US patent no. 12,052,812 (US12052812B2), titled

“Capacitor capable of releasing reactive oxygen species and reactive nitrogen species after powering," was published on July 30, 2024.

Key Information regarding US Patent 12,052,812:

- **Title:** Capacitor capable of releasing reactive oxygen species and reactive nitrogen species after powering.
- **Inventor(s):** Ting-Yi Chang, Chia-Hao Chang, and Chung-Tai Chang.
- **Assignee:** The patent is associated with Ting-Yi Chang.
- **Publication Date:** July 30, 2024.
- **Application Date:** August 23, 2022.
- **Abstract:** The patent describes a capacitor designed to release reactive oxygen species (ROS) and reactive nitrogen species (RNS) upon being powered. It consists of a specific dielectric material capable of producing these species.

Contextual Information:

- This patent is part of a broader field of devices focusing on the generation of reactive gases for applications such as sterilization or material treatment.
- Related patents from the same inventors include apparatus for treating nails using similar technology (US12383643B1).
- The patent was examined by PHAM THAI N of Art Unit 2844.

Note: As of early 2026, this is a relatively new patent within the field of electronic components and plasma/reactive gas generation.

Plasma Gas Patent No.: **US 12,052,812 B2**

PTC Heater (Ceramic Semiconductor) Patent No.: **5,125,070**