SERIES: VGS-35C | **DESCRIPTION:** INTERNAL AC-DC POWER SUPPLY

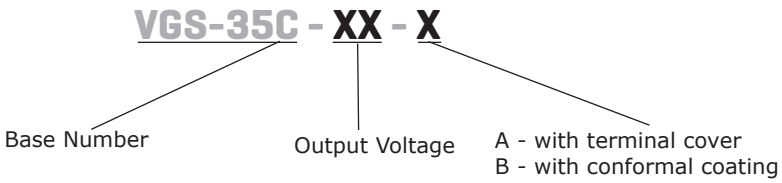
FEATURES

- universal input range (85 ~ 264 VAC)
- UL/EN/IEC 62368 certified
- designed to meet IEC/EN 61558, IEC/EN 60335, and GB4943 system requirements
- short-circuit, over-current, over-voltage protections
- CISPR/EN55032 Class B radiated/conducted emissions
- output adjustable via trimpot +/- 10%

MODEL	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] typ (mVp-p)	efficiency[2] typ (%)
VGS-35C-5	5	7.0	35	80	83
VGS-35C-12	12	3.0	36	120	87
VGS-35C-15	15	2.4	36	120	89
VGS-35C-24	24	1.5	36	150	88

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

PART NUMBER KEY



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INPUT

parameter	conditions/description	min	typ	max	units
voltage	ac input dc input	85 120		264 373	Vac Vdc
frequency		47		63	Hz
current	at 115 Vac at 230 Vac			0.8 0.6	A A
inrush current	at 115 Vac, cold start at 230 Vac, cold start		30 50		A A
leakage current	at 240 Vac			0.75	mA
no load power consumption				0.3	W

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	5 Vdc output 12 Vdc output 15 Vdc output 24 Vdc output			8,000 1,500 1,000 750	µF µF µF µF
initial set point accuracy	5 Vdc output, full load other outputs, full load		±2 ±1		% %
line regulation			±0.5		%
load regulation	5 Vdc output, 0%~100% load other outputs, 0%~100% load		±1 ±0.5		% %
adjustability	built in trim pot	±10			%
hold-up time	at 115 Vac at 230 Vac	8 30			ms ms
switching frequency			65		kHz
temperature coefficient			±0.03		%/°C

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	5 Vdc output, clamp 12 Vdc output, clamp 15 Vdc output, clamp 24 Vdc output, clamp			6.3 16.2 21.75 33.6	Vdc Vdc Vdc Vdc
over current protection	auto-recovery	110		200	%
short circuit protection	hiccup, continuous, auto-recovery				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to ground input to output output to ground	2,000 4,000 1,250			Vac Vac Vac
safety approvals	certified to: 62368: IEC/EN/UL designed to meet: 60335: IEC/EN designed to meet: 61558: IEC/EN designed to meet: 4943: GB				
safety class	Class I				
EMI/EMC	CISPR32/EN55032 Class B, IEC/EN61000-3-2 Class A				
ESD	IEC/EN 61000-4-2 Contact ±6KV /Air ±8KV, perf. Criteria A				
radiated immunity	IEC/EN 61000-4-3 10V/m, perf. Criteria A				
EFT/burst	IEC/EN 61000-4-4 ±2KV, perf. Criteria A				
surge	IEC/EN 61000-4-5 line to line ±2KV/line to ground ±4KV, perf. Criteria A				

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SAFETY & COMPLIANCE

conducted immunity	IEC/EN61000-4-6 10 Vr.m.s, perf. Criteria A		
voltage dips and interruptions	IEC/EN61000-4-11 0%, 70%, perf. Criteria B		
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	%

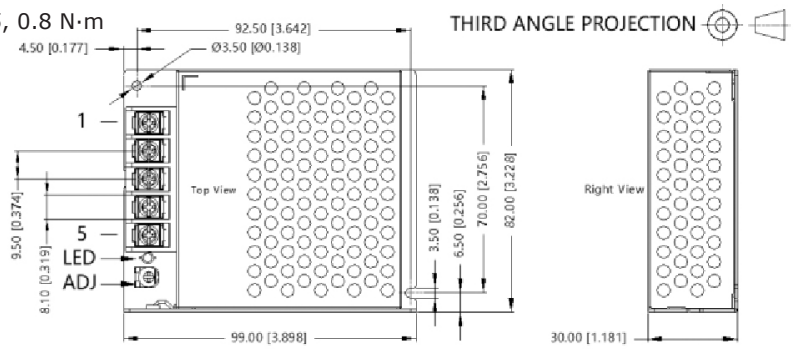
MECHANICAL

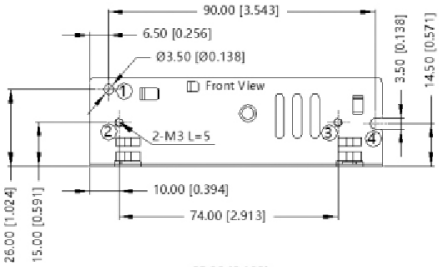
parameter	conditions/description	min	typ	max	units
dimensions	99.00 x 82.00 x 30.00				mm
weight			170		g
cooling	natural convection				
case material	metal (AL1100, SGCC)				

MECHANICAL DRAWING

units: mm [inch]
tolerance: ±1.0 [±0.039]
wire range: 22-12 AWG
connector tightening torque: M3.5, 0.8 N·m

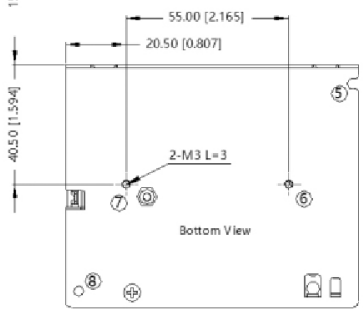
PIN CONNECTIONS	
PIN	Function
1	AC(L)
2	AC(N)
3	⏚
4	-Vo
5	+Vo

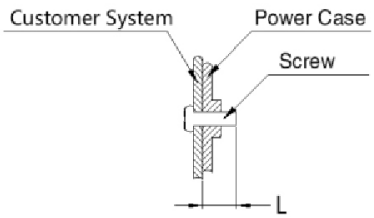




Position	Screw spec.	L (max)	Torque (max)
② - ③	M3	5 mm	0.4 N·m
⑥ - ⑦	M3	3 mm	0.4 N·m

Note: At least one hole position, ①~⑧, must be securely connected to Protective Earth (PE) ⏚





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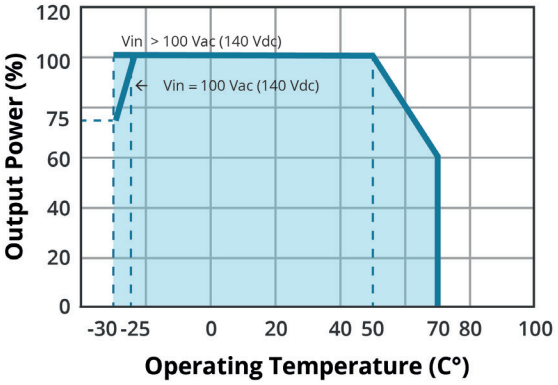
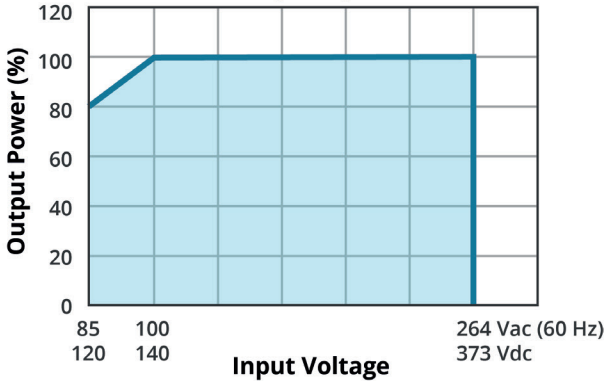
DERATING CURVES

TEMPERATURE DERATING CURVE

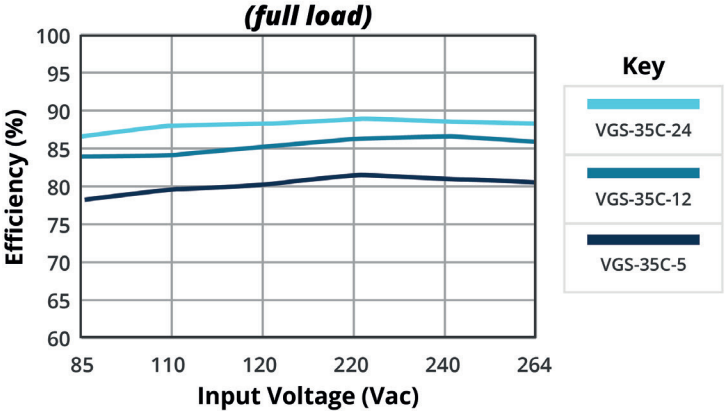


INPUT VOLTAGE DERATING CURVE (25°C)

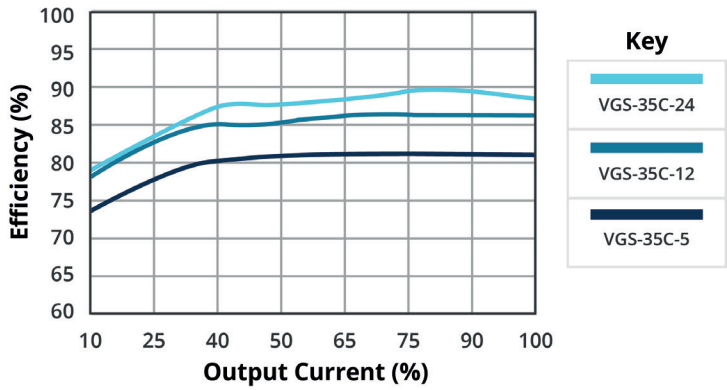


EFFICIENCY CURVES

EFFICIENCY VS INPUT VOLTAGE (full load)



EFFICIENCY VS OUTPUT LOAD



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REVISION HISTORY

rev.	description	date
1.0	initial release	09/28/2020
1.01	derating and efficiency curves updated	02/10/2022
1.02	UKCA mark added	06/06/2022

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

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