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### **DESCRIPTION: INTERNAL AC-DC POWER SUPPLY SERIES:** VGS-75W

### **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 and IEC/EN 60335 system requirements
- short-circuit, over-current, over-voltage protections
- CISPR/EN55032 Class B radiated/conducted emissions

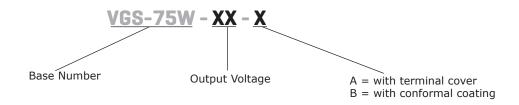




MODEL	output voltage	output current	output power	ripple and noise¹	efficiency <sup>2</sup>
	(Vdc)	max (A)	max (W)	<b>typ</b> (mVp-p)	typ (%)
VGS-75W-5	5	14.0	70	100	85
VGS-75W-12	12	6.0	72	120	87
VGS-75W-15	15	5.0	75	120	87
VGS-75W-24	24	3.2	76	150	89
VGS-75W-36	36	2.1	75	200	89
VGS-75W-48	48	1.6	76	200	90.5

Notes: 1. Ripple & noise are measured at 20 MHz BW with 47  $\mu F$  aluminum electrolytic capacitor and 0.1  $\mu F$  ceramic capacitor on the output. 2. Measured at 230 Vac

### **PART NUMBER KEY**



# **INPUT**

parameter	conditions/description	min	typ	max	units
voltage	ac input dc input	85 120		305 430	Vac Vdc
frequency		47		63	Hz
current	at 115 Vac at 230 Vac			2 1	A A
inrush current	at 115 Vac, full load, cold start at 230 Vac, full load, cold start		40 75		A A
leakage current	at 277 Vac			0.75	mA
no load power consumption				0.5	W

# **OUTPUT**

parameter	conditions/description	min	typ	max	units
	5 Vdc output			10,000	μF
	12 Vdc output			6,000	μF
canacitive load	15 Vdc output			5,000	μF
capacitive load	24 Vdc output			1,500	μF
	36 Vdc output			1,000	μF
	48 Vdc output			680	μF
line regulation	rated load		±0.5		%
land on sulphing	0% ~ 100%, 5 Vdc output		±1		%
load regulation	0% ~ 100%, 12, 15, 24, 36, 48 Vdc output		±0.5		
hold-up time	at 115 Vac	8			ms
•	at 230 Vac	55			ms
switching frequency			65		kHz
temperature coefficient	at 230 Vac, 0°C to 50°C		±0.03		%/°C
adjustability	built in trim pot		±10		%
initial set point assuracy	5 Vdc output		±2		%
initial set point accuracy	other outputs		±1		%

# **PROTECTIONS**

parameter	conditions/description	min	typ	max	units
over voltage protection	5 Vdc output, clamp, auto recovery			6.3	Vdc
	12 Vdc output, hiccup, auto recovery			16.2	Vdc
	15 Vdc output, hiccup, auto recovery			21.75	Vdc
	24 Vdc output, hiccup, auto recovery			33.6	Vdc
	36 Vdc output, clamp, auto recovery			50.0	Vdc
	48 Vdc output, clamp, auto recovery			60.0	Vdc
over current protection	at 230 Vac, rated load, auto recovery	110		200	%
short circuit protection	hiccup, continuous, auto recovery				

# **SAFETY & COMPLIANCE**

parameter	conditions/description	min	typ	max	units
	input to ground, 1 min. <10mA	2,000			Vac
isolation voltage	input to output, 1 min. <10mA	4,000			Vac
	output to ground, 1 min. <10mA	1,250			Vac
	certified to 62368: IEC, EN, UL				
safety approvals	designed to meet 60335: IEC, EN				
	designed to meet 61558: IEC, EN				
safety class	class I				
EMI/EMC	CISPR32/EN 55032 class B, IEC 61000-3-2 Class A				
ESD	IEC/EN 61000-4-2 Contact ±6KV/Air ±8KV perf. criteria A				
radiated immunity	IEC/EN 61000-4-3 10 V/m perf. criteria A				

**SAFETY & COMPLIANCE** 

EFT/burst	IEC/EN 61000-4-4 ±2KV perf. criteria A		
surge	IEC/EN 61000-4-5 line to line ±2KV/line to	o ground ±4KV perf. criteria A	
conducted immunity	IEC/EN 61000-4-6 10 Vr.m.s perf. criteria	A	
voltage dips and interruption	IEC/EN 61000-4-11 0%, 70% perf. criteria	а В	
MTBF	as per MIL-HDBK-217F at 25°C	300,000	hours
RoHS	yes		

# **ENVIRONMENTAL**

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

# **MECHANICAL**

parameter	conditions/description	min	typ	max	units
dimensions	99.00 x 97.00 x 30.00 mm				mm
weight			220		g
cooling	free air convection				
case material	metal (AL1100, SGCC)				

### **MECHANICAL DRAWING**

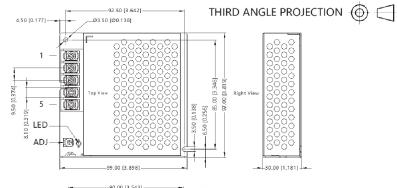
units: mm

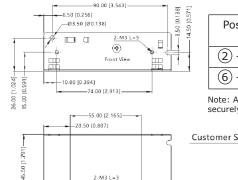
tolerance:  $\pm 1 [\pm 0.039]$ 

PIN CONNECTIONS				
PIN Function				
1 AC(L)				
2	AC(N)			
3	<b>(1)</b>			
4	-Vo			
5	+Vo			

wire range: 22-12 AWG

connector tightening torque: M3.5, 0.8 N·m

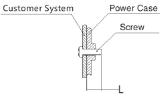




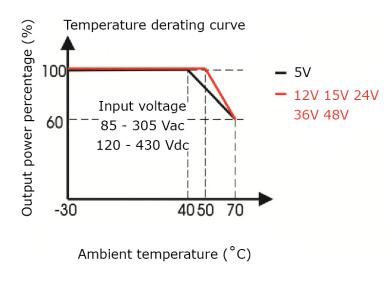
Position	Screw spec.	L (max)	Torque (max)
2 - 3	М3	5 mm	0.4 N·m
6 - 7	М3	3 mm	0.4 N·m

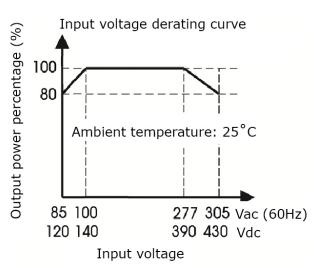
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Note: At least one hole position,  $\bigcirc$  ~  $\bigcirc$  must be securely connected to Protective Earth (PE)  $\bigcirc$ 

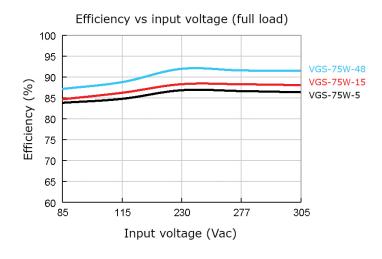


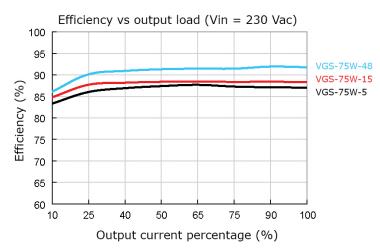
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### **EFFICIENCY CURVES**





### **REVISION HISTORY**

rev.	description	date
1.0	initial release	09/02/2020

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



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CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

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