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(54) **PARASITIC PULSE CANCELATION CIRCUIT**

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(57) **ABSTRACT**

A motor control system includes a DC motor and a ripple count circuit. The DC motor includes a rotor that rotates in response to a drive current. The rotation of the rotor generates a mechanical force that drives a component. The ripple count circuit includes an active filter circuit and a parasitic pulse cancellation circuit. The active filter circuit is configured to filter the drive current and to generate a pulsed signal. The parasitic pulse cancelation circuit is in signal communication with the ripple count circuit to receive the pulsed signal and generates a ripple count signal that excludes parasitic pulses included in the pulsed signal having a parasitic voltage level that exceeds a voltage level of a voltage threshold. The parasitic pulse cancelation circuit actively adjusts the voltage level of the voltage threshold based at least in part on a rotational direction of the rotor.