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(54) **WIDE BANDGAP OPTICAL SWITCH CIRCUIT BREAKER**

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(57) **ABSTRACT**

A high-voltage switch is adapted for use as a medium-voltage direct current circuit breaker, which provides a low-cost, small-footprint device to mitigate system faults. In one example, a method for operating a wideb and optical device includes illuminating the wide bandgap optical device with a light within a first range of wavelengths and a first average intensity, allowing a current to propagate therethrough without substantial absorption of the current, illuminating the wide bandgap optical device with light within the first range of wavelengths and a second average intensity that is lower than the first average intensity to allow a sustained current flow though the wide bandgap optical device, and illuminating the wide bandgap optical device with light within a second range of wavelengths to stop or substantially restrict propagation of the current through the wide gap material.