

# AgileSwitch Digital Programmable Gate Drivers

## Quick Start Guide

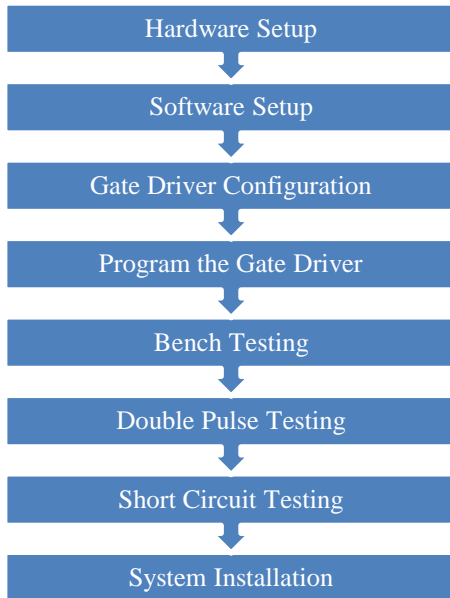
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## Abstract

AgileSwitch Digital Programmable Gate Drivers offer multiple levels of software configurability that allow system designers to fine tune performance to their specific systems and applications. This Quick Start Guide will define the hardware and software required to get started, as well as the overall process of configuring a gate driver to your application.



## 1. Hardware Setup

Qty	Description	Manufacturer	Part Number	Notes
1	Windows 7 or better PC	-	-	
1	Gate Driver	AgileSwitch	2ASC-12A1HP 2ASC-17A1HP 62EM1	
1	Device Programmer	AgileSwitch	ASBK-007	Connects PC to Gate Driver
1	Module Adapter Board	AgileSwitch	62CA1, 62CA2, 62CA4, EDCA1, EDCA2	Or Design Your Own

## 2. Software Setup

Qty	Description	Manufacturer	Part Number	Notes
1	MPLAB X IPE	Microchip	MPLAB X IPE v5.05	<a href="http://www.agileswitch.com/program.html">http://www.agileswitch.com/program.html</a>
1	Intelligent Configuration Tool	AgileSwitch	ICT – 2ASC-12A1HP ICT – 62EM1	

### **3. Gate Driver Configuration**

Open the ICT – 2ASC-12A1HP.

Follow the AgileSwitch Intelligent Configuration Tool User Manual - 2ASC-12A1HP for detailed instructions.

### **4. Program the Gate Driver**

Open MPLAB X IDE.

Follow the AgileSwitch Gate Driver Programming Instructions for detailed instructions.

### **5. Bench Testing**

AgileSwitch highly recommends bench testing the setup prior to applying any high voltage. This will ensure that the settings selected in the ICT and the actual output are as expected.

### **6. Double Pulse Testing**

Double Pulse Testing is a valuable test to characterize your system for DC Link Voltage Overshoot and Switching Efficiency.

AgileSwitch offers recommended settings for several SiC modules based on our characterization. These can be used as a starting point for your system characterization. The recommended settings are included with the ICT download.

There is a detailed testing procedure located in the AgileSwitch Intelligent Configuration Tool User Manual – 2ASC-12A1HP.

### **7. DSAT (Short Circuit) Testing**

DSAT (Short Circuit) Testing will simulate a short circuit condition. This will allow the user to verify that the selected settings will protect the SiC module based on the system specifications.

AgileSwitch offers recommended settings for several SiC modules that we have characterized. These can be used as a starting point for your system characterization. The recommended settings are included with the ICT download.

There is a detailed testing procedure located in the AgileSwitch Intelligent Configuration Tool User Manual – 2ASC-12A1HP.

### **8. System Installation**

After completing the steps above, you are ready to install the board(s) into your system for full load testing.

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## Patent Notices

Offering	Issued U.S. Patent Numbers
AgileStack™ Power Stack	8,984,197
Silicon Carbide Gate Drivers	9,490,798

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