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Nam(10) **Pub. No.: US 2022/0393674 A1**(43) **Pub. Date: Dec. 8, 2022**(54) **DUTY POINT DETECTION CIRCUIT AND
OPERATING METHOD THEREOF**(52) **U.S. Cl.**CPC *H03K 5/1565* (2013.01); *H03K 3/017*
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A duty point detection circuit receiving an input signal and generating an output signal includes a charge pump receiving the input signal and the output signal and generating a comparison target signal from the input signal and the output signal, a magnitude of the comparison target signal being determined based on a first duty ratio of the input signal and a second duty ratio of the output signal, a comparator receiving a reference signal and the comparison target signal, and comparing the reference signal and the comparison target signal to generate a comparison result signal, and a control circuit receiving the input signal and the comparison result signal and adjusting the second duty ratio of the output signal to a constant duty ratio in successive cycle periods of the input signal.

