

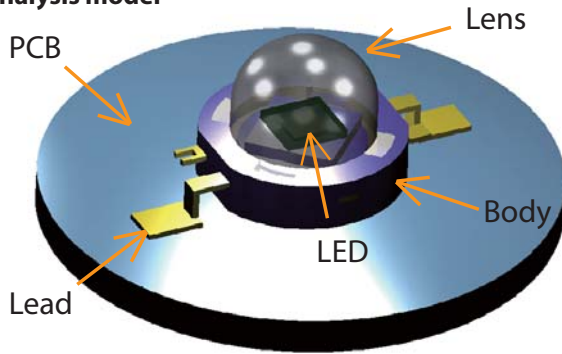
Heat Release of LED Device

Case study of SC/Tetra

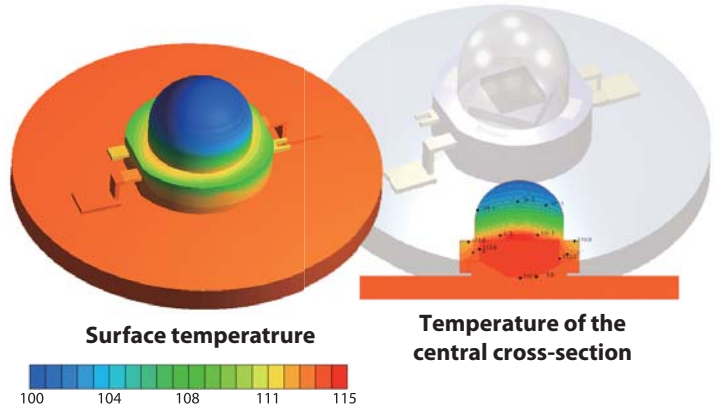
Comparison of SC/Tetra analysis result with experimental result for heat release of LED device

Heat release analysis of LED device

Analysis model

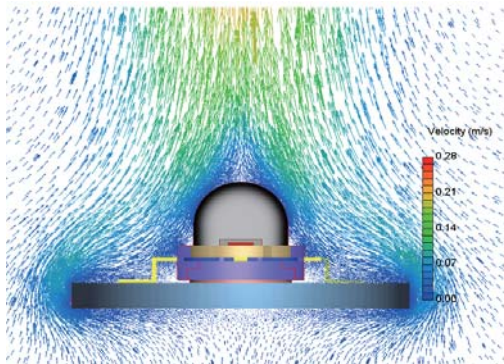


Surface and cross-section temperature distribution

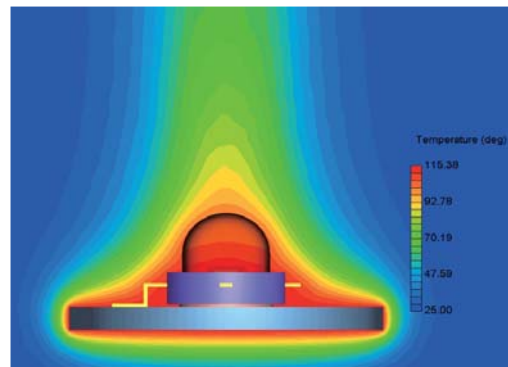


Heat of LED device is released mainly through PCB on which the device is installed and/or heat sink installed on the back of the PCB. SC/Tetra successfully simulates the phenomenon of heat release from the PCB.

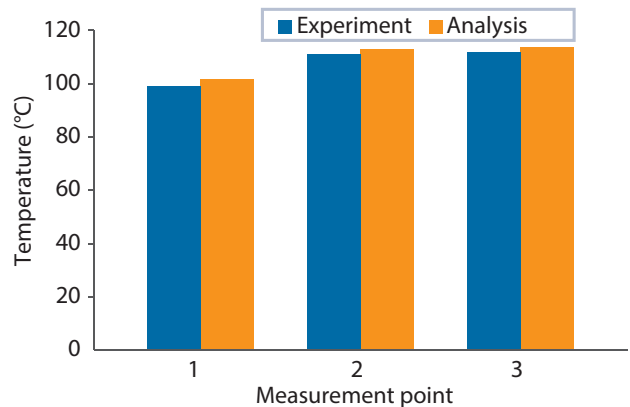
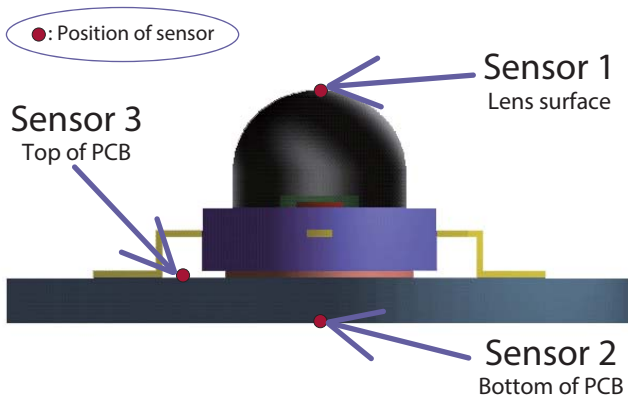
Flow pattern around the device (vector map)



Fluid temperature distribution around the device (contour map)



Comparison between experimental and analysis values (temperature)



Notes

In this analysis, simulation is performed with consideration on heat release through PCB as well as heat release due to natural convection of ambient air. The analysis result is almost the same with the experimental result (approximately 2.2 °C difference), which is adequate to simulate the tendency of the phenomenon.