



Reference No. (PR No. 1000017771)

RFx No. 6100000830

TECHNICAL SPECIFICATIONS

4-inch AlGa_N/Ga_N HEMT on SiC

1. Size: 4-inch wafer
2. Hetero-structure
 - a. SiC substrate
 - b. Nucleation layer
 - c. 1.8-2.0 μm C doped GaN buffer layer
 - d. 100-150 nm i-GaN channel layer
 - e. 1 nm AlN spacer layer
 - f. 20 nm i-Al_{0.23}Ga_{0.77}N barrier layer
 - g. 3 nm SiN cap layer
3. Sheet Resistance (R_{sheet}): $<325 \Omega/\text{square}$
4. Channel Mobility (μ): $>2200 \text{ cm}^2\text{V}^{-1}\text{s}^{-1}$
5. 2-dimensional electron gas (2DEG): $>8 \times 10^{12} \text{ cm}^{-2}$

Note:

AlGa_N means Aluminium Gallium Nitride

HEMT means High Electron Mobility Transistors

SiC means Silicon Carbide

SiN means Silicon Nitride

AlN means Aluminium Nitride