SERIES: VGS-15W | 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

MODEL	output voltage typ (Vdc)	output voltage range (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] max (mVp-p)	efficiency[2] typ (%)
VGS-15W-3	3.3	2.85~3.6	3.0	9.9	80	73
VGS-15W-5	5	4.5~5.5	3.0	15.0	80	78
VGS-15W-12	12	10.2~13.8	1.3	15.6	120	82
VGS-15W-15	15	13.5~18.0	1.0	15.0	120	82
VGS-15W-24	24	21.6~28.8	0.625	15.0	150	83
VGS-15W-48	48	42.0~54.0	0.32	15.36	150	83

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

VGS-15W - XX - X

- VGS-15W: Base Number
- XX: Output Voltage
- X: A - with terminal cover; B - with conformal coating

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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			0.35 0.25	A A
inrush current	at 115 Vac at 230 Vac		30 50		A A
leakage current	at 277 Vac			0.5	mA
no load power consumption	at 230 Vac 5 V, 12 V & 24 V models all other models			 0.35 0.5	 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			3,000 2,400 1,800 1,200 600 300	µF µF µF µF µF µF
initial set point acuracy	3.3 V models, full load 5 V models, full load all other models, full load		±3 ±2 ±1		% % %
line regulation	3.3 & 5 V models, rated load all other models, rated load		±1.0 ±0.5		% %
load regulation	3.3 & 5 V models, 0~100% load all other models, 0~100% load		±1.0 ±0.5		% %
switching frequency			65		kHz
hold-up time	at 115 Vac at 230 Vac		7 48		ms ms

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over current protection	auto recovery	110		200	%
over voltage protection	3.3 & 5 V models, hiccup or clamp 12 V models, hiccup or clamp 15 V models, hiccup or clamp 24 V models, hiccup or clamp 48 V models, hiccup or clamp			6.75 16.2 21.8 33.6 60.0	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				
radiated emissions	CISPR32/EN55032 CLASS B				
ESD	IEC/EN 61000-4-2 Contact ±6KV/Air ±8KV, perf. Criteria B				

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SAFETY & COMPLIANCE (CONTINUED)

parameter	conditions/description	min	typ	max	units
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		700,000		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	65.00 x 55.00 x 25.00				mm
weight			90		g
cooling	natural convection				
case material	metal (AL5052, SGCC)				

MECHANICAL DRAWING

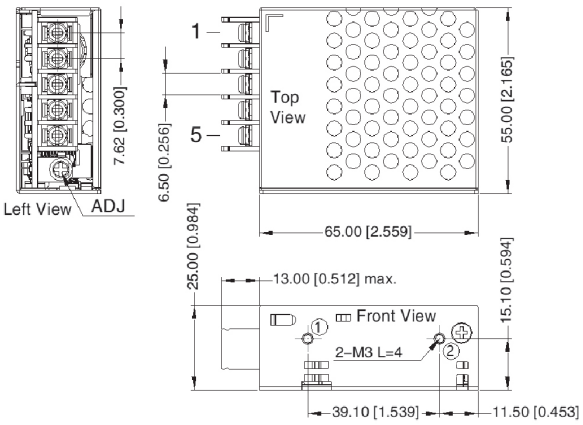
Standard Model

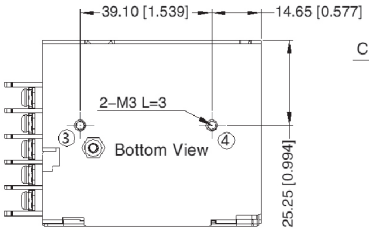
units: mm [inches]
tolerance: ±1.00 [±0.039]
wire range: 22~14 AWG
connector tightening torque: M3, 0.4 N·m

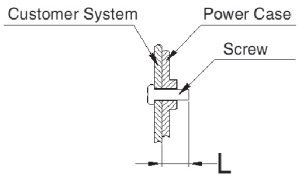
PIN OUT	
PIN	Function
1	AC (L)
2	AC (N)
3	⏚
4	-Vo
5	+Vo

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

Position	Screw Spec.	L (max)	Torque (max)
① ~ ②	M3	4 mm	0.4 N·m
③ ~ ④	M3	3 mm	0.4 N·m







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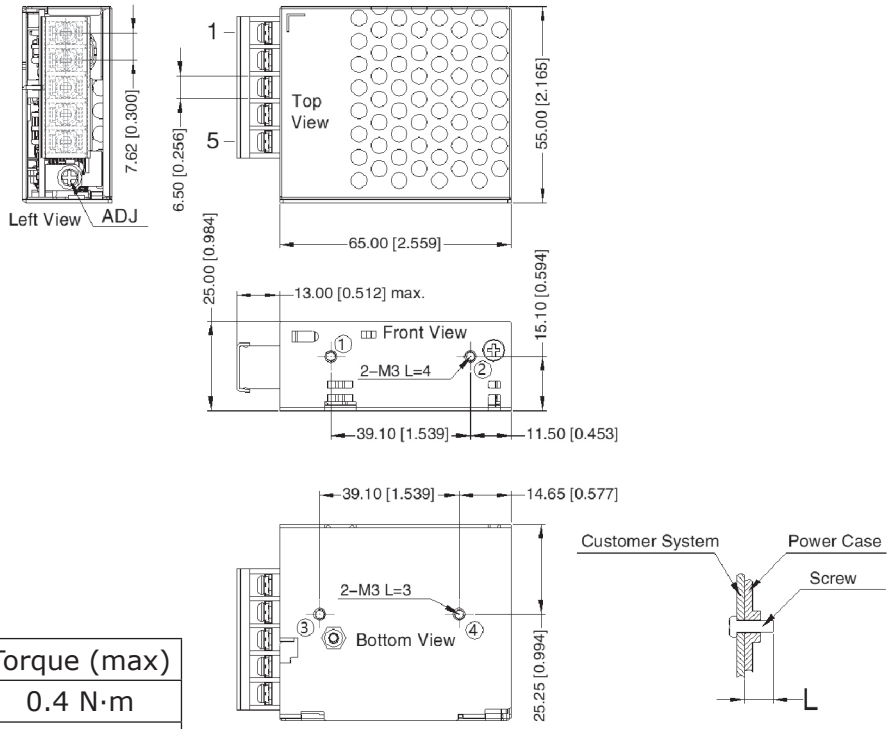
MECHANICAL DRAWING (CONTINUED)

Terminal Cover Option

units: mm [inches]
tolerance: ±1.00 [±0.039]
wire range: 22~14 AWG
connector tightening torque: M3, 0.4 N·m

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

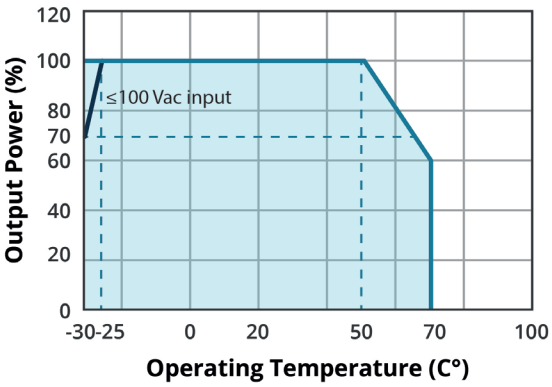
Note: At least one position ①~④ must be securely connected to the GND.⏚



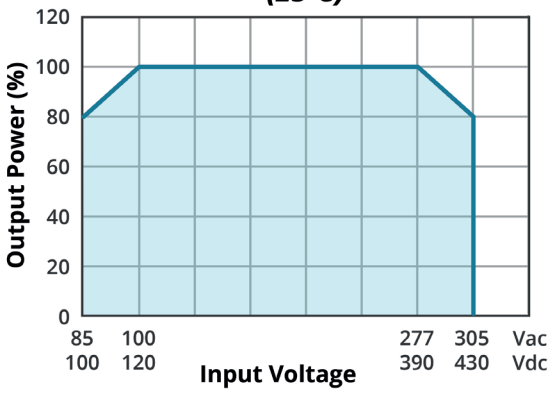
Position	Screw Spec.	L (max)	Torque (max)
① ~ ②	M3	4 mm	0.4 N·m
③ ~ ④	M3	3 mm	0.4 N·m

DERATING CURVES

TEMPERATURE DERATING CURVE



INPUT VOLTAGE DERATING CURVE (25°C)



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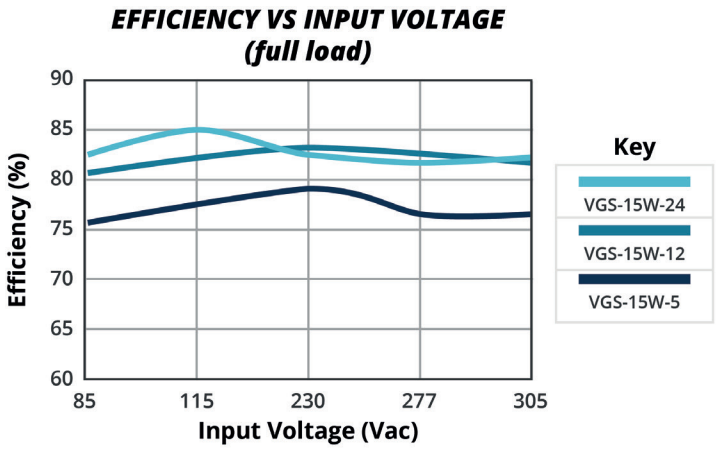
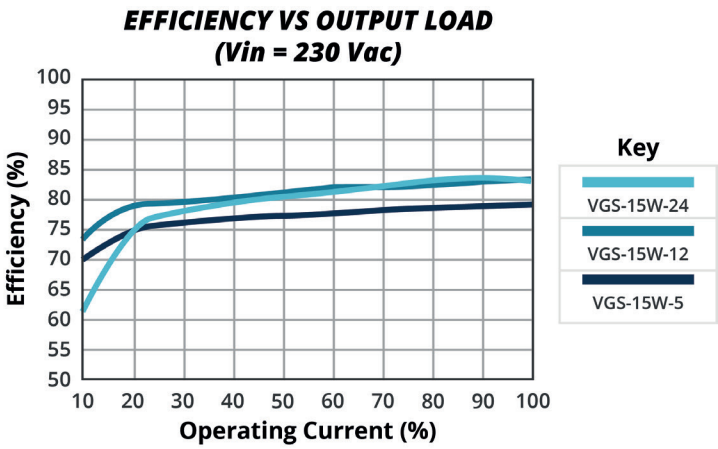
EFFICIENCY CURVES





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REVISION HISTORY

rev.	description	date
1.0	initial release	02/10/2021
1.01	derating and efficiency curves updated	02/11/2022
1.02	UKCA mark added, mechanical drawing section updated	06/06/2022
1.03	no load power consumption updated	07/06/2022

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

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