CHIPS.

Newsletter
May 2020

You are important. The others are very important.

Christian Marti

CEO's Note

Dear Reader,

Last Saturday, May 16, 1960, exactly 60 years ago, the laser was invented by Theodore Maiman. The first laser was a ruby laser which emitted light at 694.3nm. My first laser I tried and played was also a Ruby laser. The laser opened up a full new range of applications. Range finder, material processing, cancer treatment, communication, sensing, etc. As Maiman had the idea and knew, how a laser should be constructed, he simply struggled to find a light source pumping the laser crystal. There was a big concern in the electro-optical science field that ruby can be used as the active medium. Scientists tried to find other materials than ruby. Luckily, so the story, a salesman from General Electric showed Maiman xenon flash tubes. The salesman explained, that these flash tubes are so powerful, that they could ignited steel wool if it's close to the tube. Maiman used the helical xenon tube which was "wrapped" around the ruby crystal to pump the crystal. And it worked.

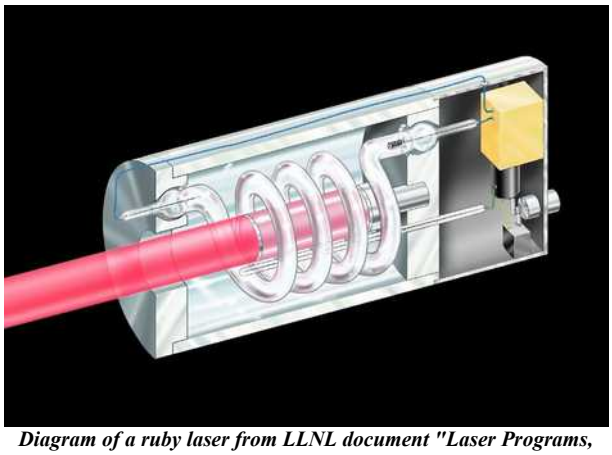


Diagram of a ruby laser from LLNL document "Laser Programs, the first 25 years". Source: US government.

As a consequence to me, salesman are very important people to build bridges between manufacturers and users. Without this salesman from General Electric visiting Maiman in his laboratory, maybe the ruby laser would never have be invented. Or at least later and maybe after other materials used for lasers.

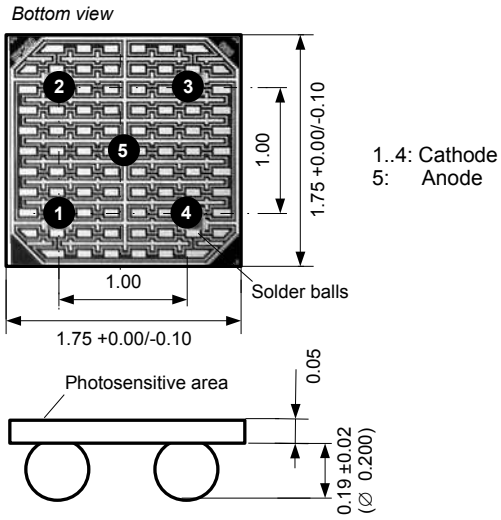
Photonics is the technology of the 21st century. Nevertheless, without the breakthrough work by Albert Einstein, and other scientists in 20th century, none of this would have been possible.

Beat De Coi

PS: It is to note that Gordon Gould is also named with the invention of the laser. At least, he invented the word «LASER: Light Amplification by Stimulated Emission of Radiation».

Photodiode epc200

Photodiodes are the most simple devices in photonics. In it's most simple implementation, it's just a pn junction. However, it's an impressive device. Namely, their dynamic range extends over five decades in a very linear behavior.



The epc200 is such a device. It's dynamic range is rated from less than 50nA to more than 2mA. This is a mere 92dB. The sensitivity is 18.7µA at 1mW/cm^2 at 850nm. it's photosensitive area is 1.65 x 1.65mm, but its footprint is just 1.75 x 1.75mm with a height of 0.24mm. This is extremely board space saving.

These photodiodes are designed to be used in a reverse-bias mode, whereas the reverse bias voltage can be between 1.5 and up to 30 Volts. The response time is 100ns. The epc200 photodiode is an ideal replacement for the BPW34, BP104 and the like, where space saving, noise and speed are key.

Checkout more details here:

Datasheet epc200

ESPROS has also sensitive amplifiers to be used with the epc200. Data sheets here:

Analog: epc130-131

Digital: epc134-139

Interview with Asije Emini; Deputy Forewoman Operations

What are your responsibilities at ESPROS?
My duties in the in Production & Logistics department, include supporting and deputizing for the head foreman in charge of operations, supervising the machinery and equipment in the production facilities both in clean-room 1 and clean-room 2, assembling prototypes, testing evaluations systems and ensuring completion of semi-finished products.

How long have you been working with ESPROS?
June 1 will mark my second anniversary with the company. Time really flies.

Where do you come from?
I have been living in Switzerland since 2003. This is quite a while. I'm originally from Macedonia. What I love most about my new home is the beauty and variety of nature and the fresh alpine air. I also really appreciate the Swiss infrastructure.

What do you like about your job and working for ESPROS?
What I really love about my job is the variety. I'm always learning something new. It is particularly rewarding when I'm able to pass my knowledge onto others.

Can you tell us about your hobbies?
As a mother of two children, there's always plenty of action. My weekends are usually spent outdoors with my family. When I find some time for myself, I love to read.

Asije Emini; Deputy Forewoman Operations

TOF modules and imager chips for non-contact sensors

The spread of bacteria and viruses is largely done by hands. The dangerous pathogens stick to everyday things such as door handles, light switches and toilet flushes. Handles and buttons on a wide variety of devices and installations thus become virus spreaders!

The perfect solution for public transport, for doctor's surgeries, hospitals, restaurants or even the food processing industry offer touch-free buttons and switches. Even if the hands are busy carrying objects, the approach to the switch is enough to trigger a function such as opening a door. In addition to avoiding skin contact with the switching element, various functions can even be simplified.

While ESPROS does not produce disinfectants or protective clothing, we can certainly help prevent or manage pandemics such as the current corona crisis. With our TOF modules and the ESPROS epc6xy imager chips, intelligent, non-contact sensors can be implemented for a wide variety of applications.

Check out the products on **Digi-Key** or get in contact with our **distribution partners** around the world.

3D TOF touch-less button for public transportation

++ Be part of our team and click here for our current job opportunities ++