

Title (en)  
MULTI-CHANNEL PULSE CURRENT GENERATOR WITH CHARGING

Title (de)  
MEHRKANALIGER PULSSTROMGENERATOR MIT LADUNG

Title (fr)  
GÉNÉRATEUR DE COURANT PULSÉ À CANAUX MULTIPLES AVEC CHARGE

Publication  
**EP 3857713 A4 20220629 (EN)**

Application  
**EP 19867976 A 20190924**

Priority  
• US 201862736830 P 20180926  
• US 2019052710 W 20190924

Abstract (en)  
[origin: WO2020068837A1] A multi-channel current pulse generator for driving a plurality of loads with unique positive terminals and a shared negative terminal. The pulse generator comprises a pulse control transistor and, for each load, a load capacitor and a charging control transistor. The pulse control transistor allows or blocks current pulses through the loads and has a drain terminal connected to the shared negative terminal, a source terminal connected to ground, and a gate terminal for receiving a load driver control signal. The load capacitors are discharged by current pulses through the corresponding loads. The charging control transistors allow or block charging currents for the corresponding load capacitors. The pulse control transistor is preferably an enhancement mode GaN FET and is chosen to withstand current pulses through a maximum number of loads to be driven simultaneously.

IPC 8 full level  
**H03K 3/57** (2006.01); **H03K 3/02** (2006.01); **H03K 3/53** (2006.01)

CPC (source: EP KR)  
**G05F 3/24** (2013.01 - KR); **H02J 7/00718** (2020.01 - KR); **H02J 7/345** (2013.01 - KR); **H03K 3/02** (2013.01 - KR); **H03K 3/57** (2013.01 - EP KR)

Citation (search report)  
• [X] DE 102016116369 A1 20180301 - OSRAM OPTO SEMICONDUCTORS GMBH [DE]  
• [XI] DE 102016116875 A1 20170323 - ANALOG DEVICES INC [US]  
• [X] US 2011018452 A1 20110127 - TAKEUCHI TAKUYA [JP]  
• See also references of WO 2020068837A1

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 2020068837 A1 20200402**; CN 112771779 A 20210507; CN 112771779 B 20240823; EP 3857713 A1 20210804; EP 3857713 A4 20220629; JP 2022502923 A 20220111; JP 7560448 B2 20241002; KR 20210079298 A 20210629; TW 202023136 A 20200616; TW I724559 B 20210411

DOCDB simple family (application)  
**US 2019052710 W 20190924**; CN 201980063583 A 20190924; EP 19867976 A 20190924; JP 2021516962 A 20190924; KR 20217012255 A 20190924; TW 108134672 A 20190925