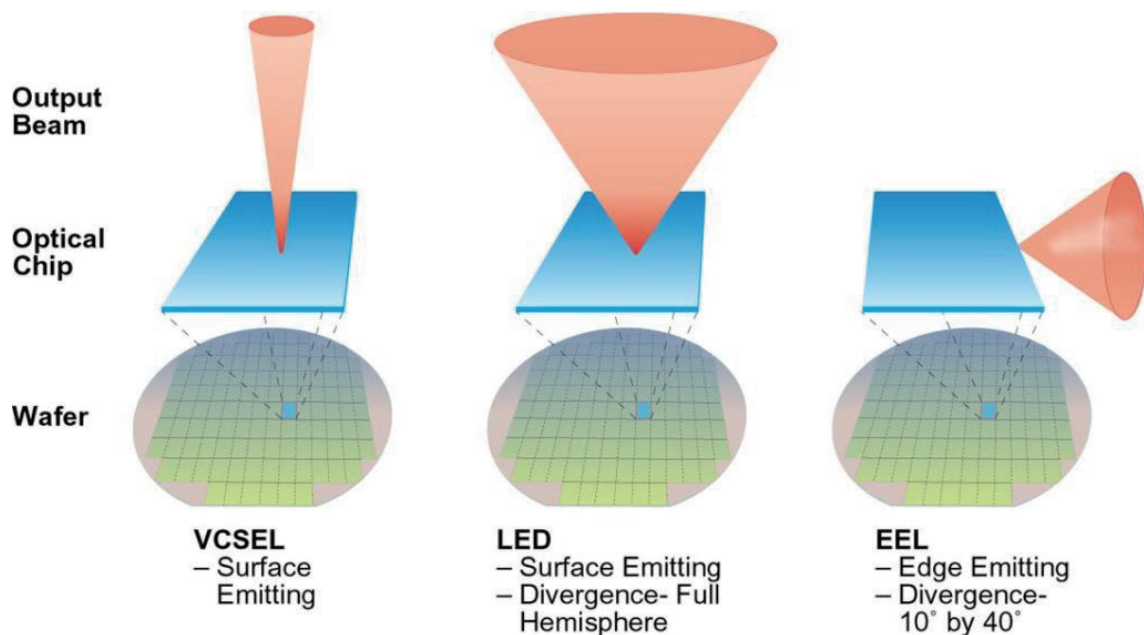**VCSEL Illuminated Weld Camera**
MeltCheck™
SC-CAM500-30

Camera Introduction

MeltCheck™ is a weld monitor camera that applies advanced VCSEL technology in illumination. Multi-junction VCSELs are more advantageous than edge emitting lasers and LED in providing illumination to camera because of their narrower wavelength range over temperature thus consuming less power with better illumination effect.

VCSEL does not require a back facet monitor like a diode laser; it can be driven like a LED, but at much higher power levels with a much lower drive current.
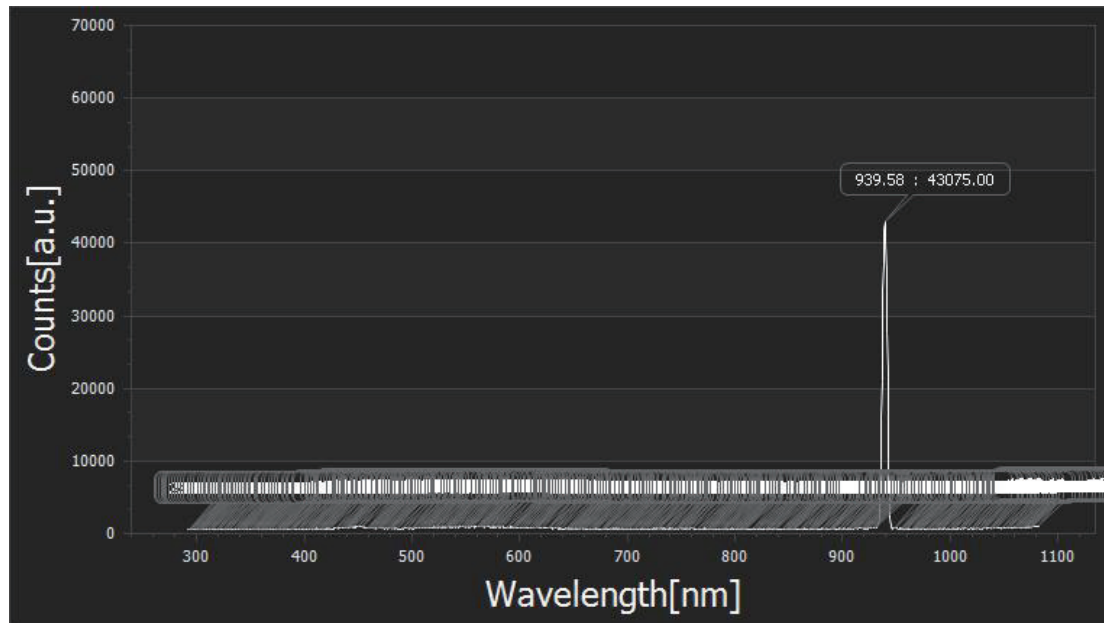

Output Beam

Optical Chip

Wafer

VCSEL
– Surface Emitting

LED
– Surface Emitting
– Divergence- Full Hemisphere

EEL
– Edge Emitting
– Divergence- 10° by 40°

Applications

MeltCheck™ can be used to visualize and monitor all kinds of welding process.
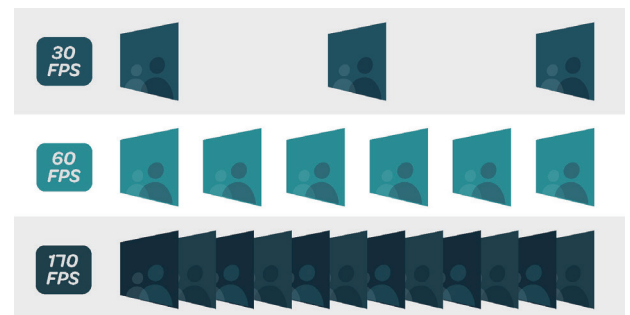
Narrow Wavelength

The VCSEL generates a very narrow wavelength range to ensure a highly efficient optical power for illumination. As a result, the illumination has a strong capability to be against ambient light noise.
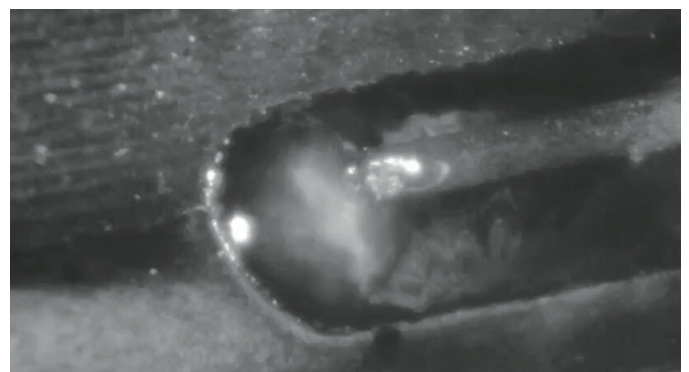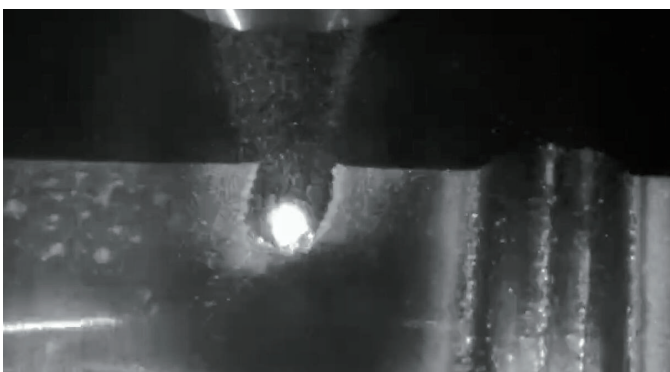

High Frame Rate

As welding is a continuously moving process, MeltCheck™ provides high frame rate up to 170 fps. This enables user to clearly monitor the whole welding process.

Example Video Images

Specification   SC-CAM500-30

Imaging Sensor Type	CMOS
Image size	4.5μ m x 4.5μ m
Sensor size	1/2"
Resolution	1280 x 1024
Frame rate	170 fps/210 fps
Shutter mode	Global shutter
Color	Black and white
Binning	1x1，1x2，1x4，2x1，2x2，2x4，4x1，4x2
USB type	USB 3.0/USB 2.0
I/O	6-pin P7 for power and I/O
Regular power	4W
IP Class	IP30
Working temperature	0-50℃
Environmental temperature	-30—70℃
Operating System	Windows XP/7/10 32/64bits,Linux 32/64bits and MacOS 64bits
Protocol	USB3 Vision，GenlCam
Dimension	45mm*45mm*60mm