



US 20240237188A9

(19) **United States**  
(12) **Patent Application Publication**  
**OTSUBO**

(10) **Pub. No.: US 2024/0237188 A9**  
(48) **Pub. Date: Jul. 11, 2024**  
**CORRECTED PUBLICATION**

(54) **CIRCUIT MODULE**

**H05K 1/14** (2006.01)

**H05K 1/18** (2006.01)

(71) Applicant: **Murata Manufacturing Co., Ltd.**,  
Nagaokakyo-shi (JP)

(52) **U.S. Cl.**

**CPC** ..... **H05K 1/0203** (2013.01); **H01L 23/3675**  
(2013.01); **H01L 25/105** (2013.01); **H01L**  
**25/162** (2013.01); **H05K 1/144** (2013.01);  
**H05K 1/181** (2013.01); **H01L 2225/1094**  
(2013.01); **H05K 2201/042** (2013.01); **H05K**  
**2201/10015** (2013.01); **H05K 2201/1003**  
(2013.01); **H05K 2201/10522** (2013.01); **H05K**  
**2201/10545** (2013.01); **H05K 2201/1056**  
(2013.01)

(72) Inventor: **Yoshihito OTSUBO**, Nagaokakyo-shi  
(JP)

(21) Appl. No.: **18/483,870**

(22) Filed: **Oct. 10, 2023**

**Prior Publication Data**

(15) Correction of US 2024/0138052 A1 Apr. 25, 2024  
See (22) Filed.  
See (30) Foreign Application Priority Data.

(65) US 2024/0138052 A1 Apr. 25, 2024

(30) **Foreign Application Priority Data**

Oct. 19, 2022 (JP) ..... 2022-167403

**Publication Classification**

(51) **Int. Cl.**

**H05K 1/02** (2006.01)

**H01L 23/367** (2006.01)

**H01L 25/10** (2006.01)

**H01L 25/16** (2006.01)

(57)

**ABSTRACT**

A first sealing resin is disposed between a first lower main surface and a second upper main surface. An upper circuit board first mounting electrode is disposed on the first lower main surface. A lower circuit board first mounting electrode is disposed on the second upper main surface. A first component is mounted on the lower circuit board first mounting electrode and is disposed in the first sealing resin. A first conductor layer is disposed on an upper circuit board. As viewed in the downward direction, a heat conduction member overlaps the first component, is disposed in a space between the first lower main surface and the second upper main surface, and is coupled to the first conductor layer via a conductor. A part of a heat dissipation member is exposed from the first sealing resin in a direction orthogonal to an up-down axis.

