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Patent

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Andrew Kinn

DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE



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(12) **United States Patent**
Vangala et al.

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(54) **SOFT SWITCHING IN SINGLE SWITCH
BOUNDARY CONDUCTION MODE
FLYBACK CONVERTERS USING A FIXED
DEAD TIME**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

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CPC **H02M 3/33507** (2013.01); **H02M 1/083**
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(58) **Field of Classification Search**
CPC H02M 3/335-3/42; H02M 2001/0058
See application file for complete search history.

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(57) **ABSTRACT**

Soft switching in Boundary Conduction Mode (BCM) fly-
back converters using a fixed dead time is presented.
Embodiments disclosed herein relate to switching circuits
and more particularly to soft switching in single stage
isolated flyback converters with single switch. Embodiments
herein disclose systems for soft switching in single stage
isolated flyback converters by combining selection of trans-
formers turn ratio and by incorporating the fixed dead time.

9 Claims, 3 Drawing Sheets

