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**TAKAKURA et al.**(10) **Pub. No.: US 2023/0230907 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **SUBSTRATE STRUCTURE, MODULE,  
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SUBSTRATE STRUCTURE, AND METHOD  
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**ABSTRACT**

A substrate structure comprises a substrate having a first surface, a first electrode disposed on the first surface, a bump connected to the first electrode, and a protective member that covers the first surface and covers a portion of the bump. The protective member has an opening. The bump includes a portion exposed through the opening. The bump includes a first portion that is connected to the first electrode, and a second portion that is located farther from the first electrode than the first portion and is connected to the first portion. The bump has a constriction at a boundary between the first portion and the second portion. When viewed in a direction perpendicular to the first surface, a maximum diameter of the second portion is smaller than a maximum diameter of the first portion.

