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(JP)(72) Inventors: **Hiroshi FUKUI**, Obu-City (JP);  
**Morimichi WATANABE**, Nagoya-City  
(JP); **Jun YOSHIKAWA**, Nagoya-City  
(JP)(73) Assignee: **NGK Insulators, Ltd.**, Nagoya-City  
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**ABSTRACT**

A multilayer structure of the present invention is a multilayer structure including a base substrate and a semiconductor film that is made of  $\alpha$ -Ga<sub>2</sub>O<sub>3</sub> or an  $\alpha$ -Ga<sub>2</sub>O<sub>3</sub>-based solid solution and has a corundum crystal structure, the semiconductor film being disposed on the base substrate. The semiconductor film has an average film thickness of greater than or equal to 10  $\mu$ m. The semiconductor film is convexly or concavely warped. An amount of warpage of the semiconductor film is 20  $\mu$ m or greater and 64  $\mu$ m or less.

