SERIES: VGS-25W | DESCRIPTION: AC-DC POWER SUPPLY

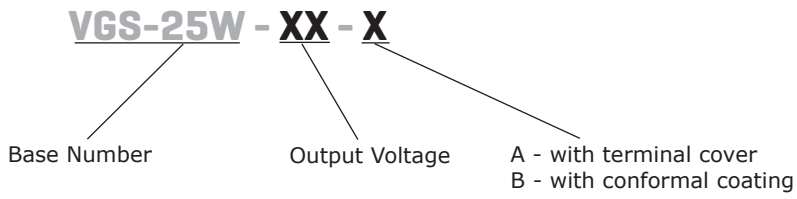
FEATURES

- wide input range (85 ~ 305 Vac)
- available with conformal coating or terminal cover options
- UL/EN/IEC 62368 certified
- designed to meet IEC/EN 61558 system requirements
- short-circuit, over-current, over-voltage protections
- input over voltage category III design
- CISPR/EN55032 Class B radiated/conducted emissions

MODEL	output voltage		output current	output power	ripple and noise[1]	efficiency[2]
	typ (Vdc)	range (Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VGS-25W-3	3.3	2.85~3.6	6.0	19.8	100	78
VGS-25W-5	5	4.5~5.5	5.0	25.0	100	81
VGS-25W-12	12	10.8~13.2	2.1	25.2	100	85
VGS-25W-15	15	13.5~16.5	1.7	25.2	100	86
VGS-25W-24	24	22.0~27.6	1.1	26.4	100	87
VGS-25W-48	48	42.0~54.0	0.57	27.36	120	88

Notes: 1. Ripple & noise are measured at 20 MHz BW with 47 uF electrolytic and 0.1 uf ceramic capacitors on the output.
2. Measured at 230 Vac.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
voltage range	ac input dc input	85 100		305 430	Vac Vdc
frequency range		47		63	Hz
current	at 115 Vac at 230 Vac			0.6 0.34	A A
inrush current	at 115 Vac, cold start at 230 Vac, cold start		20 40		A A
leakage current	at 277 Vac			0.5	mA
no load power consumption	48 V models, at 230 Vac all other models, at 230 Vac			0.5 0.3	W W

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	3.3 V models 5 V models 12 V models 15 V models 24 V models 48 V models			5,000 4,000 3,000 2,000 1,000 500	µF µF µF µF µF µF
initial set point acuracy	3.3 V models, full load range 5 V models, full load range all other models, full load range		±3 ±2 ±1		% % %
line regulation	3.3 & 5 V models, rated load all other models, rated load		±0.5 ±0.5	±1	% %
load regulation	3.3 & 5 V models, 0~100% load all other models, 0~100% load		±1 ±0.5	±2 ±1	% %
switching frequency			65		kHz
start-up time			0.3		s
hold-up time	at 115 Vac at 230 Vac		8 60		ms ms

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over current protection	auto recovery	110		300	%
over voltage protection	3.3 V models, auto recovery, hiccup 5 V models, auto recovery, hiccup 12 V models, auto recovery, hiccup 15 V models, auto recovery, hiccup 24 V models, auto recovery, hiccup 48 V models, auto recovery, hiccup			6.75 7.75 16.2 20.25 32.4 60.0	Vdc Vdc Vdc Vdc Vdc Vdc
short circuit protection	continuous, auto recovery, hiccup				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output, 1 min, <10 mA input to ground, 1 min, <10 mA output to ground, 1 min, <10 mA	4,000 2,000 1,250			Vac Vac Vac
safety approvals	certified to 62368: IEC, EN, UL designed to meet 61558: IEC, EN				
safety class	class I				
conducted emissions	CISPR32/EN55032 CLASS B				

SAFETY & COMPLIANCE (CONTINUED)

parameter	conditions/description	min	typ	max	units
radiated emissions	CISPR32/EN55032 CLASS B				
ESD	IEC/EN 61000-4-2 Contact ±6KV/Air ±8KV, perf. Criteria A				
radiated immunity	IEC/EN61000-4-3 10V/m, perf. Criteria A				
EFT/burst	IEC/EN61000-4-4 ±2KV, perf. Criteria A				
surge	IEC/EN61000-4-5 line to line ±1KV/line to ground ±2KV, perf. Criteria A				
conducted immunity	IEC/EN61000-4-6 10Vr.m.s, perf. Criteria A				
voltage dips and interruption	IEC/EN61000-4-11 0%, 70%, perf. Criteria B				
RoHS compliant	yes				
MTBF	as per MIL-HDBK-217F at 25 °C		450,000		hrs

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	-30		70	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	20		90	%
storage humidity	non-condensing	0		95	%
temperature coefficient			0.03		%/°C

MECHANICAL

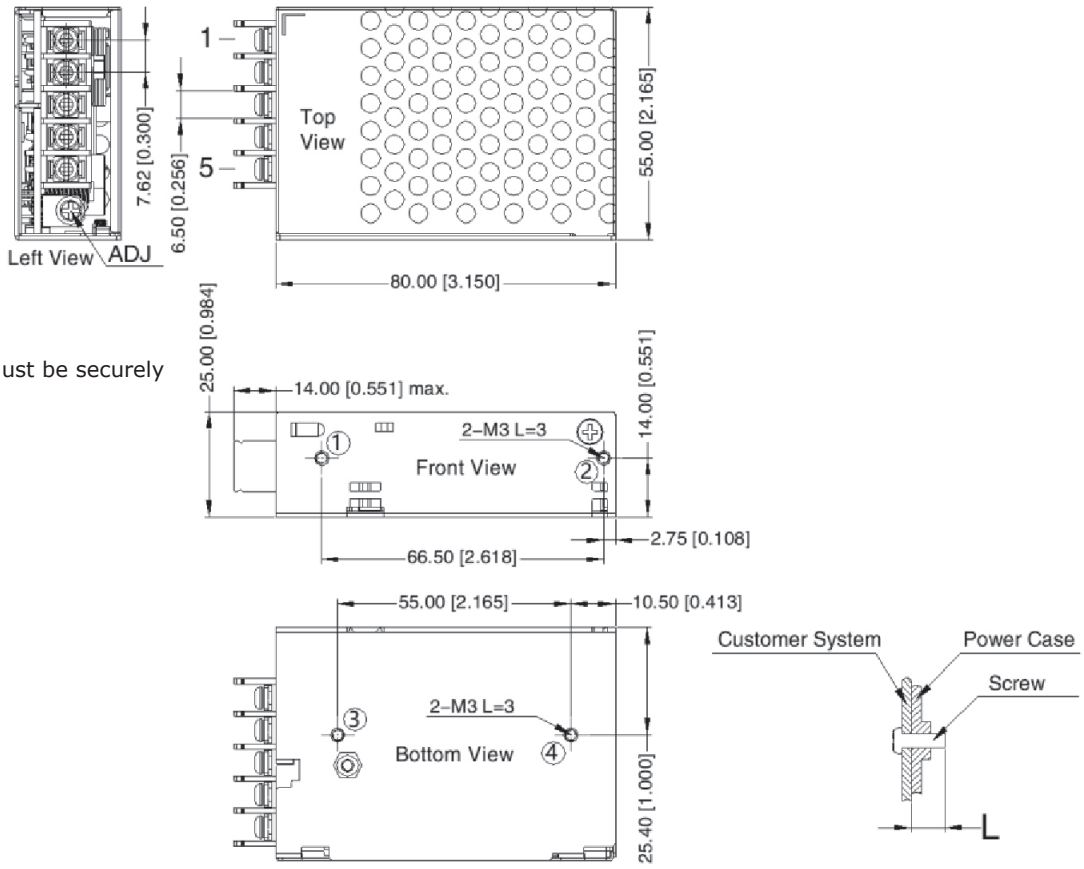
parameter	conditions/description	min	typ	max	units
dimensions	80.00 x 55.00 x 25.00				mm
weight			115		g
cooling	natural convection				
case material	metal (AL5052, SGCC)				

MECHANICAL DRAWING

units: mm [inches]
tolerance: ±1.00 [±0.039]
wire range: 22~12 AWG
connector tightening torque: M3, 0.4 N·m

PIN OUT	
PIN	Function
1	AC (L)
2	AC (N)
3	⏚
4	-Vo
5	+Vo

Note: At least one position ①~④ must be securely connected to the GND. ⏚



Position	Screw Spec.	L (max)	Torque (max)
① ~ ④	M3	3 mm	0.4 N·m

MECHANICAL DRAWING (CONTINUED)

units: mm [inches]
tolerance: ±1.00 [±0.039]
wire range: 22~12 AWG
connector tightening torque: M3, 0.4 N·m

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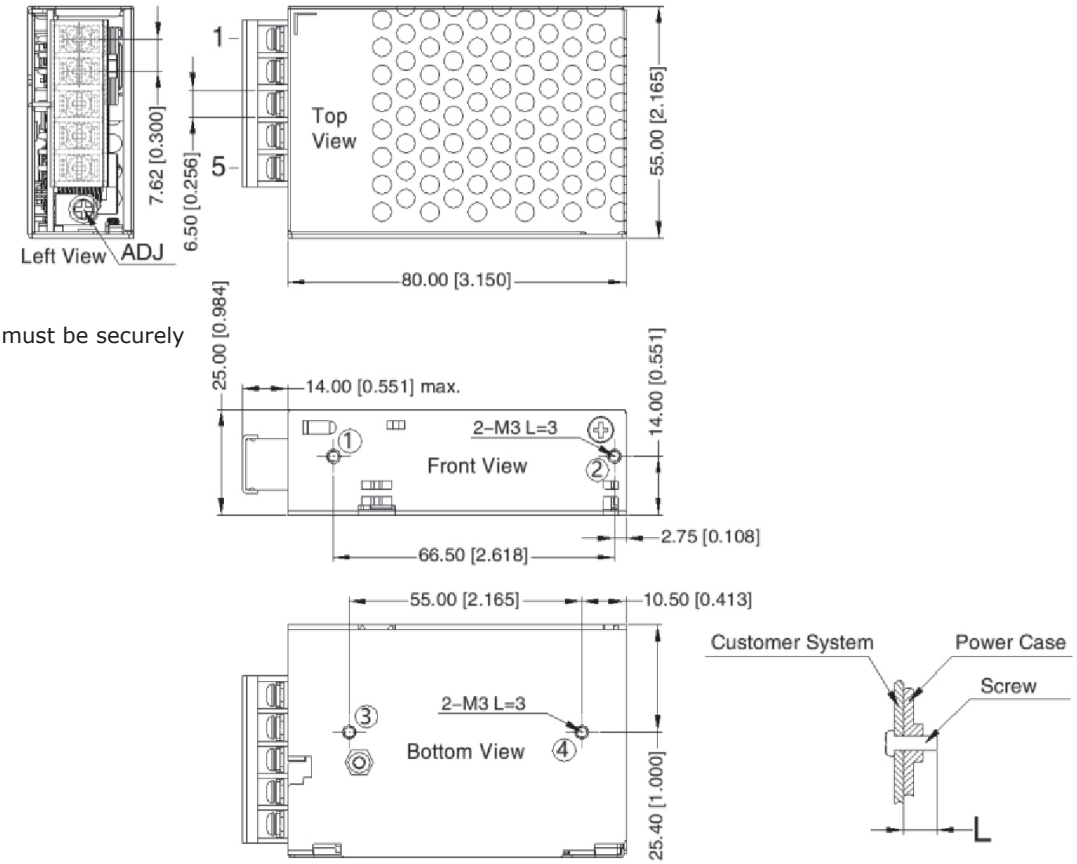

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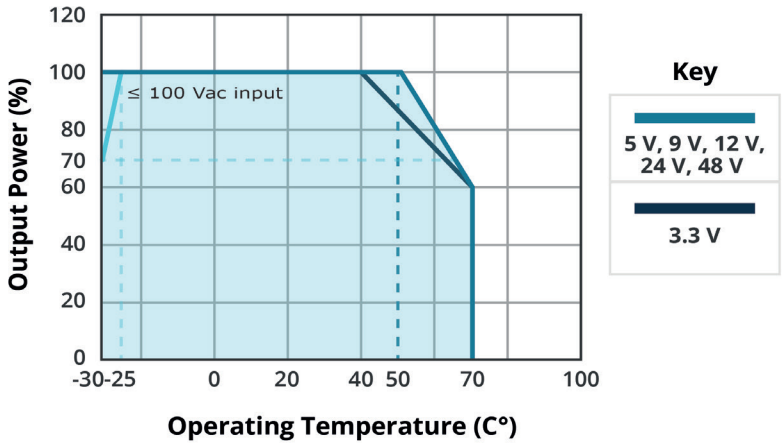
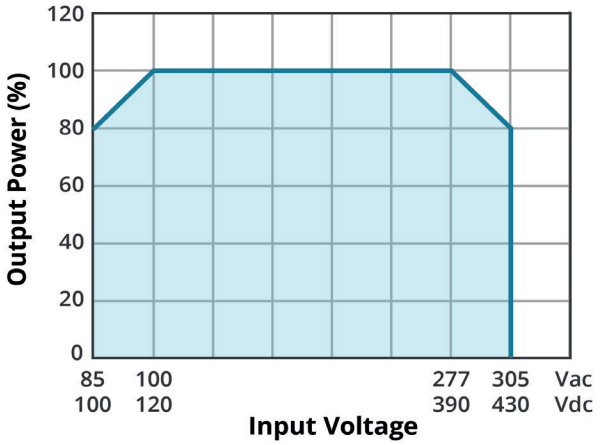
DERATING CURVES

TEMPERATURE DERATING CURVE

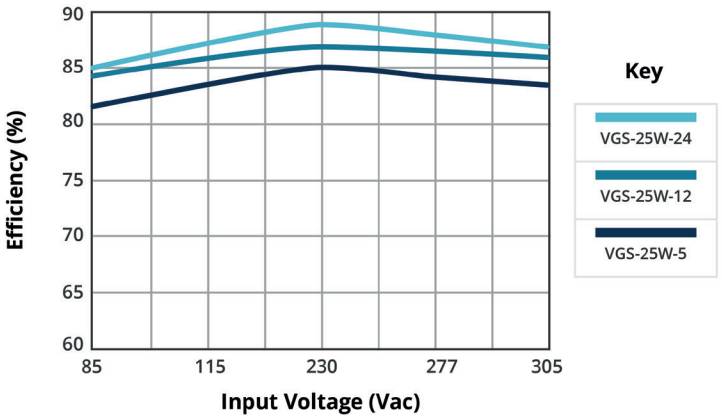


INPUT VOLTAGE DERATING CURVE (25°C)

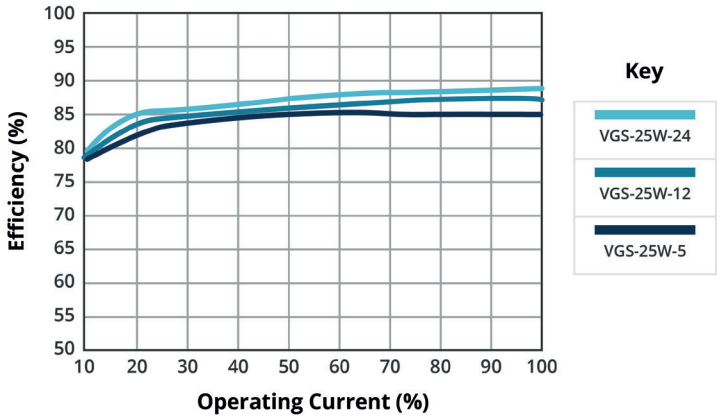


EFFICIENCY CURVES

EFFICIENCY VS INPUT VOLTAGE (Full load)



EFFICIENCY VS OUTPUT LOAD (Vin = 230 Vac)



REVISION HISTORY

rev.	description	date
1.0	initial release	02/10/2021
1.01	UKCA mark added	09/09/2021

The revision history provided is for informational purposes only and is believed to be accurate.

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