

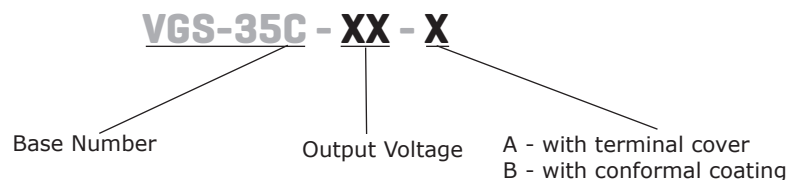
**SERIES: VGS-35C | DESCRIPTION: INTERNAL AC-DC POWER SUPPLY**
**FEATURES**

- 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	output current	output power	ripple and noise <sup>1</sup>	efficiency <sup>2</sup>
	(Vdc)	max (A)	max (W)	typ (mVp-p)	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  $\mu$ 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	85		264	Vac
	dc input	120		373	Vdc
frequency		47		63	Hz
current	at 115 Vac			0.8	A
	at 230 Vac			0.6	A
inrush current	at 115 Vac, cold start		30		A
	at 230 Vac, cold start		50		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			8,000	μF
	12 Vdc output			1,500	μF
	15 Vdc output			1,000	μF
	24 Vdc output			750	μF
initial set point accuracy	5 Vdc output, full load		±2		%
	other outputs, full load		±1		%
line regulation			±0.5		%
load regulation	5 Vdc output, 0%~100% load		±1		%
	other outputs, 0%~100% load		±0.5		%
adjustability	built in trim pot	±10			%
hold-up time	at 115 Vac	8			ms
	at 230 Vac	30			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			6.3	Vdc
	12 Vdc output, clamp			16.2	Vdc
	15 Vdc output, clamp			21.75	Vdc
	24 Vdc output, clamp			33.6	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	2,000			Vac
	input to output	4,000			Vac
	output to ground	1,250			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				

## 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	%

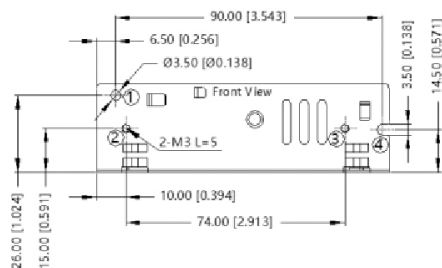
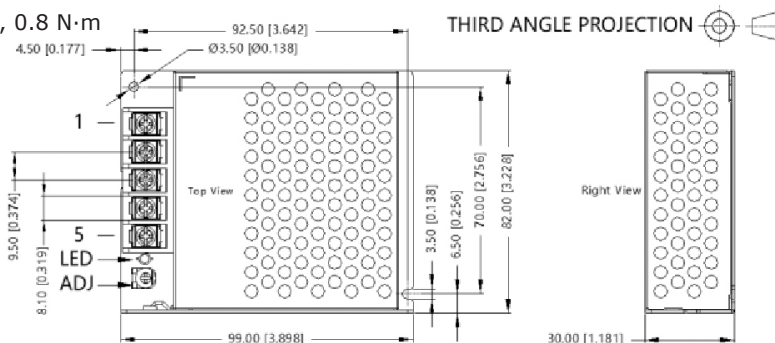
## MECHANICAL

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

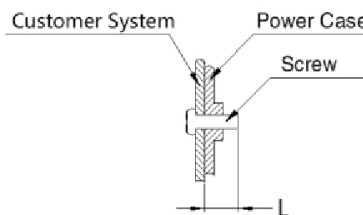
units: mm [inch]  
 tolerance: ±1.0 [±0.039]  
 wire range: 22-12 AWG  
 connector tightening torque: M3.5, 0.8 N·m

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



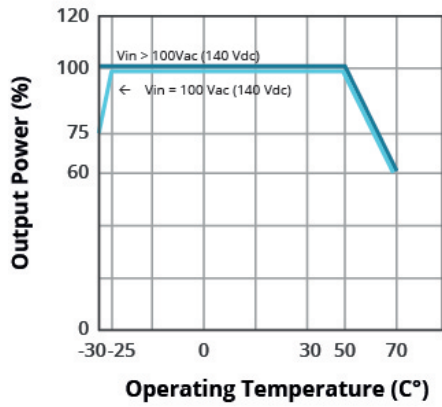
Position	Screw spec.	L (max)	Torque (max)
② - ③	M3	5 mm	0.4 N·m
⑥ - ⑦	M3	3 mm	0.4 N·m

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

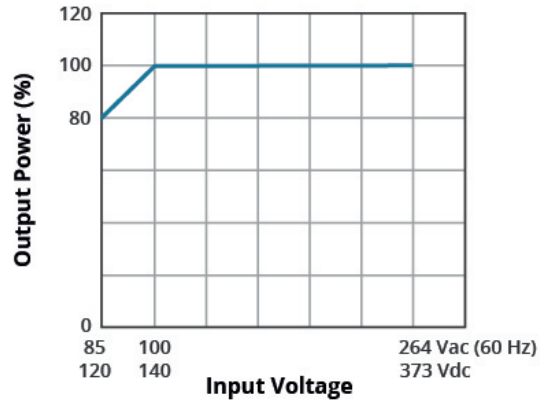


## DERATING CURVES

**TEMPERATURE DERATING CURVE**

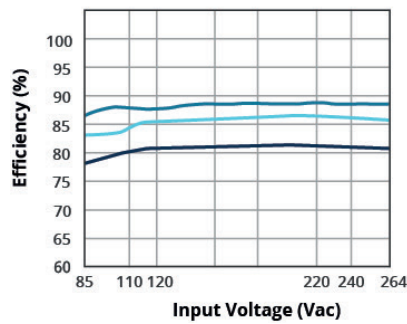


**INPUT VOLTAGE DERATING CURVE (25°C)**



## EFFICIENCY CURVES

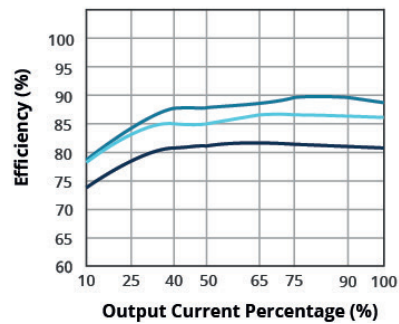
**EFFICIENCY VS INPUT VOLTAGE (FULL LOAD)**



Key



**EFFICIENCY VS OUTPUT LOAD**



Key



## REVISION HISTORY

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rev.	description	date
1.0	initial release	09/28/2020

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



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