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AKIYAMA et al.(10) **Pub. No.: US 2022/0407511 A1**(43) **Pub. Date: Dec. 22, 2022**(54) **GATE DRIVE DEVICE****H03K 17/16** (2006.01)**H03K 17/284** (2006.01)(71) Applicant: **DENSO CORPORATION**, Kariya-city
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A gate drive device drives a gate of a semiconductor switching element constituting an upper or lower arm of a half bridge circuit which supplies an output current, which is alternating current, to a load. The gate drive device detects a peak value of an element voltage which is a voltage of a main terminal of the semiconductor switching element or a change rate of the element voltage when the semiconductor switching element is switching. The gate drive device acquires a maximum value among a plurality of peak values or a plurality of change rates during a predetermined detection period including a period in which the semiconductor switching element performs switching multiple number of times.

