OECA

Aufbau RCLEDs für POF

Erfurt, 09.03.04

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OECA

Opto - Electronic Components and Applications

Company Name: OECA Optoelectronische Componenten und Applikations GmbH

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Year of Foundation: 1992

President: Bernd Stanitz
Manager: Gerhard Spickermann

Employees: 44

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ISO 9001 Certificate

- 19.10.1998
- 29.05.2000
- 30.05.2002

valid until May 2005

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Opto - Electronic Components and Applications

Product lines

Opto Electronics

Thermal Print Heads

Services

Opto electronic devices - Overviev OECA GmbH

Purchased parts (several suppliers)

Chip
PIN
PIN preamp
LED
IRED
RC LED
VCSEL
Edge emitter (Laser)
ASIC

Submount
TO-header
TO5, 18, 39, 46
SOT 148
TO 38
PCB
Ceramic
Peltier cooler

TO-device
LED, RC LED, IRED
PIN, Avalanche FD
PIN preamp
VCSEL, Laser

Fiber
diameter ≤1mm
Multi mode
Single mode
Polarisation maintaining
Polarising
Metall coated

Technology
- Chip mounting
- Gluing, Soldering of chips
- all types of wire bonding
  KS, TC, TS
  Al (wedge-wedge)
  Au (wedge-wedge, ball-wedge)
- Packaging
  glob toping, cap welding up to ø9mm; above co-operated
  Laser welding (all contours)
- Measuring, Testing
  V_F, V_R, I_F, I_R, P_{opt}, P_{fiber}

Technology
- hot curing glue (MM)
- cold curing glue (MM)
- UV-glue (MM)
- Laser welding (MM)

- UV-glue minimal 9µm (SM)
- Laser welding (SM)

Devices
- TO-header
- Hybrids
- Mini-DIL
- Special devices

Active Components
- Receptacle, Pigtail
  Single divices for MM+SM
- Combined devices
  Duplex (Multi- /Single mode)
  Cascade
  Triplex (MM)
  DIL, Butterfly-packages

Passive Components
- Collimator
- Expanded beam connector (MM)

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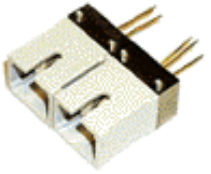
Device assemblies

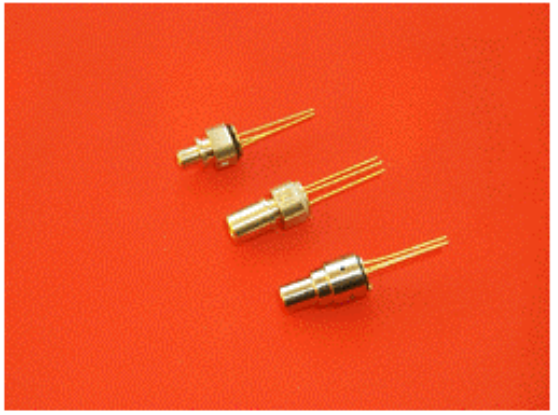
Sleeves

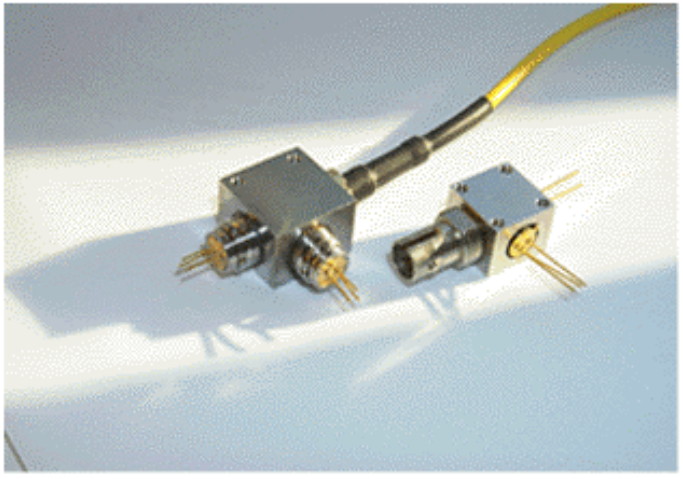
Standard housings

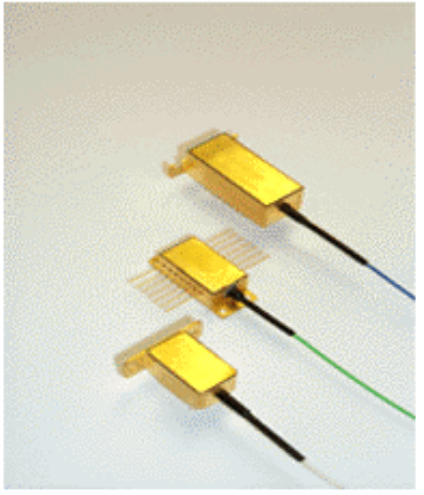
DIL packages

Duplex / Cascade devices









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Chip assemblies

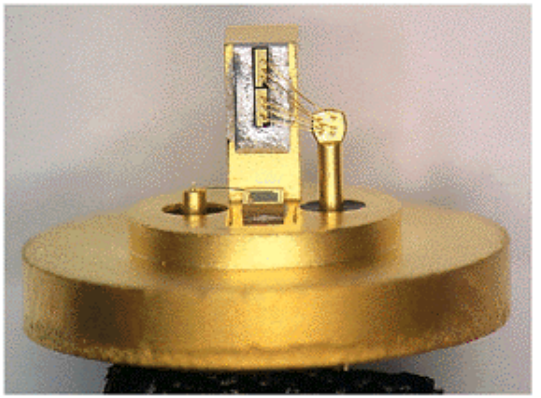
Special header

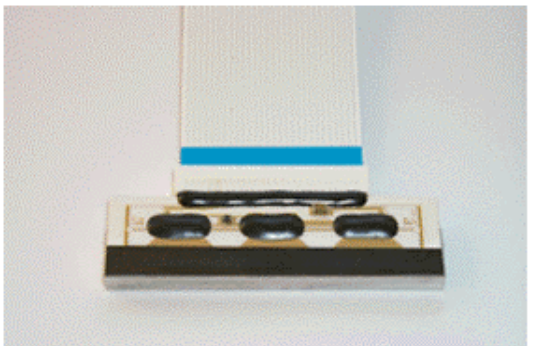
Chip and wire bonding

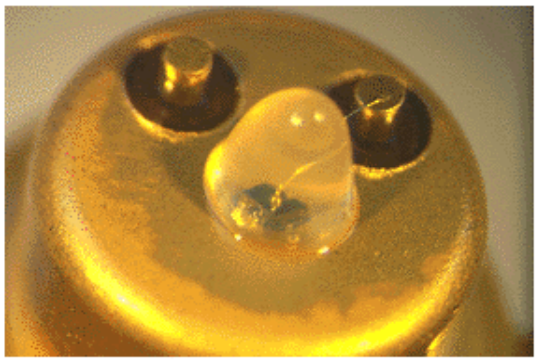
Special optical glob topping

Hermetic sealing / cap welding

Customer specific assemblies







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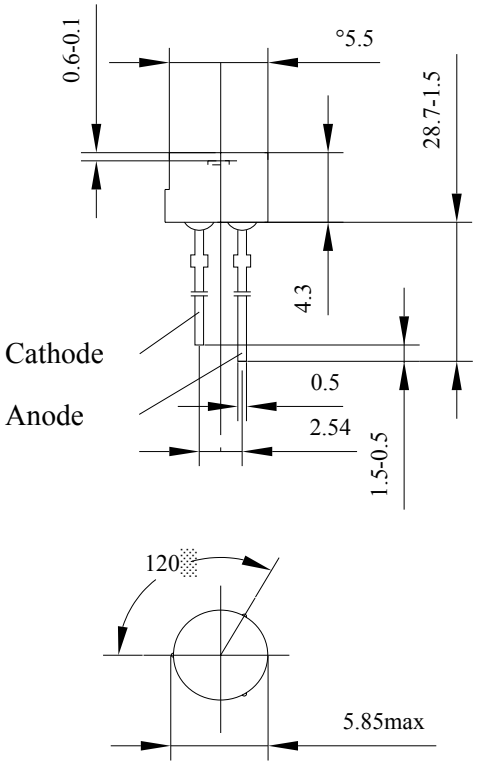
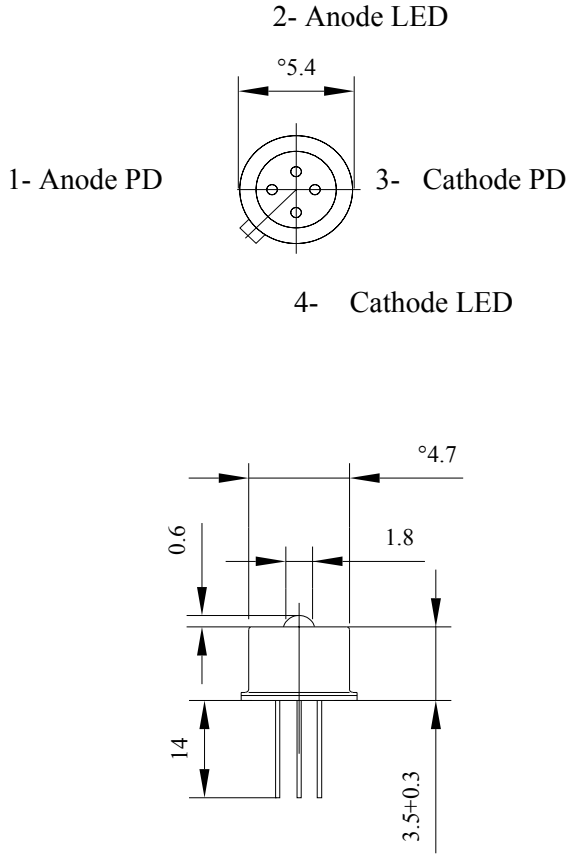
Bauformen von LEDs





650nm resonat cavity LED

1A46637 OECA-SMA100 **650 nm High-Performance RCLED**

Description

The 1A46637 OECA-SMA100 is a 650 nm RCLED (Resonant Cavity Light Emitting Diode) in a SMA-Receptacle. The assembled TO-46 device is usually electrical isolated from the SMA-Receptacle (maximum voltage 20V) to protect the diode against ESD-damaging. The device is designed for optical communication using Plastic Optical Fiber (POF) in applications such as IEEE 1394B (S100, S200) and 155 Mbps ATM, as well as for sensing and positioning applications.

Absolute Maximum Ratings **(T_C = 25°C ± 2°C)**

Parameter	Symbol	min.	max.	Unit
Reverse Voltage	V_R		5	V
Electrical Power Dissipation	P_{tot}		130	mW
Continuous Forward Current (f< 10 KHz)	I_F		40	mA
Peak Forward Current (duty cycle < 50%, f> 1MHz)	I_{FRM}		85	mA
Operating Temperature	$T_{OP} = T_C$	-20	+70	°C
Storage Temperature	T_{stg}	-55	+125	°C
Soldering Temperature / Soldering Time	T_{sold} / t_{sold}		260/5	°C/s

Optical and Electrical Characteristics **(T_C = 25°C ± 2°C)**

Parameter	Symbol	Condition	min.	typ.	max.	Unit
Fiber Coupled Power	P_{fiber}	Fiber: 980/1000µm, NA = 0.48 I_F = 30 mA	1200			µW
Bandwidth 3 dB_{el}	f_C	I_F = 30 mA	125			MHz
Peak Wavelength	λ_p	I_F = 30 mA	640	650	660	nm
Spectral Width (FWHM)	$\Delta\lambda$	I_F = 30 mA			20	nm
Forward Voltage	V_F	I_F = 30 mA			2.3	V