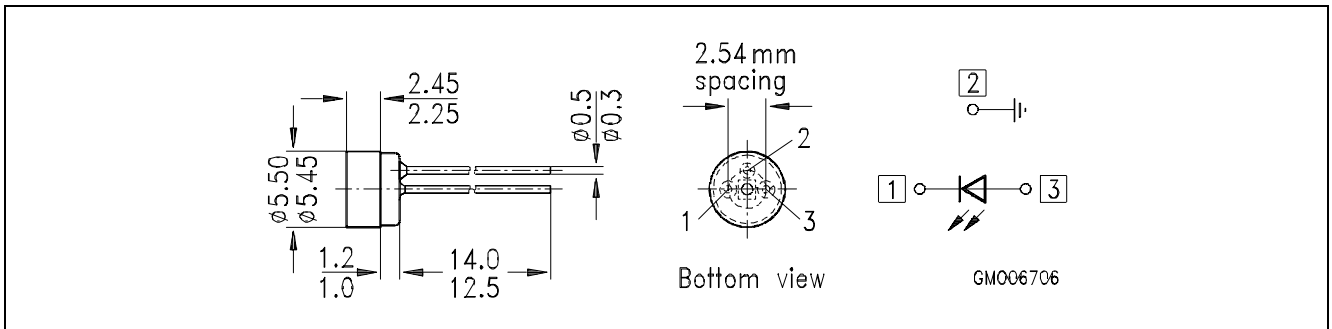


### Forward Current CW

$$I_F = I_F(T_A)$$



### Package Outlines (Dimensions in mm)



STL 39002Z