

Ordering Information

ZL60401TBD TO-56 with lens
 ZL60401TDD ST type connector
 ZL60401TED SC type connector
 ZL60401TFD FC type connector

-40°C to +85°C

Description

The Fabry-Perot Laser Diode Receptacle type series is designed for use with SC, FC and ST type fiber connectors as source in telecom and datacom applications.

The ZL60401 is a 1310 nm MQW (Multiple Quantum Well) Fabry-Perot laser diode, integrated with a monitor diode.

The hermetically sealed package includes a ball lens for improved coupling efficiency.

Features

- Uncooled 1300 nm Fabry-Perot Laser Diode
- Wide operating temperature range -40°C to +85°C
- High reliability
- Built-in monitor diode
- 622 Mbps
- Ball lens or receptacle type of packaging

Applications

- Telecommunications applications, SONET OC-3, OC-12, SDH STM-1 and STM-4
- Optical communications systems

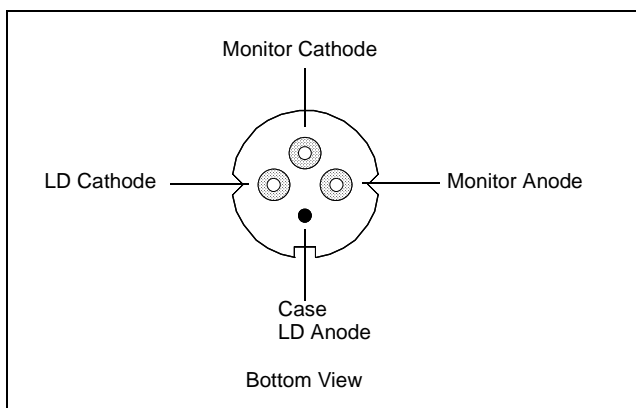


Figure 1 - PIN Diagram

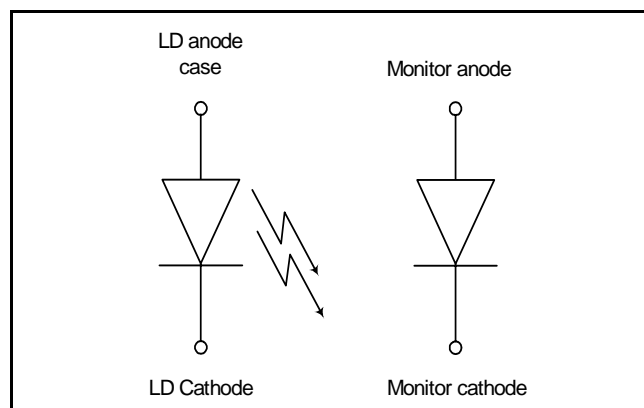


Figure 2 - Functional Schematic

Electrical and Optical Characteristics ($T_C = 25^\circ\text{C}$)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold Current	I_{th}	CW		10	15	mA
Operating Voltage	V_{op}	CW, $I_f = I_{th} + 20\text{ mA}$		1.3	1.5	V
Optical Output Power	P_f	CW, $I_f = I_{th} + 20\text{ mA}$		0.6		mW
Wavelength	λ	CW, $I_{th} + 20\text{ mA}$	1290	1310	1330	nm
Spectral Width	$\Delta\lambda$	CW, $I_{th} + 20\text{ mA}$		1	3	nm
Rise and Fall Times	t_r, t_f	$I_f = I_{th} + 20\text{ mA}$, 20-80%			500	ps
Tracking Error	$\Delta P_f / P_f$	APC, $0 - +70^\circ\text{C}$ $-40^\circ\text{C} - +85^\circ\text{C}$	-1.5 -2.5		1.5 2.5	dB
Monitor Current	I_D	CW, $I_{th} + 20\text{ mA}$, $V_{RD} = 1\text{ V}$	100			μA
Monitor Dark Current	I_D	$V_{RD} = 5\text{ V}$			1	μA
Monitor Capacitance	C_D	$V_{RD} = 5\text{ V}$, $f = 1\text{ MHz}$		10	15	pF

Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
LD Reverse Voltage	V_{RL}	2	V
PD Reverse Voltage	V_{RD}	20	V
PD Forward Current	I_f	2.0	mA
Operating Temperature	T_{op}	-40 - +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 - +85	$^\circ\text{C}$

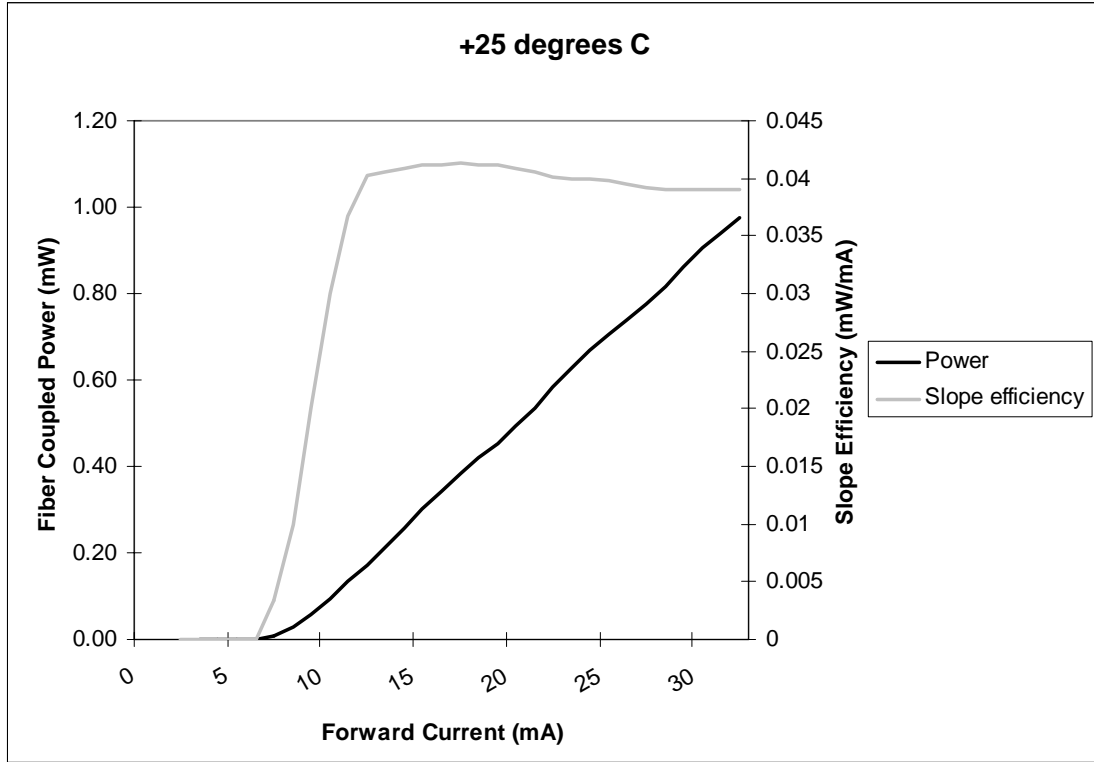


Figure 3 - Typical Fiber Coupled Power and Slope Efficiency at Room Temperature

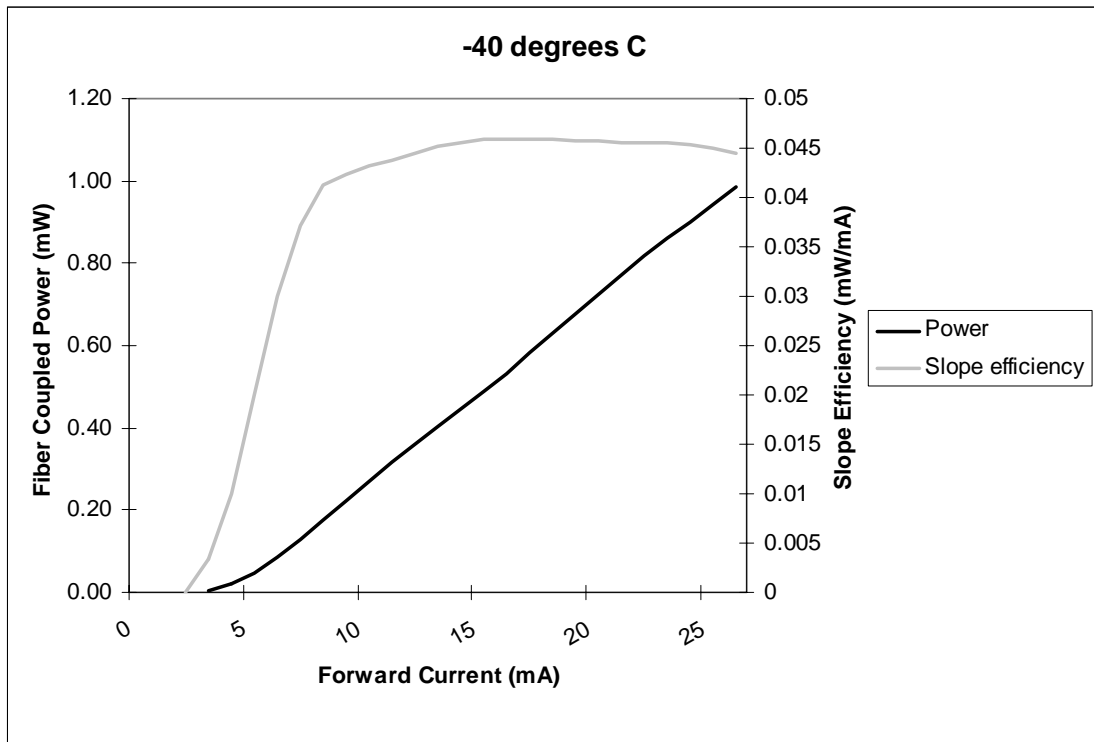


Figure 4 - Typical Fiber Coupled Power and Slope Efficiency at Low Temperature

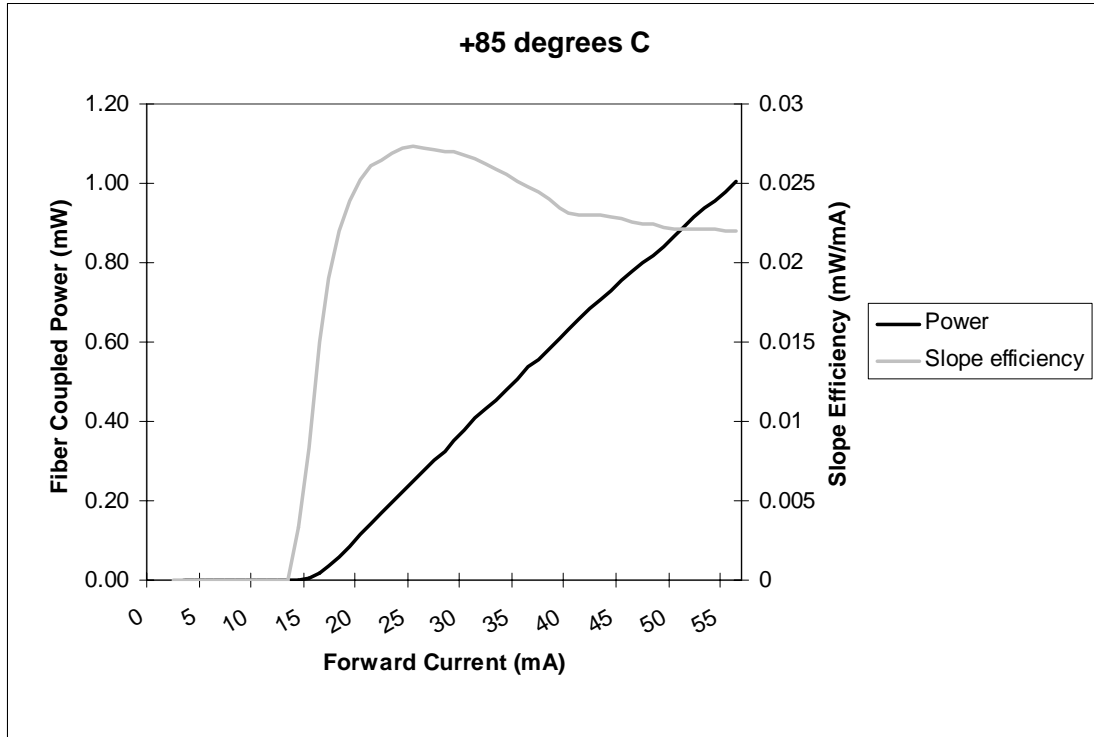
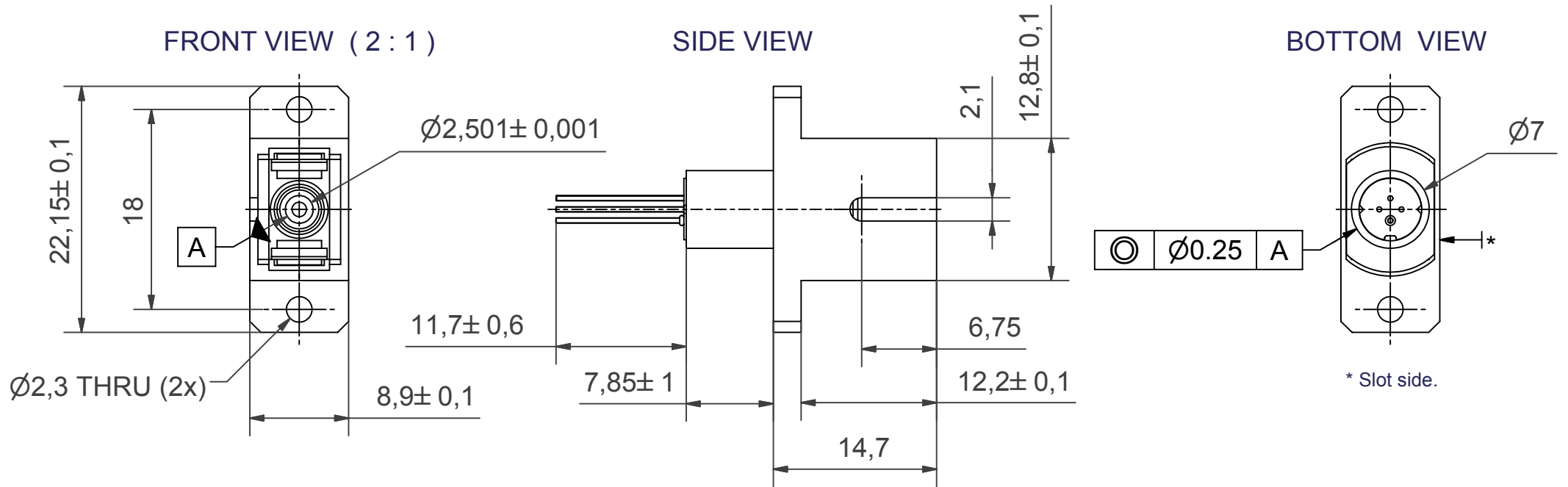
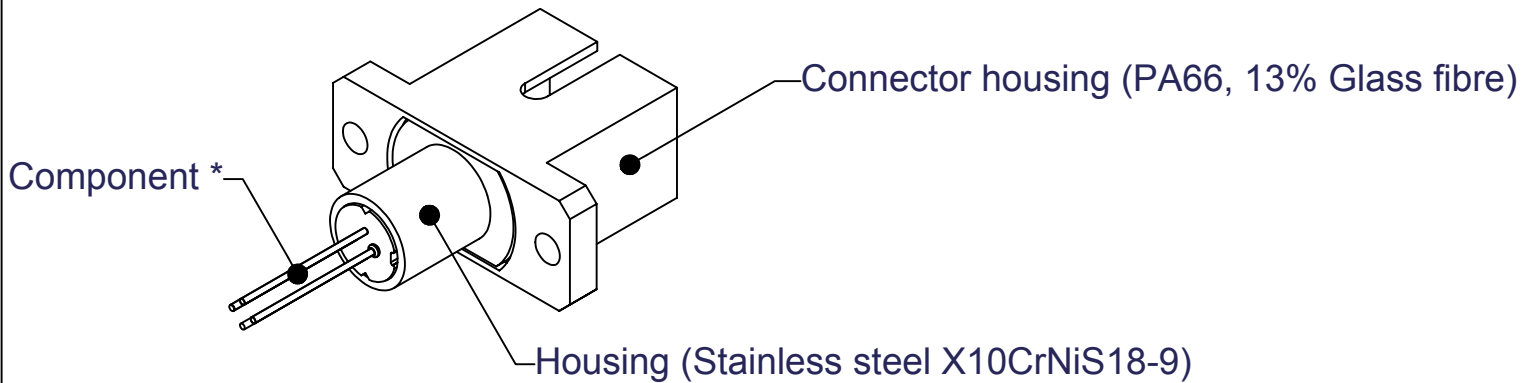


Figure 5 - Typical Fiber Coupled Power and Slope Efficiency at High Temperature



ISOMETRIC VIEW



NOTES:-

1. All dimensions in mm.
2. General tol. ISO-2768-mK.

* For details of the component, see separate data sheet and/or package drawing.

Projection

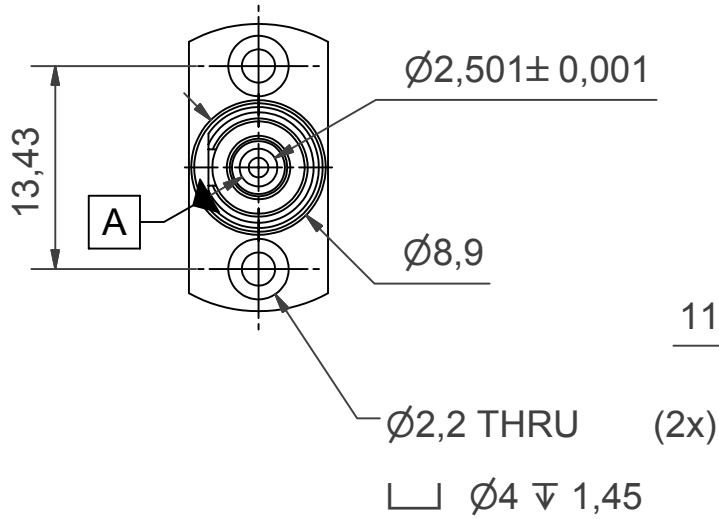
© Zarlink Semiconductor 2002. All rights reserved.

ISSUE	1			
ACN	101512rev 1			
DATE	17-NOV-03			
APPRD.	PD\US			

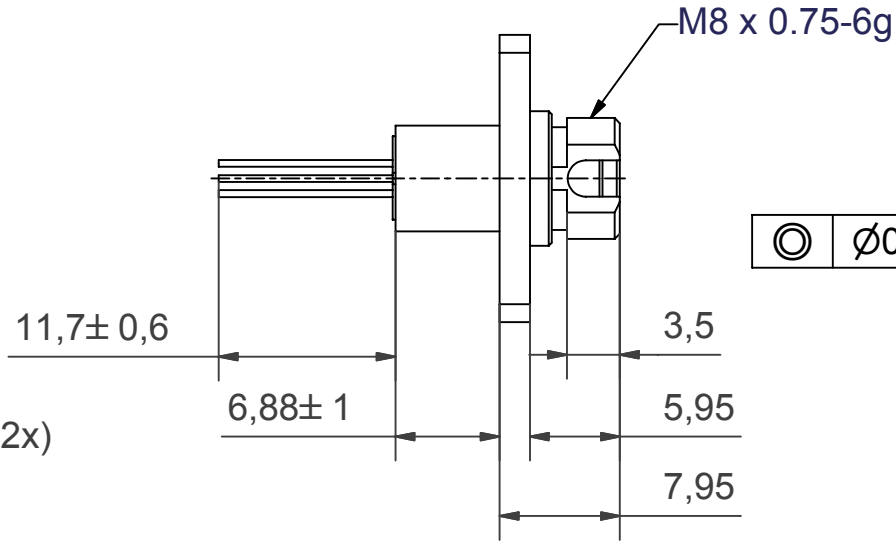


	Package code TE
Previous package codes	Drawing type TO-56 Package Outline in SC Connector housing
	Title 101512

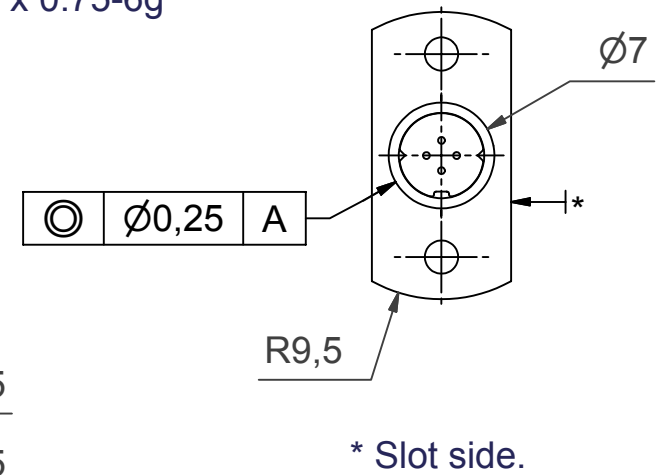
FRONT VIEW (2 : 1)



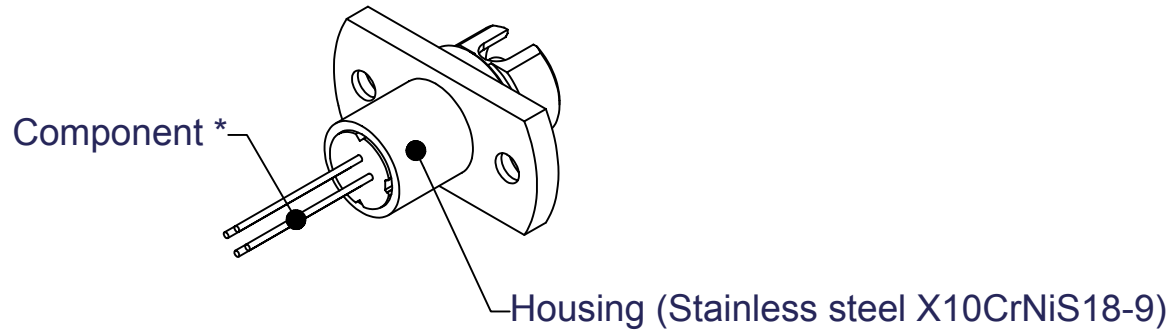
SIDE VIEW



BOTTOM VIEW



ISOMETRIC VIEW



NOTES:-

1. All dimensions in mm.
2. General tol. ISO-2768-mK.

* For details of the component, see separate data sheet and/or package drawing.

Projection

© Zarlink Semiconductor 2002. All rights reserved.

ISSUE	1			
ACN	101513 rev1			
DATE	17-NOV-03			
APPRD.	PD\US			



Previous package codes

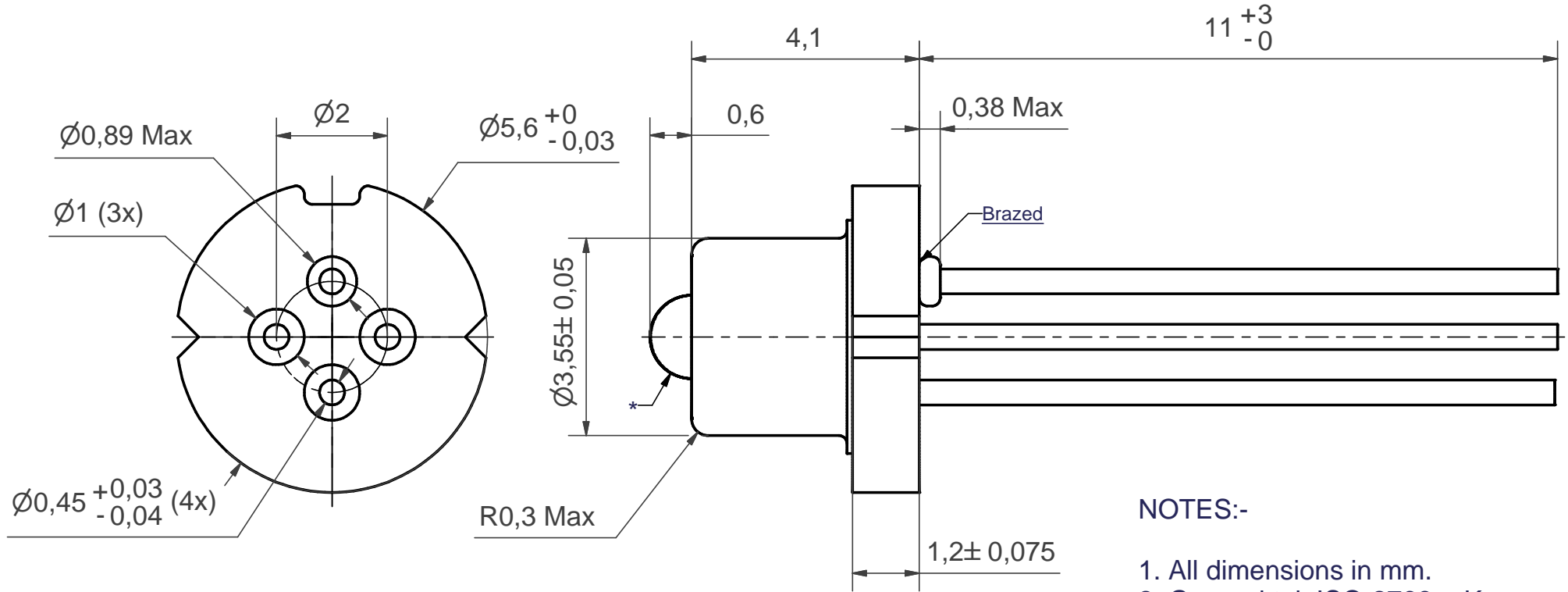
Package code **TF**

Drawing type
TO-56 Package Outline in FC
Connector housing

Title
101513

BOTTOM VIEW (10 : 1)

SIDE VIEW



NOTES:-

1. All dimensions in mm.
2. General tol. ISO-2768-mK.
3. Coating: Case: Ni 3-7 μ m.
Header: Ni 2-4 μ m / Au 0,5 μ m.

* Lens $\phi 1,5 \pm 0,002$

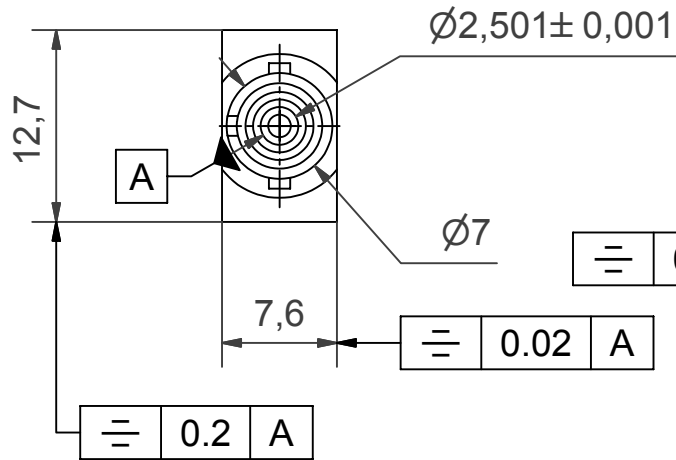
Projection Method

© Zarlink Semiconductor 2002. All rights reserved.				
ISSUE	1			
ACN	101615 rev1			
DATE	21-NOV-03			
APPRD.	MD/MA			

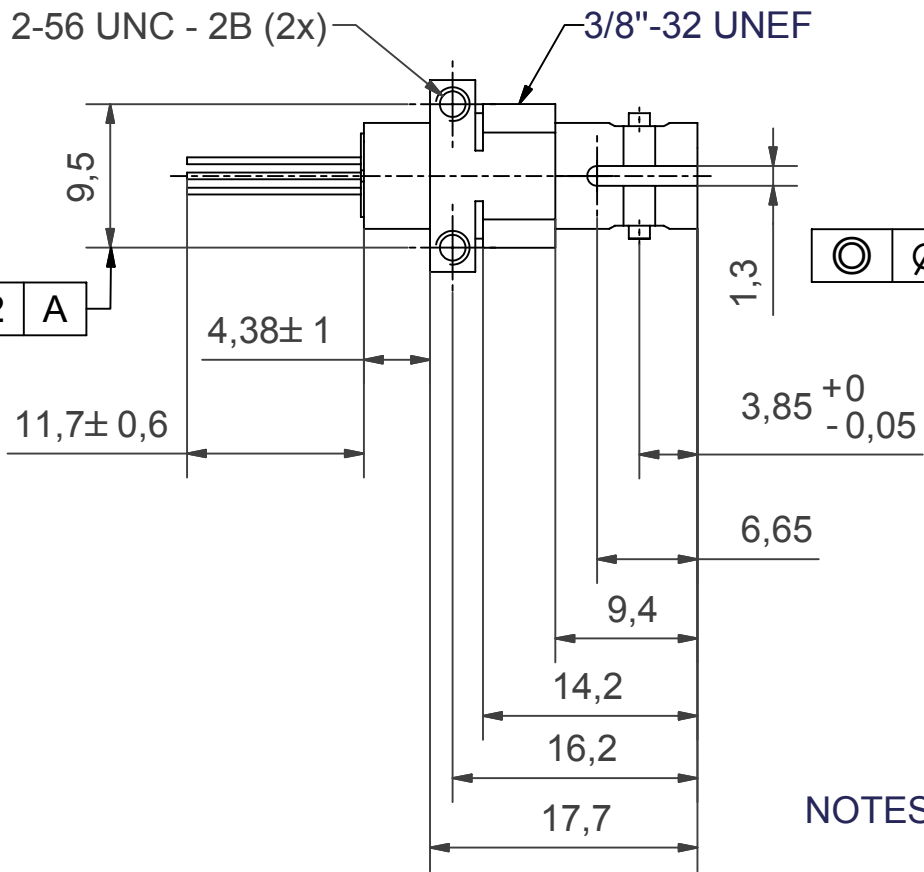


	Package code TB
Previous package codes	Drawing type Package Drawing, TO-56 with lens
	Title 101615

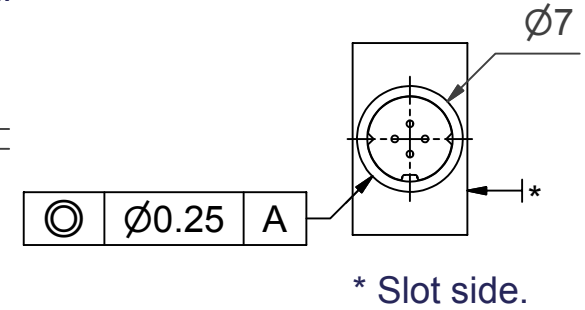
FRONT VIEW (2 : 1)



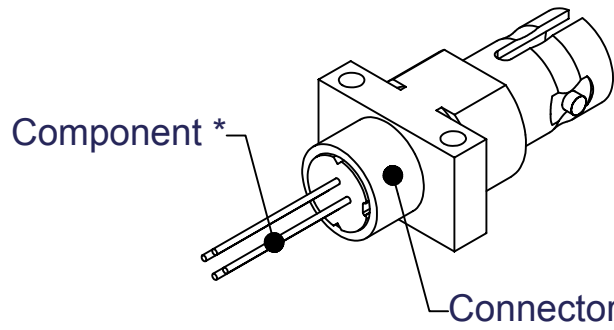
SIDE VIEW



BOTTOM VIEW



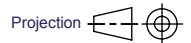
ISOMETRIC VIEW



NOTES:-

1. All dimensions in mm.
2. General tol. $\pm 0,1$ mm.

* For details of the component, see separate data sheet and/or package drawing.



© Zarlink Semiconductor 2002. All rights reserved.

ISSUE	1			
ACN	101514 rev1			
DATE	17-NOV-03			
APPRD.	PD\US			



Previous package codes

Package code **TD**

Drawing type
TO-56 Package Outline in ST
Connector housing

Title
101514



**For more information about all Zarlink products
visit our Web Site at
www.zarlink.com**

Information relating to products and services furnished herein by Zarlink Semiconductor Inc. or its subsidiaries (collectively "Zarlink") is believed to be reliable. However, Zarlink assumes no liability for errors that may appear in this publication, or for liability otherwise arising from the application or use of any such information, product or service or for any infringement of patents or other intellectual property rights owned by third parties which may result from such application or use. Neither the supply of such information or purchase of product or service conveys any license, either express or implied, under patents or other intellectual property rights owned by Zarlink or licensed from third parties by Zarlink, whatsoever. Purchasers of products are also hereby notified that the use of product in certain ways or in combination with Zarlink, or non-Zarlink furnished goods or services may infringe patents or other intellectual property rights owned by Zarlink.

This publication is issued to provide information only and (unless agreed by Zarlink in writing) may not be used, applied or reproduced for any purpose nor form part of any order or contract nor to be regarded as a representation relating to the products or services concerned. The products, their specifications, services and other information appearing in this publication are subject to change by Zarlink without notice. No warranty or guarantee express or implied is made regarding the capability, performance or suitability of any product or service. Information concerning possible methods of use is provided as a guide only and does not constitute any guarantee that such methods of use will be satisfactory in a specific piece of equipment. It is the user's responsibility to fully determine the performance and suitability of any equipment using such information and to ensure that any publication or data used is up to date and has not been superseded. Manufacturing does not necessarily include testing of all functions or parameters. These products are not suitable for use in any medical products whose failure to perform may result in significant injury or death to the user. All products and materials are sold and services provided subject to Zarlink's conditions of sale which are available on request.

Purchase of Zarlink's I²C components conveys a licence under the Philips I²C Patent rights to use these components in and I²C System, provided that the system conforms to the I²C Standard Specification as defined by Philips.

Zarlink, ZL and the Zarlink Semiconductor logo are trademarks of Zarlink Semiconductor Inc.

Copyright Zarlink Semiconductor Inc. All Rights Reserved.

TECHNICAL DOCUMENTATION - NOT FOR RESALE
