Features

- Ultra compact 1.0" x 1.0" x 0.64" package
- Universal input 90–264V AC
- High efficiency up to 85%
- Fully encapsulated plastic case
- UL 60950-1 and 62368-1 approved
- IEC/EN 62368-1 approved
- EMI: EN 55032:2015
- EMS: EN 55024:2010
- OLP, SCP, OVP
- 3 years warranty

41GA5E Series

1–5W Encapsulated AC/DC Converter, Single Output



Image for illustration purposes only.

Description

The 41GA5E Series is a 1–5W encapsulated AC/DC converter in a 1.0" x 1.0" package, available as seven single-output models. It takes either a universal AC input or a DC input, so one part covers mains supplies worldwide. Output power is selected in 1W steps by the final digit of the part number.

Certified to CE, cURus and CB, and built to IEC 62368-1, EN 62368-1, UL 62368-1 and UL 60950-1, with EMC to EN 55032 Class B, EN 61000-3-2, EN 61000-3-3 and EN 55024. The unit meets RoHS requirements. These are primarily used in information technology, audio and video equipment, and customised solutions are available upon request.

Part Number Breakdown

41GA5E	S	05	X
Series Name	Single Output	Output Voltage	Output Power: 1–4 = 1–4W Omitted = 5W (max.)

Models

Part Number	Output Wattage (W)	Output Voltage (V DC)	Output Current (mA)	Ripple & Noise (mV max.)	Efficiency (% typ.)	Max. Capacitive Load (µF)
41GA5E-S03-X	5.0	3.3	1515	60	73	2200
41GA5E-S05-X		5.0	1000	60	80	1000
41GA5E-S09-X		9.0	555	90	81	300
41GA5E-S12-X		12.0	416	120	81	160
41GA5E-S15-X		15.0	333	150	82	100
41GA5E-S24-X		24.0	208	240	82	43
41GA5E-S48-X		48.0	104	480	84	10

Note: X = one digit representing the output power (W). The output power rises in steps of 1W from 1W to the maximum output power; when the output power is the maximum, X is omitted. E.g. 3W = 41GA5E-S05-3, 41GA5E-S15-3; 5W = 41GA5E-S05, 41GA5E-S15.

Input Specifications

Parameter	Specification
Rated Input Voltage	100–240V AC @ Vo, Io nom
Voltage Range	AC input: 90–264V AC DC input: 120–370V DC Vo, Io nom
Line Frequency	47–63Hz, 50Hz typ. @ Vi nom, Io nom
Inrush Current	115V AC input: 10A max. 230V AC input: 20A max. Io nom
Input Fuse	2.5A / 250V slow blow (VDE/UL/CCC)

Output Specifications

Parameter	Specification
Output Voltage Accuracy	3.3–5V models: ±3% max. 9–48V models: ±2% max. Vi nom, Io nom
Minimum Load	0% @ Vi nom
Line Regulation	±1.0%
Load Regulation	±1.0%
Transient Recovery Time	1000µS typ. @ Vi nom, Io nom ↔ 0.5 Io nom

Protection

Parameter	Specification
Overload Protection	>110% rated output power. Protection type: automatic recovery after the fault condition is removed
Short Circuit Protection	Automatic recovery after the fault condition is removed
Overvoltage Protection	120–150% rated output voltage. Protection type: Zener diode clamp

Environmental Characteristics

Parameter	Specification
Operating Temperature	-25°C to +70°C (refer to the Temperature Derating Graph)
Storage Temperature	-40°C to +85°C (non-operational)
Relative Humidity	95% RH max. @ Vi nom, Io nom
Cooling Method	Natural convection

Safety Standards

Parameter	Specification
Safety Standards	IEC 62368-1, EN 62368-1, UL 62368-1, UL 60950-1
Certifications	CE, cURus, CB, RoHS, REACH
Isolation Voltage	Input to output: 3kV AC / 5mA / 5S
Isolation Resistance	Input to output: 100MΩ min. @ 500V DC

Electromagnetic Compatibility (EMC)

Parameter	Specification
EMI Conduction & Radiation	EN 55032 Class B, EN 61000-3-2, EN 61000-3-3
EMS Immunity	EN 55024

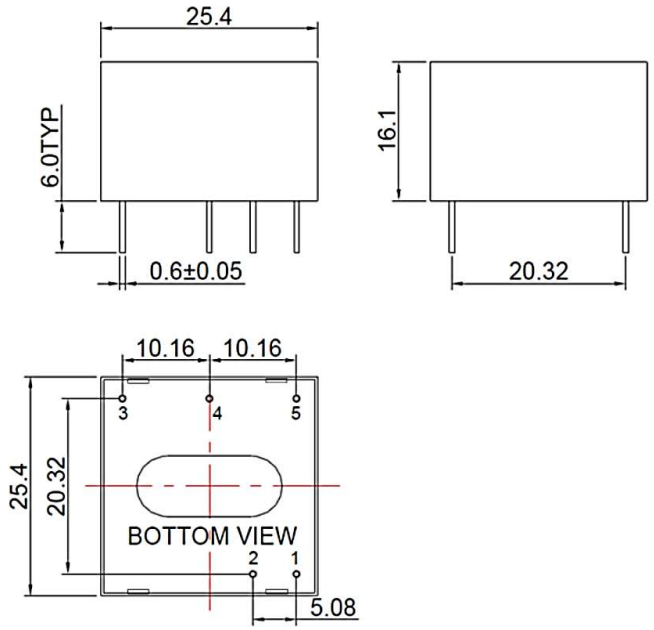
General Specifications

Parameter	Specification
Switching Frequency	65kHz typ. @ Vi nom, Io nom

Weight & Dimensions

Parameter	Specification
Weight	20g
Dimensions	25.4(L) x 25.4(W) x 16.1(H)mm (excluding pins)

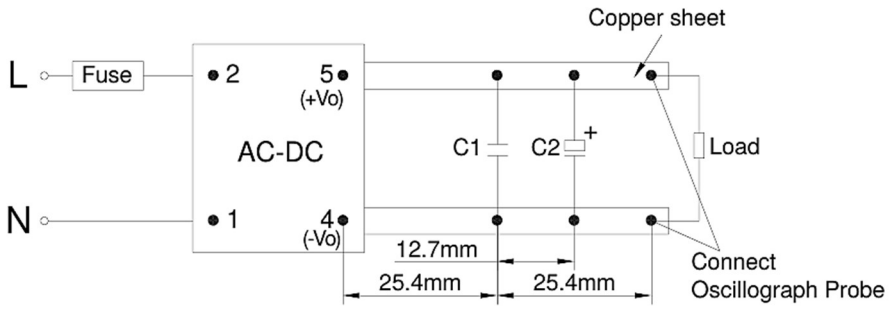
Mechanical Drawing



Dimensions in millimetres, tolerance of ±0.50mm.

Pin	Definition	Pin	Definition
1	ACN	2	ACL
3	NC	4	-Vo
5	+Vo		

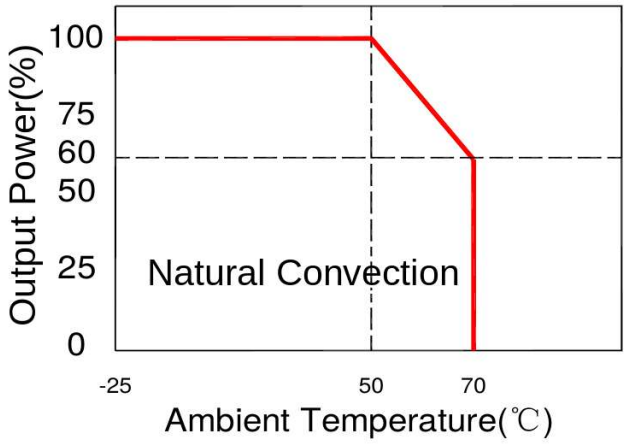
Ripple & Noise Measurement



C1:Ceramic capacitor,1uF; C2:Electrolytic capacitor,10uF

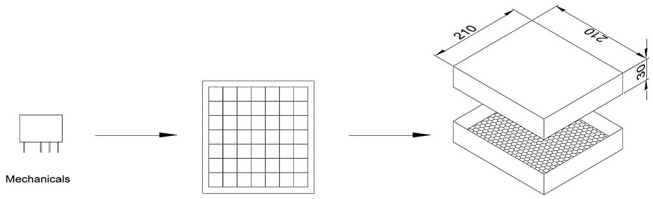
Ripple & noise is measured using 20MHz bandwidth, with a 10μF electrolytic capacitor paralleled with a 1μF ceramic capacitor across each output, at full load.

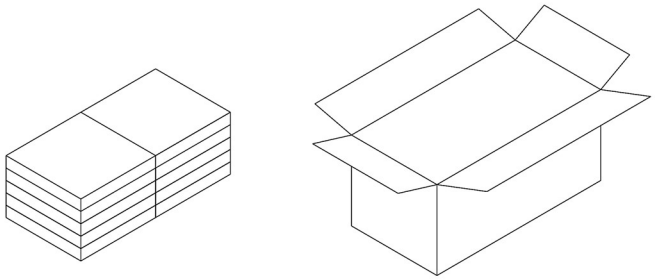
Performance Graphs



Packaging

Parameter	Specification
Inner Box Quantity	49pcs per box
Inner Box Dimensions	210 x 210 x 30mm
Quantity per Carton	490pcs per carton
Carton Dimensions	460 x 240 x 220mm
Carton Weight	11.7kg





UNIT:mm

Notes

1. Specifications typical at Ta = 25°C, nominal input voltage and rated output current unless otherwise specified.