



VCSELS for 3D Sensing

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3D sensing first appeared in smartphones in 2017, and now looks set to be in all premium smartphones from 2019 onwards. The first sensors were used for face recognition but in 2019, we will see sensors on the front and back of phones, to be used for gaming, security, AR/VR, and near-perfect depth perception for sharp camera focusing. From near zero in 2016, JP Morgan forecast 600 million 3D sensing units will be in phones by 2020. After that, we will see 3D sensing used in a variety of applications from driver monitoring in cars, to gesture control of household devices.

VCSELS (vertical cavity surface emitting lasers), a key component of 3D sensors, is built on a GaAs substrate and SPTS is used by leading manufacturers for etching deep wells, and to deposit dielectric and metal layers. This presentation will discuss the challenges of VCSEL processing from the perspective of the equipment maker, and show how the plasma etch process benefits from accurate in-situ end-pointing.