

Title (en)  
HIGH EFFICIENCY PASSIVE CLAMP

Title (de)  
HOCHEFFIZIENTE PASSIVE KLAMMER

Title (fr)  
CALAGE PASSIF À GRANDE EFFICACITÉ

Publication  
**EP 3963707 A4 20230104 (EN)**

Application  
**EP 20798538 A 20200211**

Priority  
• US 201962841694 P 20190501  
• US 201916503432 A 20190703  
• US 202016775967 A 20200129  
• US 2020017672 W 20200211

Abstract (en)  
[origin: WO2020222889A1] A circuit having primary and secondary sides includes a flyback converter having an input voltage source (Vin, 410 (26)) and a transformer with primary and secondary windings. A main switch is in series with the primary winding. A passive clamp circuit includes a clamp diode (Dcl, 470), a clamp capacitor (Cr, 472), and an auxiliary circuit (480) including first (D1, 474) and second rectifiers (D2, 476) in series with each other and with an electronic component (VB) configured to store electromagnetic energy. The electronic component (VB) has first and second terminals. A cathode of the first rectifier (D1, 474) is connected with the passive clamp circuit, and an anode of the first rectifier (D1, 474) is connected to the second terminal of electronic component. An anode of the second rectifier (D2, 476) is connected with the cathode of the first rectifier (D1, 474), and a cathode of the second rectifier (D2, 476) is connected with the first terminal of the electronic component (VB).

IPC 8 full level  
**H02M 3/335** (2006.01); **H02M 1/00** (2006.01); **H02M 1/34** (2007.01); **H03K 17/0814** (2006.01)

CPC (source: EP)  
**H02M 1/0058** (2021.05); **H02M 1/346** (2021.05); **H02M 3/33592** (2013.01); **H03K 17/08142** (2013.01); **H02M 1/0051** (2021.05); **H02M 1/342** (2021.05); **H02M 1/344** (2021.05); **Y02B 70/10** (2013.01)

Citation (search report)  
• [X] US 2019115845 A1 20190418 - JITARU IONEL [US]  
• [A] US 5636114 A 19970603 - BHAGWAT PRADEEP M [US], et al  
• [A] US 2015303789 A1 20151022 - FENG WEI-YI [CN], et al  
• [A] YUE WANG ET AL: "A clamping circuit parameter design method for IGBT used in high power applications", 2014 IEEE APPLIED POWER ELECTRONICS CONFERENCE AND EXPOSITION - APEC 2014, IEEE, 16 March 2014 (2014-03-16), pages 3406 - 3410, XP032590823, DOI: 10.1109/APEC.2014.6803797  
• See references of WO 2020222889A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2020222889 A1 20201105**; CN 114245961 A 20220325; EP 3963707 A1 20220309; EP 3963707 A4 20230104

DOCDB simple family (application)  
**US 2020017672 W 20200211**; CN 202080047002 A 20200211; EP 20798538 A 20200211