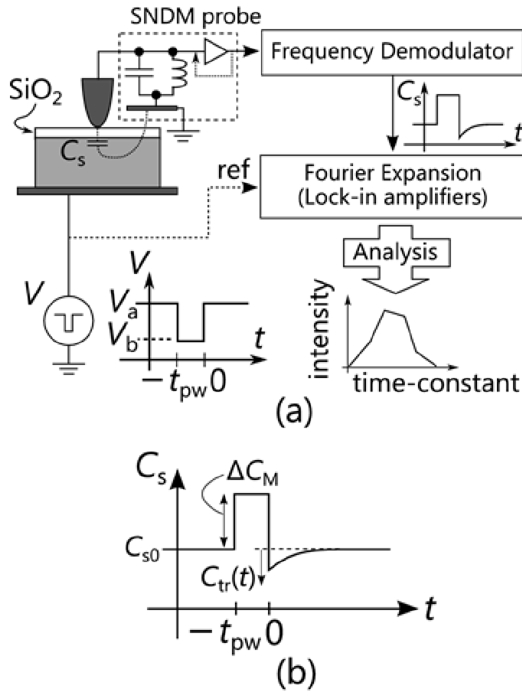

Figure 1. (a) Block diagram of the measurement system. (b) The transient capacitance response which is expressed by $C_{tr}(t) = \sum_{k=1}^{Nt} c(\tau_k)\exp(-t/\tau_k)$.

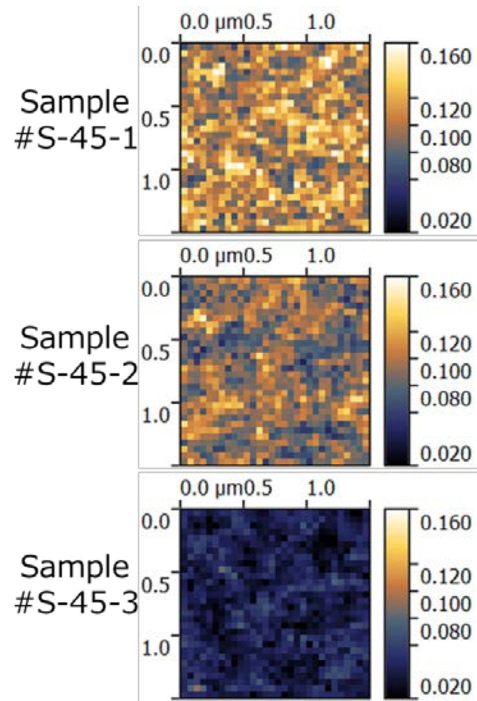

Figure 2. Images of Local-DLTS signal $c(\tau)/\Delta C_M$ around τ=1µsec of SiC MOS interface. The dark and bright areas are interpreted as low D_{it} (trap density) area and high D_{it} area, respectively.

	Local-DLTS images τ = 0.3 μs	Local-DLTS images τ = 3 μs	Correlation coefficient
#S-45-1	0.0 µm0.5 1.0; cm^{-2}eV^{-1}; 3.67 ×10^{12}, 3.40, 3.20, 3.00, 2.53	0.0 µm0.5 1.0; cm^{-2}eV^{-1}; 1.47 ×10^{12}, 1.30, 1.20, 1.10, 0.91	**0.11** **No correlation**
#S-45-2	0.0 µm0.5 1.0; cm^{-2}eV^{-1}; 2.560 ×10^{12}, 2.400, 2.200, 2.000, 1.610	0.0 µm0.5 1.0; cm^{-2}eV^{-1}; 1.09 ×10^{12}, 1.00, 0.90, 0.80, 0.58	**0.02** **No correlation**
#S-45-3	0.0 µm0.5 1.0; cm^{-2}eV^{-1}; 1.13 ×10^{12}, 1.00, 0.90, 0.80, 0.54	0.0 µm0.5 1.0; cm^{-2}eV^{-1}; 0.640 ×10^{12}, 0.550, 0.500, 0.450, 0.400, 0.280	**0.09** **No correlation**

Figure 3. 2D distribution of D_{it} converted from local-DLTS signals for τ = 0.3 µs and 3 µs.