

Video clip (Electronic Supplementary Information) illustrates the temperature evolution in the SiO₂ layer (a) and the one with Ge quantum dots (b) mounted onto the Si substrate. The linear sizes are in micrometers, the thickness of the SiO₂ layers in (a) and (b) is 500 nm, and the thickness of the Si substrate is 5 μm. The temperature bar presents the temperature increase in Kelvins. Heat is provided by a step-like current applied to metal electrodes (red rectangular strips on top of the structures having the width of 2 μm and the height of 0.2 μm) at time t=0. The time duration in this computer animation is 20 μs.

This clip was created using the software package VisIt (<https://wci.llnl.gov/simulation/computer-codes/visit>).