



600E Series Controller & Switch Evaluation Board

SMT, Compact, Field Configurable

XSYSTOR

PRODUCT FLYER
August 2015

General Description

The 600 Series Evaluation Boards reflect the possible combinations of 100, 200, 300, & 400 Series Controllers and Switches. They offer a wide range of smart functionality to the already superior attributes of the GaN transistor. These eval boards are used for demonstrating GaN operation as well as drop-in modules for sub-systems and test apparatus.

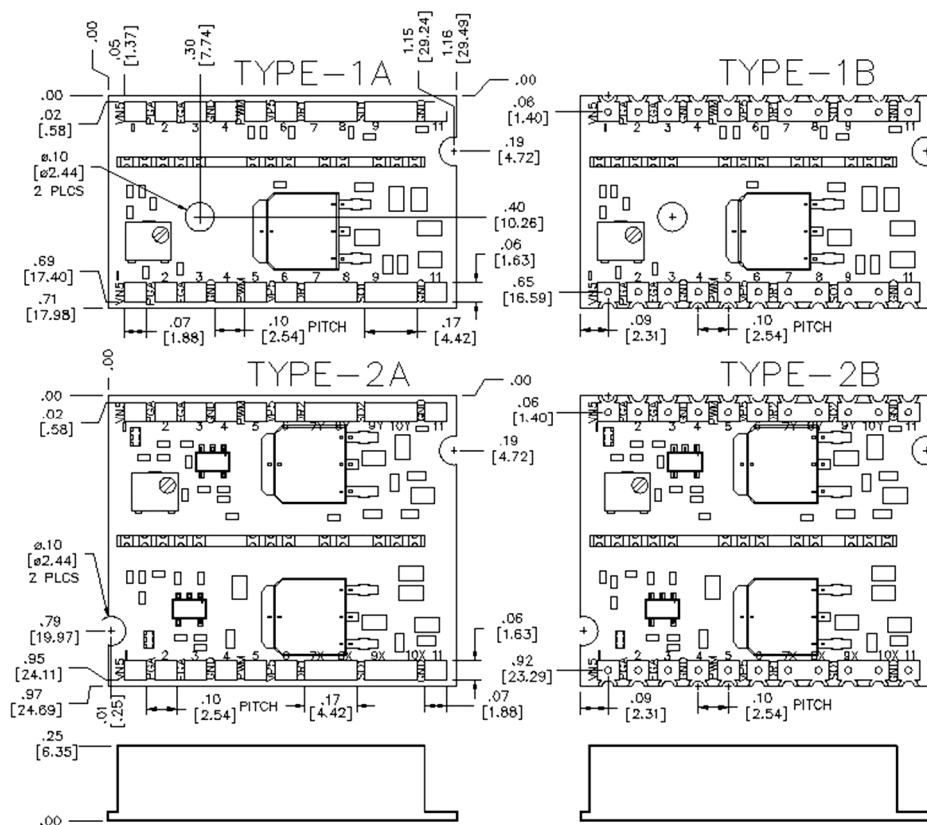
Features

- Board pads come in castellated, isolated, or thru-hole for mounting on PCBs, metal surfaces, and headers.
- Switch: Rated for 100V, Ultra-low Rds ON, Operation up to 175°C, with derated voltage and current.
- Controller: Negative or Positive Gate Bias Input. Single supply possible. Independent or Sequential Drain and Gate Switching.

Specification Snapshot

Parameter	Min	Max
Source Voltage	+28 V	+80 V
Supply (-) Voltage	-6 V	0 V
Logic Voltage	-0.3 V	+4.0 V
Drain ON Propagation Delay	—	—
Drain ON Rise Time	—	—
Drain OFF Propagation Delay	—	—
Drain OFF Fall Time	—	—
Soldering Temp (10 sec)		+260°C
Operating Temperature	-40°C	+85°C
Storage Temperature	-65°C	+150°C

Eval Board Configurations



TYPE-nA typically mounts on metal surfaces, while TYPE-nB on PCB or straight header pins.

Ordering Information

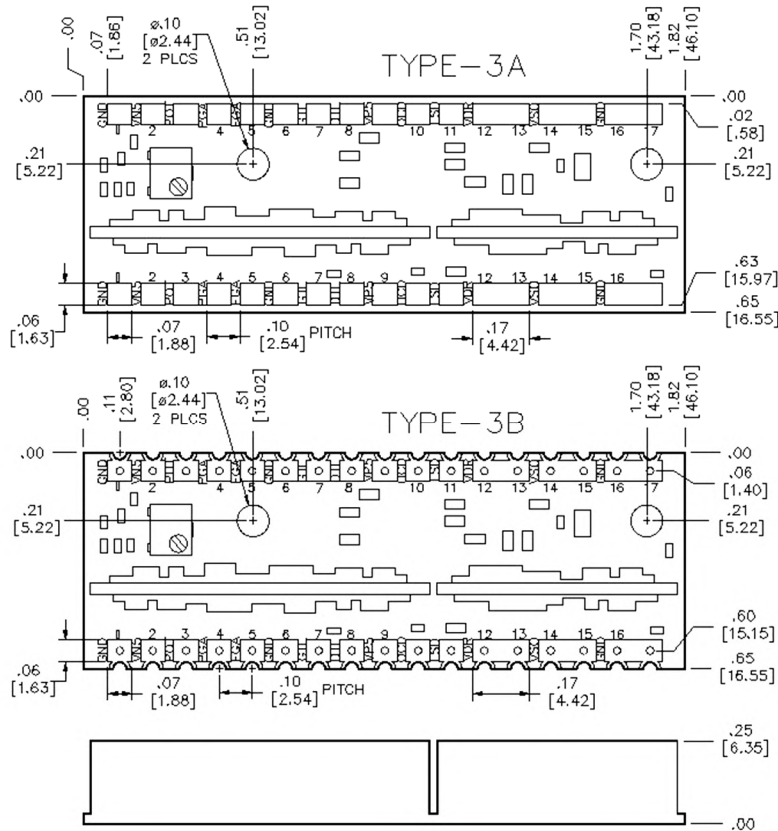
MODEL	CONTENTS	TYPE
610EP2R6 610EP2R0 610EP1R4	100L CONTROLLER, 14A CW SWITCH, SE- LECT VGS= -2.6V, -2.0V, OR -1.4V SHUTDOWN	1A
610EC2R6 610EC2R0 610EC1R4		1B
612EP2R6 612EP2R0 612EP1R4	200L CONTROLLER, 14A CW SWITCH, SE- LECT VGS= -2.6V, -2.0V, OR -1.4V SHUTDOWN	1A
612EC2R6 612EC2R0 612EC1R4		1B
614EP___	100L CONTROLLER, DUAL 14A CW SWITCH,	2A
614EC___	SELECT 2R6, 2R0, 1R4	2B
616EP___	200L CONTROLLER, DUAL 14A CW SWITCH,	2A
616EC___	SELECT 2R6, 2R0, 1R4	2B
620EP___	100L CONTROLLER, 14A PULSED SWITCH,	1A
620EC___	SELECT 2R6, 2R0, 1R4	1B
622EP___	200L CONTROLLER, 14A PULSED SWITCH,	1A
622EC___	SELECT 2R6, 2R0, 1R4	1B

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Eval Board Configurations



TYPE-nA typically mounts on metal surfaces, while TYPE-nB on PCB or straight header pins.

I/O Pin Descriptions

I/O PORTS FOR TYPE 1A, 1B, 2A, 2B EVAL BOARDS		
PIN	LABEL	DESCRIPTION
1	VN5	Neg Voltage Input (-6V min). Leave open if Neg Supply is Internal
2	PGA	Neg Pulsed Output to Transistor Gate
3	FGA	Neg Fixed Output to Transistor Gate
4	GND	Ground
5	PWM	TTL/PWM Signal Input to Switch Transistor.
6	VP5	Pos Voltage Input (+5V max). Leave open if Pos Supply is Internal
7,8	DR1	High Voltage Output to Transistor Drain. Avoid wires or lines to minimize inductive parasitics. Max capacitive load is 500pF for optimum switching speed
9,10	SO1	High Voltage Input to Transistor Source. Connect high value storage capacitors
11	GND	Ground

I/O PORTS FOR TYPE 3A, 3B EVAL BOARDS		
PIN	LABEL	DESCRIPTION
1	GND	Ground
2	VN5	Neg Voltage Input (-6V min). Leave open if Neg Supply is Internal
3	POT	Analog Bias Voltage Input. Leave open if a potentiometer is utilized in the board
4	PGA	Neg Pulsed Output to Transistor Gate, as stimulated by GTL Input
5	FGA	Neg Fixed Output to Transistor Gate
6	GND	Ground
7	GTL	Gate Enable TTL Input. Usually tied to DTL.
8	DTL	Drain Enable TTL Input
9	VP5	Pos Voltage Input (+5V max). Leave open if Pos Supply is Internal
10	OCD	Open Collector Drive Output. May be used for additional MOS switches
11	LSD	Low Side 15V Driver Output. May be used for additional MOS switches
12,13	VDR	High Voltage Output to Transistor Drain. Avoid wires or lines to minimize inductive parasitics. Max capacitive load is 500pF for optimum switching speed. Dual switches have separate connections at opposite pads.
14,15	VSO	High Voltage Input to Transistor Source. Connect high value storage capacitors. Complimentary switches have the N-channel switch grounded in one side.
16,17	GND	Ground

Model Number Color Code

0	1	2	3	4	5	6	7	8	9

Ordering Information (cont)

MODEL	CONTENTS	TYPE
624EP_	100L CONTROLLER, DUAL 14A PULSED	2A
624EC_	SWITCH, SELECT 2R6, 2R0, 1R4	2B
626EP_	200L CONTROLLER, DUAL 14A PULSED	2A
626EC_	SWITCH, SELECT 2R6, 2R0, 1R4	2B
670EP_	100L CONTROLLER, 410L DUAL CW	3A
670EC_	SWITCH, SELECT 2R6, 2R0, 1R4	3B
672EP_	200L CONTROLLER, 410L DUAL CW	3A
672EC_	SWITCH, SELECT 2R6, 2R0, 1R4	3B
680EP_	100L CONTROLLER, 420L DUAL PULSED	3A
680EC_	SWITCH, SELECT 2R6, 2R0, 1R4	3B
682EP_	200L CONTROLLER, 420L DUAL PULSED	3A
682EC_	SWITCH, SELECT 2R6, 2R0, 1R4	3B
690EP_	100L CONTROLLER, 430L PULSED CMOS	3A
690EC_	SWITCH, SELECT 2R6, 2R0, 1R4	3B
692EP_	200L CONTROLLER, 430L PULSED CMOS	3A
692EC_	SWITCH, SELECT 2R6, 2R0, 1R4	3B