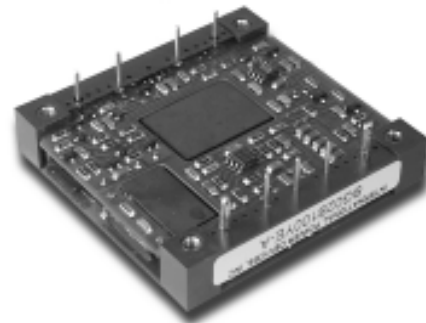


SGS SERIES - NON-ISOLATED, 100 WATT

DESCRIPTION

SGS non-isolated buck converters provide up to 100 Watts of power at up to 30 Amps of output current in an industry standard half-brick package. The SGS series uses a high efficiency, non-isolated topology to provide excellent efficiency and transient response. The SGS has open-frame packaging and high temperature planar magnetics to provide exceptional thermal performance. The SGS uses 100% surface-mount construction and has a predicted reliability of over one million hours MTBF.

- High Power Step-Down Converter
- Industry Standard Half-Brick
- Excellent Transient Response
- Excellent Efficiency
- Open-Frame Construction
- Voltage Trim and Sense Pins
- Planar Magnetics
- Water Washable

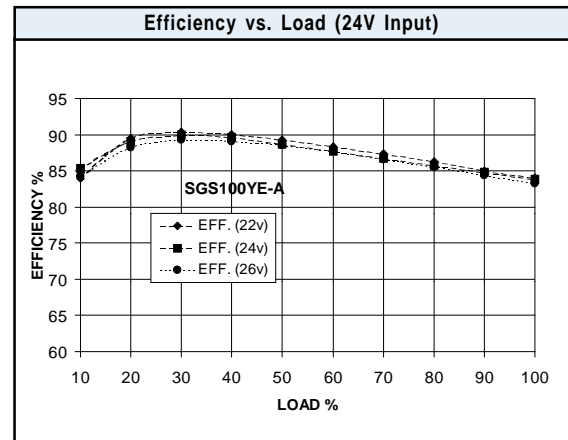


TECHNICAL SPECIFICATIONS

Input	
Voltage Range	
12 VDC Nominal	10 - 15 VDC
24 VDC Nominal	22 - 26 VDC
48 VDC Nominal	42 - 56 VDC

Output	
Setpoint Accuracy	±1%
Line Regulation V_{in} Min. - V_{in} Max., I_{out} Rated	0.2% V_{out}
Load Regulation I_{out} Min. - I_{out} Max., V_{in} Nom.	0.5% V_{out}
Dynamic Regulation, Loadstep	25% I_{out}
Pk Deviation	4% V_{out}
Settling Time	250 μ s
Minimum Output Current	10% I_{out} Max.
Ripple and Noise Pk-Pk, DC - 20 MHz	1% V_{out}
Ripple and Noise RMS, DC - 20 MHz	0.3% V_{out}
Remote Sense Headroom	0.50V
OVP Trip Range	115 - 140%
Current Limit Protection Type	Hiccup
current limit threshold range, % of I_{out} rated	110-140%
Short Circuit Current Limit	200%
Shortcircuit Protection Type	Latching

General	
Switching Frequency	200 kHz
Output Voltage Trim Range	±10%
Temperature Coefficient	0.02ppm/°C
Baseplate Operating Temperature	-40 to +100°C
Storage Range	-40 to +125°C
Remote Shutdown ¹	Positive Logic
Humidity Max., Non-Condensing	95%
Vibration, 3 Axes, 5 Min Each	5 g, 10 - 55 Hz
MTBF ¹ (Bellcore TR-NWT-000332)	1.0 x 10 ⁶ hrs
Safety	UL, CSA, EN60950
Weight (approx.)	2.4 oz



Notes
¹ MTBF predictions may vary slightly from model to model.
¹ For negative logic add suffix -N to part number
Specifications typically at 25°C, normal line, and full load, unless otherwise stated.
Soldering Conditions: I/O pins, 260°C, ten seconds; fully compatible with commercial wave-soldering equipment.
Safety: Agency approvals may vary from model to model. Please consult factory for specific model information.

SGS SERIES - NON-ISOLATED, 100 WATT

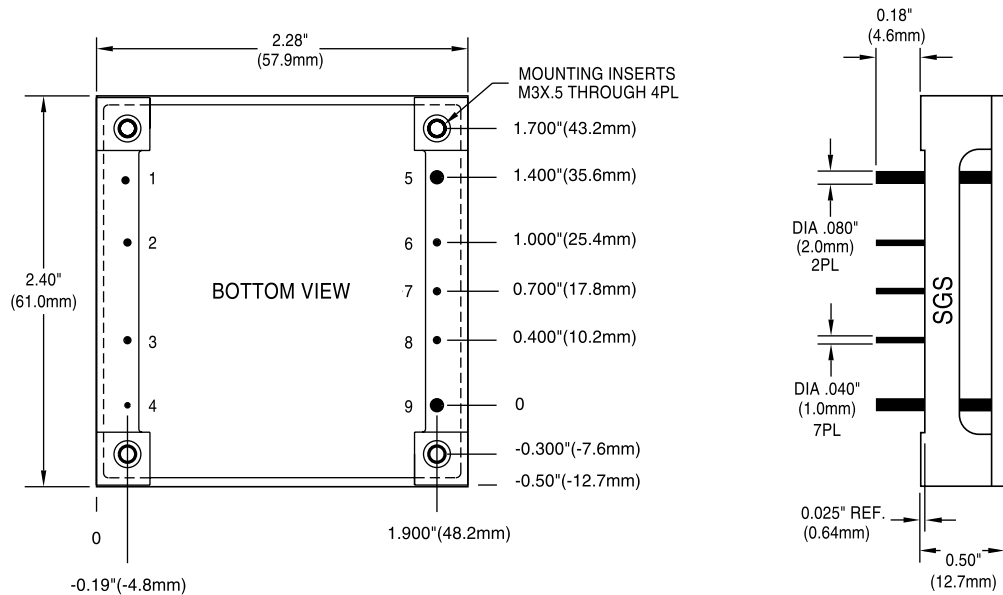
MODELS - (See the last page of this file for options.)

Vin (Volts)	Vin Range (Volts)	Iin Max.* (Amps)	Vout (Volts)	Iout Rated (Amps)	Efficiency Typ. **	Model
12	10 - 15	8.0	1.8	30	78%	SGS054XB-A
12	10 - 15	10.4	2.5	30	80%	SGS075XD-A
12	10 - 15	13.1	3.3	30	84%	SGS100XE-A
12	10 - 15	16.8	5.0	20	85%	SGS100XG-A
24	22 - 26	4.0	1.8	30	79%	SGS054YB-A
24	22 - 26	5.2	2.5	30	81%	SGS075YD-A
24	22 - 26	6.1	3.3	30	83%	SGS100YE-A
24	22 - 26	8.4	5.0	20	87%	SGS100YG-A
48	42 - 56	2.0	1.8	30	80%	SGS054ZB-A
48	42 - 56	2.6	2.5	30	83%	SGS075ZD-A
48	42 - 56	3.2	3.3	30	86%	SGS100ZE-A
48	42 -56	4.2	5.0	20	88%	SGS100ZG-A

* Maximum input current at minimum input voltage, maximum rated output power.

** At nominal Vin, rated output.

MECHANICAL DRAWING



Thermal Impedance	
Natural Convection	6.6 °C/W
100 LFM	5.7 °C/W
200 LFM	4.2 °C/W
300 LFM	3.1 °C/W
400 LFM	2.6 °C/W

Note:
Thermal impedance data is dependent on many environmental factors. The exact thermal performance should be validated for specific application.

Pin	Function
1	-V _{in}
2	Case
3	Enable
4	+V _{in}
5	-V _{out}
6	-Sense
7	Trim
8	+Sense
9	+V _{out}

Tolerances	
Inches:	(Millimeters)
.XX ± 0.020	.X ± 0.5
.XXX ± 0.010	.XX ± 0.25
Pin:	
± 0.002	± 0.05
(Dimensions as listed unless otherwise specified.)	

OPTIONS

When ordering equipment options, use the following suffix information. Select the option(s) that you prefer and add them to the model number. Example ordering options are located below the options table.

OPTION	SUFFIX	APPLICABLE SERIES	REMARKS
Negative Logic	N	HAS, HBD, HBS, HES, LES, QBS, QES, TES, TQD	TTL "Low" Turns Module ON TTL "High" Turns Module OFF
Lucent Compatible Trim	T	HAS, HBD, HBS, HES, QBS, QES	
Terminal Strip	TS	XWS	
Trim	1	IAS, LES	
Enable	2	IAD, IAS, LES, SMS	
Trim and Enable	3	IAS, LES	
Current Share	4	SMS	
Headerless	Y	Encapsulated EWS, IWS, OWS	
PIN LENGTH AND HEATSINK OPTIONS			Standard Pin Length is 0.180" (4.6mm)
0.110" (2.8mm) Pin Length	8	All Units (Except SMS)	
0.150" (3.8mm) Pin Length	9	All Units (Except SMS)	
0.24" (6.1mm) Horizontal Heatsink	1H	All Units (Except DIP, SIP, and SM Packages)	Includes Thermal Pad
0.24" (6.1mm) Vertical Heatsink	1V	All Units (Except DIP, SIP, and SM Packages)	Includes Thermal Pad
0.45" (11.4mm) Horizontal Heatsink	2H	All Units (Except DIP, SIP, and SM Packages)	Includes Thermal Pad
0.45" (11.4mm) Vertical Heatsink	2V	All Units (Except DIP, SIP, and SM Packages)	Includes Thermal Pad
0.95" (24.1mm) Horizontal Heatsink	3H	All Units (Except DIP, SIP, and SM Packages)	Includes Thermal Pad
0.95" (24.1mm) Vertical Heatsink	3V	All Units (Except DIP, SIP, and SM Packages)	Includes Thermal Pad

Example Options: HBS050ZG-ANT3V = HBS050ZG-A with negative logic, Lucent compatible trim, and 0.95" vertical heatsink.

LES015YJ-3N = LES015YJ with optional trim and enable, negative logic.

QBS066ZG-AT8 = QBS066ZG-A with Lucent compatible trim and 0.110" pin length.

NUCLEAR AND MEDICAL APPLICATIONS Power-One products are not authorized for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems without the express written consent of the President of Power-One, Inc.

TECHNICAL REVISIONS The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.