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(54) **METHODS OF FORMING EPITAXIAL  
ALSCN RESONATORS WITH  
SUPERLATTICE STRUCTURES INCLUDING  
ALGAN INTERLAYERS AND VARIED  
SCANDIUM CONCENTRATIONS FOR  
STRESS CONTROL AND RELATED  
STRUCTURES**

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(57)

**ABSTRACT**

A method of forming a resonator structure can be provided by forming one or more template layers on a substrate, (a) epitaxially forming an AlScN layer on the template layer to a first thickness, (b) epitaxially forming an AlGaN interlayer on the AlScN layer to a second thickness that is substantially less than the first thickness, and repeating operations (a) and (b) until a total thickness of all AlScN layers and AlGaN interlayers provides a target thickness for a single crystal AlScN/AlGaN superlattice resonator structure on the template layer.

