

## 【ABSTRACT】

The present disclosure discloses a substrate heat-treating apparatus including a process chamber in which a flat substrate to be heat treated is placed, the process chamber comprising a beam transmitting plate placed below the flat substrate and an infrared transmitting plate placed above the flat substrate; a beam irradiating module for irradiating a VCSEL beam having a single wavelength to a lower surface of the flat substrate through the beam transmitting plate; and an emissivity measuring configured to measure the laser beam reflected from the lower surface or an upper surface the flat substrate, thereby measuring the emissivity of the flat substrate.