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(54) **MULTI-STRING LED CURRENT BALANCING CIRCUIT WITH FAULT DETECTION**

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(57) **ABSTRACT**

A lighting device circuit comprising: a reference LED string, a mirror LED string coupled in parallel to the reference LED string, an operational amplifier based current mirror circuit coupled to the reference LED string and to the mirror LED string, and a window comparator circuit that includes only a single input that is coupled to a fault sense node. The fault sense node directly connects to a drain node of a transistor within the operational amplifier based current mirror and a LED within the mirror LED string.