

# POWER-GATE™ Solid-State Devices

## Single Rectifier

### Specification Sheet

#### Generation 4.2



#### ABSOLUTE MAXIMUM RATINGS<sup>(1)</sup>

All devices ("x" = don't care) , all amperages DC, all voltages DC and referenced to device ground, unless otherwise specified.

Symbol	Parameter	Min.	Max.	Units
$V_A$	Anode Voltage, Models SRS40A-xxx	-0.3 <sup>(2)</sup>	19 <sup>(3)</sup>	V
	Anode Voltage, Models SRS40B-xxx		37 <sup>(4)</sup>	
$V_K$	Cathode Voltage (anode voltage at min), Models SRS40A-xxx	-0.6 <sup>(2)</sup>	19 <sup>(3)</sup>	V
	Cathode Voltage (anode voltage at min), Models SRS40B-xxx		37 <sup>(4)</sup>	
$V_{R, \text{gndfloat}}^{(5)}$	Reverse Voltage (ground floating), Models SRS40A-xxx	-	19	V
	Reverse Voltage (ground floating), Models SRS40B-xxx	-	37	
$I_{F, \text{gndfloat}}^{(5)}$	Forward Current (ground floating), SRS40x-050	-	5	A
	Forward Current (ground floating), SRS40x-100	-	10	
	Forward Current (ground floating), SRS40x-150	-	15	
	Forward Current (ground floating), SRS40x-200	-	20	
	Forward Current (ground floating), SRS40x-250	-	25	
	Forward Current (ground floating), SRS40x-300	-	30	
$T_A$	Ambient Temperature	-45	+110	°C
$V_{IGN}$	Ignition Alternator Excitation Trigger Voltage	-37 <sup>(6)</sup>	37 <sup>(4)</sup>	V
$V_{STARTER}$	Starter Alternator Excitation Trigger Voltage			
$V_{ALTREXC}$	Alternator Re-Excitation Trigger Voltage			
$V_{COMBINE+}$	COMBINE+ Trigger Voltage			
$V_{COMBINE-}$	COMBINE- Trigger Voltage <sup>(7)</sup>	-5.7	5.7	
$I_{LED}$	Remote LED Current	-	30	mA
$V_{LED(OFF)}$	Remote LED Voltage (LED Off)	-60	60	V

#### RECOMMENDED OPERATING CONDITIONS

All devices ("x" = don't care), all voltages DC and referenced to device ground, unless otherwise specified.

Symbol	Parameter	Min.	Max.	Units
$V_A$	Anode Voltage, Model SRS40A-xxx	5.6	18	V
	Anode Voltage, Model SRS40B-xxx		36	
$V_K$	Cathode Voltage (anode voltage at min), Model SRS40A-xxx	5.5	18	V
	Cathode Voltage (anode voltage at min), Model SRS40B-xxx		36	
$T_A$	Ambient Temperature	-40	+105	°C
$V_{IGN}$	Ignition Alternator Excitation Trigger Voltage	0	36	V
$V_{STARTER}$	Starter Alternator Excitation Trigger Voltage			
$V_{ALTREXC}$	Alternator Re-Excitation Trigger Voltage			
$V_{COMBINE+}$	COMBINE+ Trigger Voltage			

ELECTRICAL SPECIFICATIONS

All devices ("x" = don't care), all amperages DC, all voltages DC and referenced to ground,  
 $T_A = +25 \pm 3 \text{ }^\circ\text{C}$ ,  $5.6 \text{ V} \leq V_A$  (SRS40A-xxx)  $\leq 18 \text{ V}$ ,  $5.6 \text{ V} \leq V_A$  (SRS40B-xxx)  $\leq 36 \text{ V}$ ,  
all LEDs enabled,  $V_{IGN} = V_{STARTER} = V_{ALTREEXC} = 0 \text{ V}$ , combine trigger active-low type, combine feature not active, unless otherwise specified.

Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
$I_{FET,MAX}$	Maximum MOSFET Array Continuous Current	-	-	50	A	Models SRS40x-050, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	100		Models SRS40x-100, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	150		Models SRS40x-150, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	200		Models SRS40x-200, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	250		Models SRS40x-250, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	300		Models SRS40x-300, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
$I_{SURGE,MAX}$	Maximum MOSFET Array Surge Current	-	-	$2.5 \times I_{FET,MAX}$	A	Pulse width = 60 s, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	$3 \times I_{FET,MAX}$		Pulse width = 10 s, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	$4 \times I_{FET,MAX}$		Pulse width = 1 s, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	$5 \times I_{FET,MAX}$		Pulse width = 20 ms, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	$6 \times I_{FET,MAX}$		Pulse width = 4 ms, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	$7 \times I_{FET,MAX}$		Pulse width = 2 ms, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	$9 \times I_{FET,MAX}$		Pulse width $\leq 1$ ms, $-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
		-	-	-		-
$I_{INT,MAX}$	Maximum Reverse Interrupt Current	-	-	-	-	See "Maximum Interrupting Current" section (coming soon)
$V_{FET}$	MOSFET Array Voltage Drop <sup>(8)</sup>	-	15	17	mV	SRS40A-050, Forward Current = $I_{FET,MAX}$
		-	15	18		SRS40A-050, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	18	25		SRS40A-100, Forward Current = $I_{FET,MAX}$
		-	23	32		SRS40A-100, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	24	33		SRS40A-150, Forward Current = $I_{FET,MAX}$
		-	30	42		SRS40A-150, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	28	39		SRS40A-200, Forward Current = $I_{FET,MAX}$
		-	36	49		SRS40A-200, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	32	44		SRS40A-250, Forward Current = $I_{FET,MAX}$
		-	40	56		SRS40A-250, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	36	49		SRS40A-300, Forward Current = $I_{FET,MAX}$
		-	46	62		SRS40A-300, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	16	19		SRS40B-050, Forward Current = $I_{FET,MAX}$
		-	24	33		SRS40B-050, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	28	39		SRS40B-100, Forward Current = $I_{FET,MAX}$
		-	40	56		SRS40B-100, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	30	41		SRS40B-150, Forward Current = $I_{FET,MAX}$
		-	42	58		SRS40B-150, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	34	45		SRS40B-200, Forward Current = $I_{FET,MAX}$
		-	47	64		SRS40B-200, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	39	52		SRS40B-250, Forward Current = $I_{FET,MAX}$
		-	55	75		SRS40B-250, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	43	57		SRS40B-300, Forward Current = $I_{FET,MAX}$
		-	61	83		SRS40B-300, Forward Current = $I_{FET,MAX}$ , $T_A = +105^\circ\text{C}$
		-	-	-		-
$I_{over,trip}$	Forward Over-current Indicator Trip	$1.5 \times I_{FET,MAX}$	$2 \times I_{FET,MAX}$	$2.5 \times I_{FET,MAX}$	A	$-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
$I_{over,reset}$	Forward Over-current Indicator Reset	-	$I_{over,trip} - 10$	-		$-40^\circ\text{C} \leq T_A \leq +105^\circ\text{C}$
$I_S$	Operating Current <sup>(9)</sup>	0.78	0.82	0.86	mA	$V_k = 5.5 \text{ V}$ , Anode floating, Device in low-power mode <sup>(11)</sup>
		0.81	0.88	0.94		$V_k = 12.0 \text{ V}$ , Anode floating, Device in low-power mode <sup>(11)</sup>
		0.81	1.01	1.38		Models SRS40A-xxx, $V_k = 18.0 \text{ V}$ , Anode floating, Device in low-power mode <sup>(11)</sup>
		0.88	0.92	0.96		Models SRS40B-xxx, $V_k = 18.0 \text{ V}$ , Anode floating, Device in low-power mode <sup>(11)</sup>
		0.93	0.97	1		Models SRS40B-xxx, $V_k = 24.0 \text{ V}$ , Anode floating, Device in low-power mode <sup>(11)</sup>
		1.01	1.1	1.13		Models SRS40B-xxx, $V_k = 36.0 \text{ V}$ , Anode floating, Device in low-power mode <sup>(11)</sup>
		19.4	20.4	21.5		$V_k = 5.5 \text{ V}$ , Cathode floating
		20.3	21.4	22.4		$V_k = 12.0 \text{ V}$ , Cathode floating
		21.7	22.4	23		Models SRS40A-xxx, $V_k = 18.0 \text{ V}$ , Cathode floating
		21.1	22.1	23.1		Models SRS40B-xxx, $V_k = 18.0 \text{ V}$ , Cathode floating
		21.5	23.0	24.5		Models SRS40B-xxx, $V_k = 24.0 \text{ V}$ , Cathode floating
		22.2	24.8	27.4		Models SRS40B-xxx, $V_k = 36.0 \text{ V}$ , Cathode floating
		25.8	26.2	26.5		Models SRS40A-xxx, $V_k = 12.0 \text{ V}$ , Anode floating, Combine active (COMBINE+ and COMBINE- shorted)
		26.4	27.9	29.4		Models SRS40B-xxx, $V_k = 24.0 \text{ V}$ , Anode floating, Combine active (COMBINE+ and COMBINE- shorted)

Continued on next page...

## ELECTRICAL SPECIFICATIONS (continued)

All devices ("x" = don't care), all amperages DC, all voltages DC and referenced to ground,  
 $T_A = +25 \pm 3^\circ\text{C}$ ,  $5.6\text{ V} \leq V_A$  (SRS40A-xxx)  $\leq 18\text{ V}$ ,  $5.6\text{ V} \leq V_A$  (SRS40B-xxx)  $\leq 36\text{ V}$ ,  
all LEDs enabled,  $V_{IGN} = V_{STARTER} = V_{ALTREXC} = 0\text{ V}$ , combine trigger active-low type, combine feature not active, unless otherwise specified.

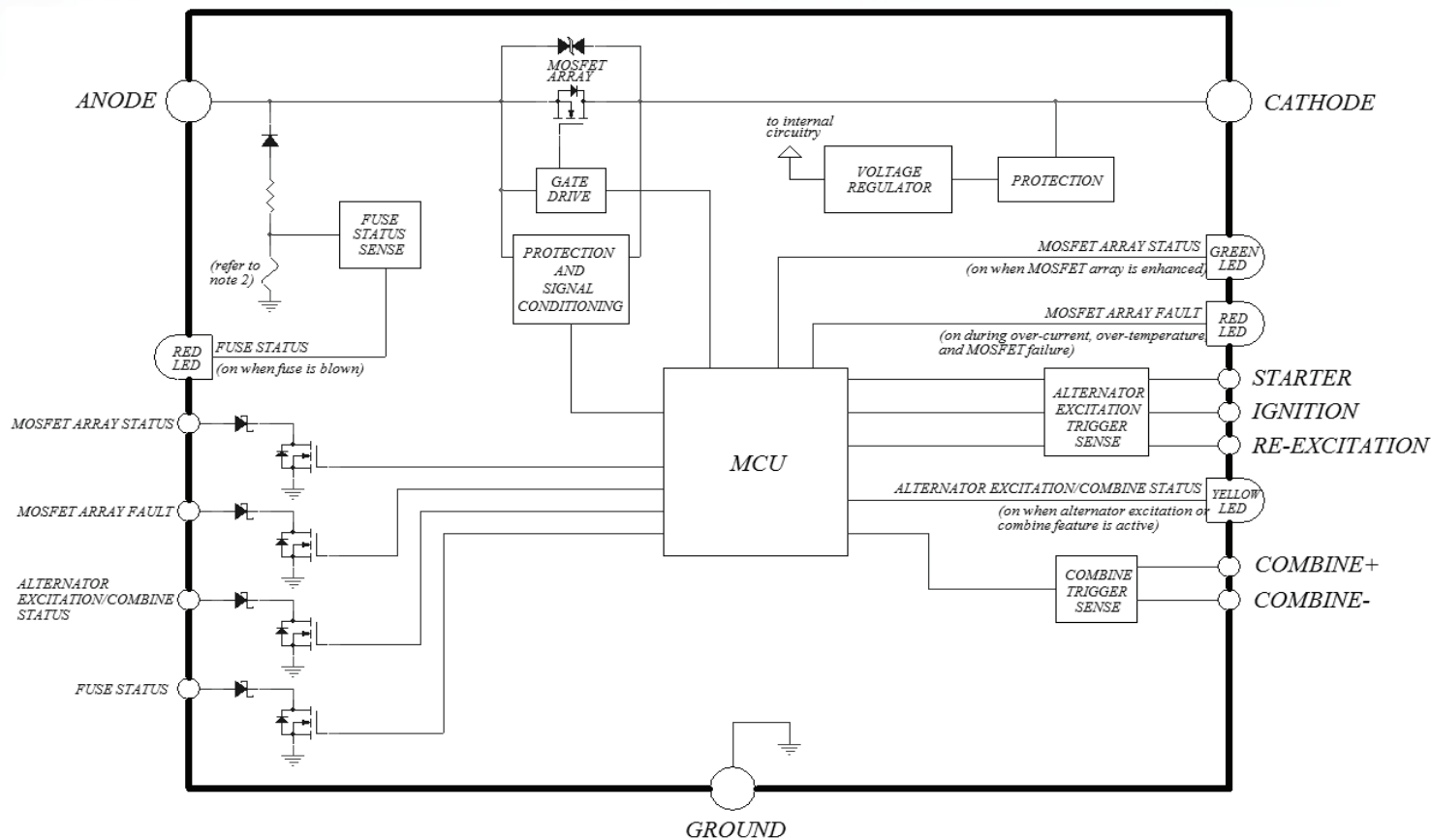
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
$I_R$	Reverse Leakage Current <sup>(10)</sup>	-	9	210	$\mu\text{A}$	Model SRS40A-050, Anode shorted to device ground, Typical value: $V_K = 12.0\text{ V}$ , Maximum value: $V_K = 18.0\text{ V}$
		-	6	30		Model SRS40A-100, Anode shorted to device ground, Typical value: $V_K = 12.0\text{ V}$ , Maximum value: $V_K = 18.0\text{ V}$
		-	10	210		Model SRS40A-150, Anode shorted to device ground, Typical value: $V_K = 12.0\text{ V}$ , Maximum value: $V_K = 18.0\text{ V}$
		-	18	720		Model SRS40A-200, Anode shorted to device ground, Typical value: $V_K = 12.0\text{ V}$ , Maximum value: $V_K = 18.0\text{ V}$
		-	35	1300		Model SRS40A-250, Anode shorted to device ground, Typical value: $V_K = 12.0\text{ V}$ , Maximum value: $V_K = 18.0\text{ V}$
		-	40	1600		Model SRS40A-300, Anode shorted to device ground, Typical value: $V_K = 12.0\text{ V}$ , Maximum value: $V_K = 18.0\text{ V}$
		-	6	10		Model SRS40B-050, Anode shorted to device ground, Typical value: $V_K = 24.0\text{ V}$ , Maximum value: $V_K = 36.0\text{ V}$
		-	6	10		Model SRS40B-100, Anode shorted to device ground, Typical value: $V_K = 24.0\text{ V}$ , Maximum value: $V_K = 36.0\text{ V}$
		-	6	10		Model SRS40B-150, Anode shorted to device ground, Typical value: $V_K = 24.0\text{ V}$ , Maximum value: $V_K = 36.0\text{ V}$
		-	6	15		Model SRS40B-200, Anode shorted to device ground, Typical value: $V_K = 24.0\text{ V}$ , Maximum value: $V_K = 36.0\text{ V}$
		-	6	25		Model SRS40B-250, Anode shorted to device ground, Typical value: $V_K = 24.0\text{ V}$ , Maximum value: $V_K = 36.0\text{ V}$
		-	6	70		Model SRS40B-300, Anode shorted to device ground, Typical value: $V_K = 24.0\text{ V}$ , Maximum value: $V_K = 36.0\text{ V}$
$t_{FP2LP}$	Full-Power Mode to Low-Power Mode Delay Time <sup>(11)</sup>	-	60	-	s	
$V_{IGN,ON}$	Ignition Alternator Excitation Trigger On Voltage <sup>(12,20)</sup>	-	0.9	-	V	
$V_{IGN,OFF}$	Ignition Alternator Excitation Trigger Off Voltage <sup>(13,20)</sup>	-	$V_{IGN,ON} - 0.025$	-		
$V_{STARTER,TRIP}$	Starter Alternator Excitation Trigger Trip Voltage <sup>(14,20)</sup>	-	0.9	-		
$V_{STARTER,GO}$	Starter Alternator Excitation Trigger Go Voltage <sup>(14,20)</sup>	-	$V_{STARTER,GO} - 0.025$	-		
$V_{ALTREXC,ON}$	Alternator Re-Excitation Trigger On Voltage <sup>(15,20)</sup>	-	0.9	-		
$V_{ALTREXC,OFF}$	Alternator Re-Excitation Trigger Off Voltage <sup>(16,20)</sup>	-	$V_{ALTREXC,ON} - 0.025$	-		
$I_{IGN}$	Ignition Alternator Excitation Trigger Current	-	49	-	$\mu\text{A}$	$V_{IGN} = 5.0\text{ V}$
		-	170	-		$V_{IGN} = 12.0\text{ V}$
		-	290	-		$V_{IGN} = 18.0\text{ V}$
		-	410	-		$V_{IGN} = 24.0\text{ V}$
		-	650	-		$V_{IGN} = 36.0\text{ V}$
$I_{STARTER}$	Starter Alternator Excitation Trigger Current	-	99	-		$V_{STARTER} = 5.0\text{ V}$
		-	340	-		$V_{STARTER} = 12.0\text{ V}$
		-	580	-		$V_{STARTER} = 18.0\text{ V}$
		-	820	-		$V_{STARTER} = 24.0\text{ V}$
		-	1300	-		$V_{STARTER} = 36.0\text{ V}$
$I_{ALTREXC}$	Alternator Re-Excitation Trigger Current	-	51	-		$V_{ALTREXC} = 5.0\text{ V}$
		-	175	-		$V_{ALTREXC} = 12.0\text{ V}$
		-	295	-		$V_{ALTREXC} = 18.0\text{ V}$
		-	415	-		$V_{ALTREXC} = 24.2\text{ V}$
		-	655	-		$V_{ALTREXC} = 36.0\text{ V}$
$t_{TRIG,HOLD}$	Trigger Hold Time <sup>(17,18)</sup>	45	-	-	ms	
$t_{ALTEXC,DELAY}$	Alternator Excitation Delay Time <sup>(20)</sup>	-	4	-	s	
$t_{ALTEXC,PULSEON}$	Alternator Excitation Pulse On Time <sup>(20)</sup>	-	0.5	-		
$t_{ALTEXC,PULSEOFF}$	Alternator Excitation Pulse Off Time <sup>(20)</sup>	-	0.5	-		
$t_{ALTEXC,PULSENUM}$	Number of Alternator Excitation Pulses <sup>(20)</sup>	-	-	60		
$I_{COMBINE}$	Combine Trigger Current	-	34	-	$\mu\text{A}$	COMBINE+ and COMBINE- shorted together
$V_{COMBINE+}$	COMBINE+ Floating Voltage <sup>(19)</sup>	-	3.3	-	V	
$t_{RR}$	Rectifier Reverse Recovery Time <sup>(21)</sup>	-	-	400	$\mu\text{s}$	
$t_{FET,START}$	MOSFET Start-up Time <sup>(22)</sup>	-	45	50	ms	Models SRS40A-xxx: $V_A = 0$ to $12\text{ V}$ , Cathode floating
		-	3	3.5		Models SRS40B-xxx: $V_A = 0$ to $24\text{ V}$ , Cathode floating
		-	-	-		Models SRS40A-xxx: $V_K = 18\text{ V}$ to floating, $V_A = 12\text{ V}$ , Device in full-power mode Models SRS40B-xxx: $V_K = 36\text{ V}$ to floating, $V_A = 24\text{ V}$ , Device in full-power mode

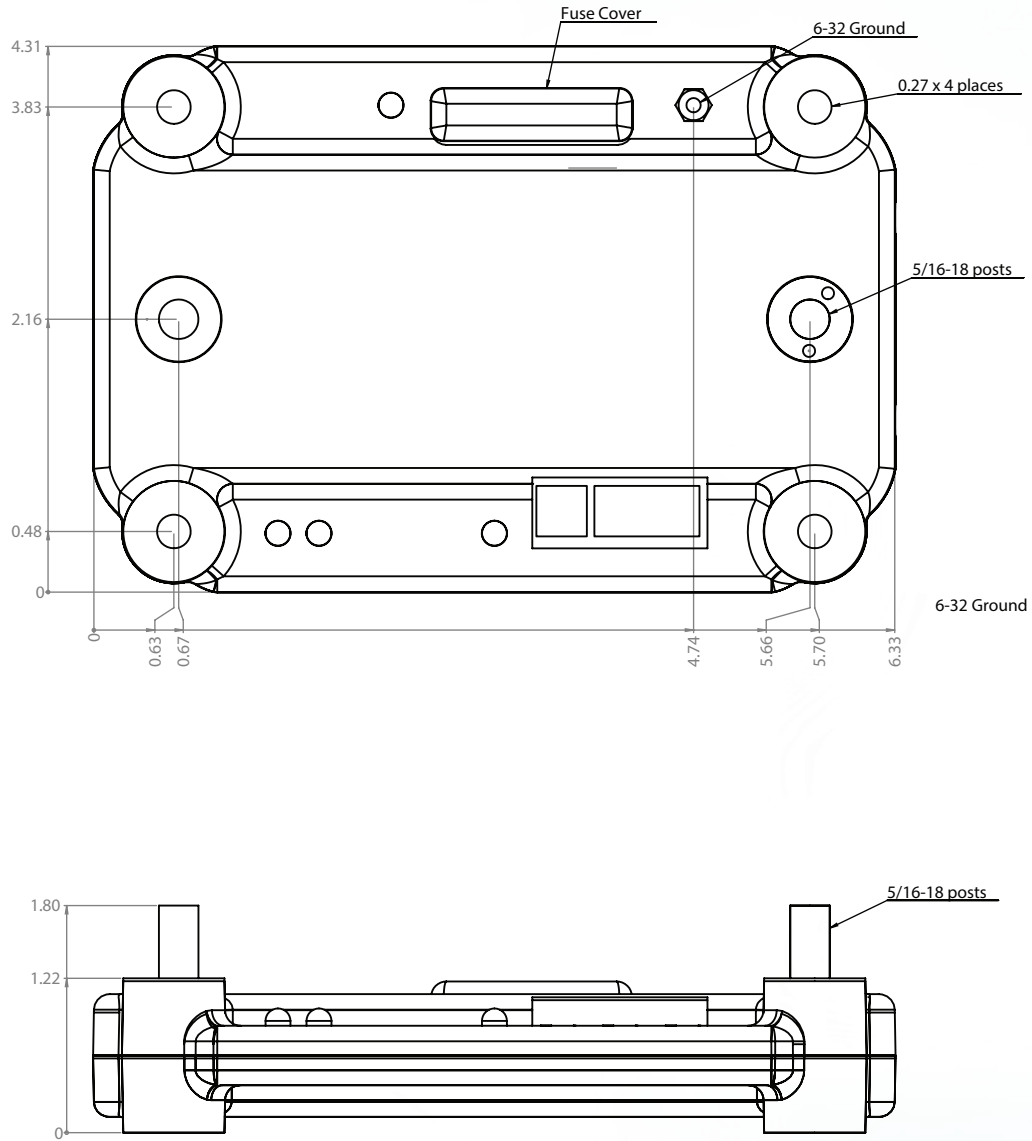
Notes continued on next page...



1. Stresses beyond those listed under absolute maximum ratings may cause permanent damage to the device. Exposure to any absolute maximum rating condition for extended periods may affect device reliability and lifetime.
2. Larger negative voltages will blow internal fuse. If fuse blows, as long as  $V_A$  is not more negative than -18/-36 V for model SRS40A-xxx/SRS40B-xxx, respectively, and is less than  $V_K$ , no damage to device will occur. Only use manufacturer-specified fuse for replacement.
3. Transient-protected to 40 V. Additional external protection may be required in some applications.
4. Transient-protected to 60 V. Additional external protection may be required in some applications.
5. Using the rectifier with the device ground disconnected is not recommended. Exceeding any of these ratings will cause excessive heat buildup, leading to MOSFET failure.
6. Transient-protected to -60 V. Additional external protection may be required in some applications.
7. COMBINE- trigger is not used with an active-high type. When trigger is configured as active-low type, COMBINE- trigger is usually connected to a mechanical switch which shorts it to COMBINE+ to activate the combine feature.
8. Voltage drop tested under pulsed conditions with pulse length  $\leq 2$  s.
9.  $I_S$  sourced from cathode (anode), when  $V_A < V_K$  ( $V_A > V_K$ ).
10.  $I_R$  is defined as the current exiting the anode terminal and is measured when the device is in its low-power state; see application sheet AS0504 for additional information.
11. Full-power mode to low-power mode delay time is defined as the length of time between when a reverse voltage appears across the MOSFET array and the device enters its low-power mode (only applicable when neither the alternator excitation/re-excitation nor the combine processes are active).
12. Ignition alternator excitation trigger on voltage defined as the ignition line voltage at which the alternator excitation process begins. Voltage must stay above this value during entire excitation process.
13. Ignition alternator excitation trigger off voltage defined as the ignition line voltage at which the alternator excitation process is terminated and reset; voltage must rise above the ignition alternator trigger on voltage to restart the alternator excitation process.
14. Starter alternator excitation trigger trip voltage is defined as the rising starter line voltage at which the device detects a start event. Starter alternator excitation trigger go voltage is defined as the falling starter line voltage at which the alternator excitation process begins (after the voltage has first risen above  $V_{STARTER,TRIP}$ ). If at any time during the alternator excitation process the starter line voltage rises above  $V_{STARTER,TRIP}$  the alternator excitation process will be terminated and the device will wait for the voltage to fall below  $V_{STARTER,GO}$  before initiating a new alternator excitation process.
15. Alternator re-excitation trigger on voltage defined as the trigger line voltage at which the alternator re-excitation process begins. Voltage must stay above this value during entire excitation process.
16. Alternator re-excitation trigger off voltage defined as the line voltage at which the alternator re-excitation process is terminated and reset; voltage must rise above the alternator re-excitation trigger on voltage to enable the alternator re-excitation feature.
17. Applies to all triggers.
18. Trigger hold time is defined as the length of time that a trigger voltage must be held above or below a threshold voltage in order to yield a valid state change.
19. 100 k $\Omega$  (typical) between COMBINE+ and internal +3.3 V.
20. See application sheet AS0504 for more information on the alternator excitation process.
21. Reverse recovery time measured from the time  $V_A - V_K$  goes from positive to negative until the MOSFET array turns completely off. Reverse current may continue to flow through the MOSFET transient voltage suppression diodes or the inductive load diode depending on the inductance in the system.
22. MOSFET start-up time is defined as the time from when  $V_A - V_K$  becomes positive to when the MOSFETs enter their low-resistance state. During this time, current will flow from the anode to the cathode through the MOSFET array body diodes, ensuring there is always a path for current to flow as long as a positive forward voltage ( $V_A - V_K$ ) is present.

# FUNCTIONAL BLOCK DIAGRAM





Electronic assembly inserted into Polycarbonate enclosure and fully encapsulated with silicone elastomer specifically developed for potting electronic modules.

Four integrated mounting points for user supplied 5/16" mounting hardware of suitable length.

Brass mounting posts, 5/16-18 x .60" with provided brass washers and nylon insert nuts. Mounting torque not to exceed 15 newton-meters.

Molex top-mounted control harness and expansion port for remote monitoring display.

Typical weight post encapsulation including provided hardware is 23.5 ounces (+/- 10%)

The manufacturer strongly recommends the use of remote-mounted visual indicators (LED or lamp) and/or audible indicators (alarm or buzzer) informing the user of either normal operation or a fault condition. Should a fault condition occur, it is necessary to remove the Single Rectifier from the electrical circuit and contact the manufacturer for diagnostic support or replacement.

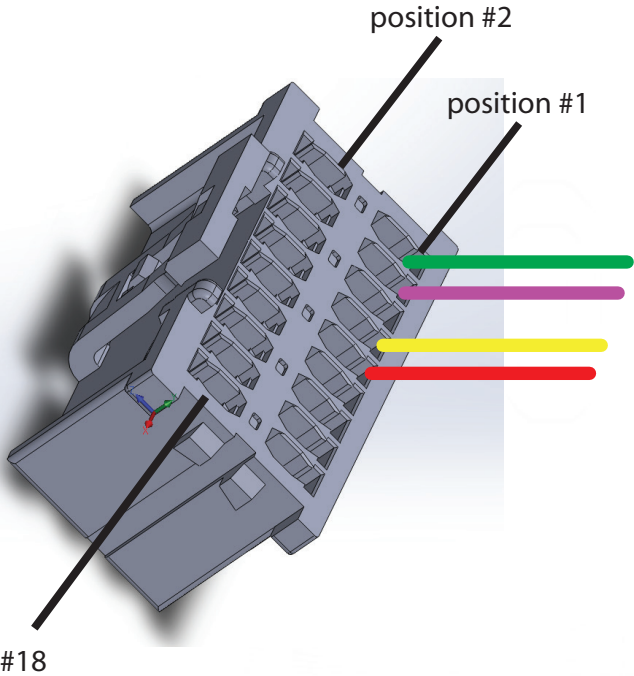
Customer should match the LED / Lamp and/or alarm(s) to the voltage rating of the native electrical system. For example, a 12 volt vehicle will use a 12 volt Single Rectifier with 12 volt LEDS and alarms. A 24 volt vehicle will use a 24 volt Single Rectifier with 24 volt LEDS and alarms.

Current draw not to exceed 60mA

Wires coming from the connector are switched to ground when active, so the cathode of the LED should connect to the harness wire, and the anode should connect to the positive source voltage.

SR Accessory Harness 6055

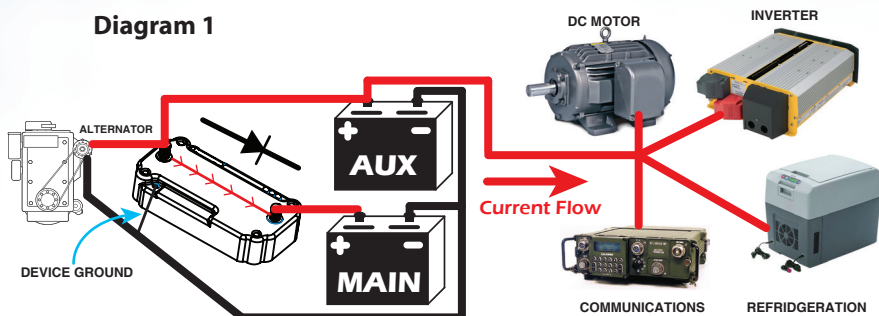
Connector housing Molex 51353-1800  
 Terminals Molex 56134-9000  
 Control harness, 1 meter, 24 AWG wires, -40 to +105 C min temp rating



1	Array Status	Green
2	Empty	
3	Alternator Excite / Combine Active	Violet
4	Empty	
5	Empty	
6	Empty	
7	Fuse Blown	Yellow
8	Empty	
9	Array Fault	Red
10	Empty	
11	Empty	
12	Empty	
13	Empty	
14	Empty	
15	Empty	
16	Empty	
17	Empty	
18	Empty	

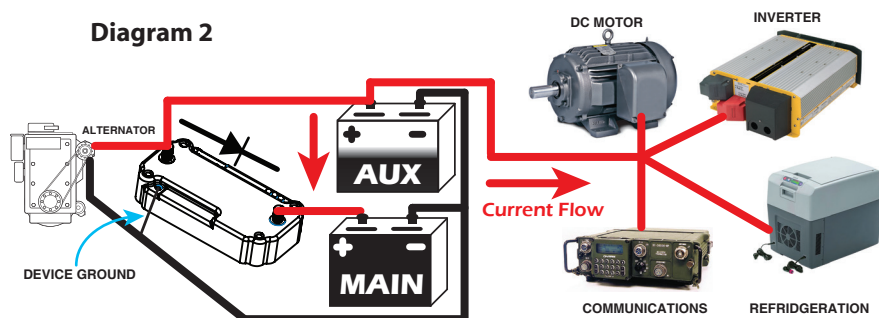


Diagram 1



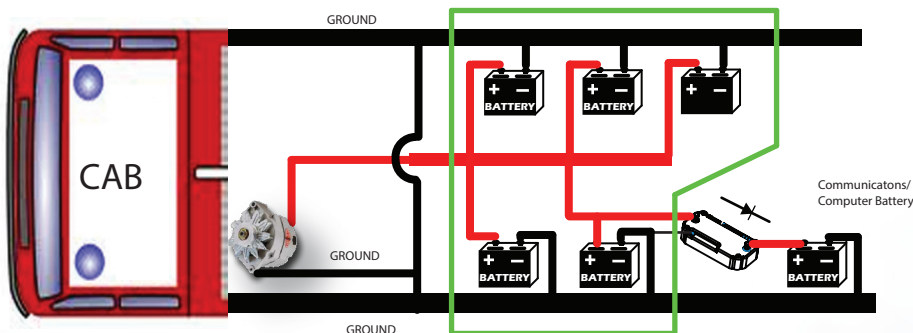
POWER-GATE Single Rectifier Isolator allows all batteries in the network to be charged. In Diagram 1, the alternator is charging the AUX battery which is common on the device input post, and current is flowing through the MOSFET array to the MAIN battery. All loads applied to both batteries are being powered. See Diagram 2 to see what happens when the AUX battery is discharged.

Diagram 2



When the vehicle is off and load(s) are applied to the AUX battery, the AUX battery will discharge independent of the MAIN battery. Note the orientation of the diode symbol. The POWER-GATE's MOSFET array behaves like an "ideal" diode in that reverse current cannot flow from MAIN to AUX while forward current enjoys an absolute minimum voltage drop as denoted in Diagram 1.

Diagram 3




POWER-GATE Single Rectifier Isolator can be installed as an ideal diode. In Diagram 3, the Communications/Computer battery is isolated from the rest of the battery network. When the vehicle engine is cranked, the resulting dip in system voltage can cause the Communications and Computer equipment to reset. However, with the Comms/Computer battery isolated on its own dedicated cathode, when the system voltage dips, the Comm/Computer battery is automatically isolated alleviating wait-time needed for systems to reboot.

Under normal charging conditions either provided by the alternator or shore-power, all batteries charge as normal.



REVISION HISTORY

REV	DATE	DESCRIPTION	PAGE NUMBER (S)
0	07.30.25	Original Release	



DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

<p><b>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.</b></p> <ul style="list-style-type: none"><li>• Disconnect all power before installing or working with this equipment.</li><li>• Verify all connections and replace all covers before turning on power.</li></ul> <p>Failure to follow these instructions will result in death or serious injury.</p>	<p><b>RIESGO DE DESCARGA ELECTRICA O EXPLOSION.</b></p> <ul style="list-style-type: none"><li>• Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.</li><li>• Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo.</li></ul> <p>El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.</p>	<p><b>RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION</b></p> <ul style="list-style-type: none"><li>• Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil</li><li>• Vérifier tous connections, et remettre tous couverts en olace avant de mettre sous</li></ul> <p>De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.</p>	<p><b>GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.</b></p> <ul style="list-style-type: none"><li>• Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen</li><li>• Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren.</li></ul> <p>Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.</p>	<p><b>RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.</b></p> <ul style="list-style-type: none"><li>• Spenga tutta l'alimentazion e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura</li><li>• Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione</li></ul> <p>L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie</p>	<p><b>RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO</b></p> <ul style="list-style-type: none"><li>• Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamen to</li><li>• Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento</li></ul> <p>O não cumprimento destas instruções pode levar á morte ou lesões sérias.</p>
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