

Document Number		RG_SPEC-0021	
Title		Sink Source Driver / SSD	
Revision	Date	Prepared By	Change History
1.0	9/18/2015	TM	Initial Release

The RaceGrade Sink Source Driver (SSD) contains two to four high current, high speed output drivers in an extremely compact package making it ideal for control where PWM of high current devices is required.

Part # RG SSD 2

Description:

This device has two pairs of outputs. Each pair has a high current output to battery positive and a high current output to battery negative. The battery positive output is activated by pulling the battery positive control wire to supply. The battery negative output is activated by pulling the battery negative control wire down to 0v. Only the battery negative control may be switched via PWM.

Specifications:

Outputs: 2 pairs
Supply Voltage: 8v – 40v
Inputs: 2 pairs, active high/active low
Wire Size: 12 AWG
Operating Temp: -50° to 150° C
Maximum Steady State Current: 10 Amps per output (20 Amps per pair)
Peak Current: 50 Amps (thermally limited)
Peak Inrush Current: 100 Amps (transient pulse must be <100 µsec)
Operating Frequency: DC to 1 MHz



Note:

It is critical that the control inputs are brought completely to supply or ground. If not accomplished the device will be damaged beyond repair.

Connection:

Channel 1:

- Red – source battery positive (+12v)
- Black – source battery negative (gnd)
- Orange – output battery positive (+12v)
- Green – output battery negative (gnd)
- Orange/Black – input battery positive control (active high)
- Green/Black – input battery negative control (active low, PWM ok)

Channel 2:

- Red – source battery positive (+12v)
- Black – source battery negative (gnd)
- Yellow – output battery positive (+12v)
- Blue – output battery negative (gnd)
- Yellow/Black – input battery positive control (active high)
- Blue/Black – input battery negative control (active low, PWM ok)

Part # RG SSD 3**Description:**

This device has two pairs of channels. Each pair has a high current output to battery positive and a high current output to battery negative. The battery positive output is activated by pulling the battery positive control wire down to 0v. The battery negative output is activated by pulling the battery negative control wire up to supply. Either control may be switched via PWM, but not at the same time

Specifications:

Outputs:	2 pairs
Supply Voltage:	8v – 40v
Inputs:	2 pairs, active high/active low
Wire Size:	12 AWG
Operating Temp:	-50° to 150° C
Maximum Steady State Current:	10 Amps per output (20 Amps per pair)
Peak Current:	50 Amps (thermally limited)
Peak Inrush Current:	100 Amps (transient pulse must be <100 µsec)
Operating Frequency:	1 MHz maximum

Note:

This device operates with inverted logic in comparison to SSD2 and is **NOT** a drop in replacement.

Connection

Channel 1:

- Red – source battery positive (+12v)
- Black – source battery negative (gnd)
- Orange – output battery positive (+12v)
- Green – output battery negative (gnd)
- Orange/Black – input battery positive control (active low, PWM ok)
- Green/Black – input battery negative control (active high, PWM ok)

Channel 2:

- Red – source battery positive (+12v)
- Black – source battery negative (gnd)
- Yellow – output battery positive (+12v)
- Blue – output battery negative (gnd)
- Yellow/Black – input battery positive control (active low, PWM ok)
- Blue/Black – input battery negative control (active high, PWM ok)



Part # M SSD P**Description:**

This device has four channels. Each channel has one high current output to battery positive. Outputs are activated by pulling the corresponding control wire down to 0v. All controls may be switched via PWM.

Specifications:

Outputs:	4 independent outputs
Supply Voltage:	8v – 40v
Inputs:	4 independent, active low
Wire Size:	12 AWG
Operating Temp:	-50° to 150° C
Maximum Steady State Current:	10 Amps per channel continuous
Peak Current:	50 Amps (thermally limited)
Peak Inrush Current:	100 Amps (transient pulse must be <100 µsec)
Operating Frequency:	1 MHz maximum

Connections:**Common:**

- Red – source battery positive (+12v)
- Black – source battery negative (gnd)

Channel 1:

- Orange – output battery positive (+12v)
- Orange/Black – input battery positive control (active low, PWM ok)

Channel 2:

- Green – output battery positive (+12v)
- Green/Black – input battery positive control (active low, PWM ok)

Channel 3:

- Yellow – output battery positive (+12v)
- Yellow/Black – input battery positive control (active low, PWM ok)

Channel 4:

- Blue – output battery positive (+12v)
- Blue/Black – input battery positive control (active low, PWM ok)

