

15 Watts

- 2:1 Input range
- 2 x 1" package
- Single and dual outputs
- Efficiency up to 87%
- Meets EN55022 class A (No components)
- -40 to 85°C Operation
- 3 Year warranty



The HCA15 series of low cost DC/DC converters comes in both single and dual outputs. Inputs are available in 12, 24 & 48V versions with 2:1 range and outputs from 3.3 to 24V single and dual. The units operate from -40 to +85°C. High volumes are held in stock for the popular models. All models have a FiDUS 3 year warranty.

Dimensions:

2.00 x 1.00 x 0.40" (50.80 x 25.40 x 10.16mm)

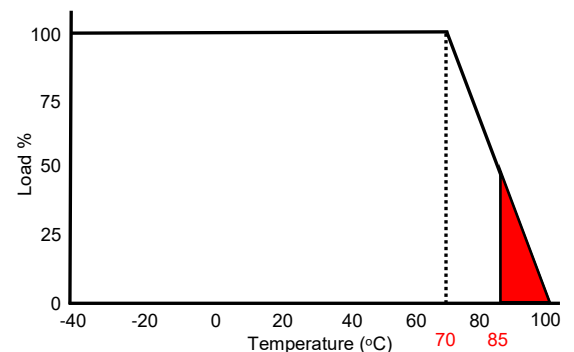
Models & Ratings

Model Number ⁽²⁾	Input Voltage	Output Voltage	Output Current	Input Current		Maximum Capacitive Load	Efficiency
				No Load	Full Load		
HCA151203	9-18V	3.3V	3000mA	30mA	1031mA	3300uF	80%
HCA151205		5V	3000mA	30mA	1524mA	3300uF	82%
HCA151212		12V	1250mA	30mA	1470mA	1000uF	85%
HCA151215		15V	1000mA	30mA	1470mA	680uF	85%
HCA151224		24V	625mA	30mA	1453mA	470uF	86%
HCA151205D		±5V	±1500mA	30mA	1524mA	±1000uF	82%
HCA151212D		±12V	±625mA	30mA	1488mA	±470uF	84%
HCA151215D		±15V	±500mA	30mA	1488mA	±330uF	84%
HCA151224D	±24V	±312mA	30mA	1470mA	±220uF	85%	
HCA152403	18-36V	3.3V	3000mA	25mA	515mA	3300uF	80%
HCA152405 ⁽¹⁾		5V	3000mA	25mA	744mA	3300uF	84%
HCA152412		12V	1250mA	25mA	735mA	1000uF	85%
HCA152415 ⁽¹⁾		15V	1000mA	25mA	726mA	680uF	86%
HCA152424		24V	625mA	25mA	718mA	470uF	87%
HCA152405D		±5V	±1500mA	25mA	753mA	±1000uF	83%
HCA152412D		±12V	±625mA	25mA	726mA	±470uF	86%
HCA152415D		±15V	±500mA	25mA	726mA	±330uF	86%
HCA152424D	±24V	±312mA	25mA	718mA	±220uF	87%	
HCA154803	36-72V	3.3V	3000mA	20mA	257mA	3300uF	80%
HCA154805		5V	3000mA	20mA	372mA	3300uF	84%
HCA154812		12V	1250mA	20mA	363mA	1000uF	86%
HCA154815		15V	1000mA	20mA	359mA	680uF	87%
HCA154824		24V	625mA	20mA	359mA	470uF	87%
HCA154805D		±5V	±1500mA	20mA	372mA	±1000uF	84%
HCA154812D		±12V	±625mA	20mA	363mA	±470uF	86%
HCA154815D		±15V	±500mA	20mA	359mA	±330uF	87%
HCA154824D	±24V	±312mA	20mA	359mA	±220uF	87%	

Notes

1. High stock items
2. Under no load conditions the unit may not meet all specifications
3. Do not operate continuously in the red area of the derating curve

Derating curve



Input	
Parameter	Rating
Input voltage range	See table
Input reflected ripple current	35mA pk-pk through 12uH inductor
Input surge (100mS max)	12V Models 25V DC Max. 24V Models 50VDC Max. 48V Models 100VDC Max.
Input filter	Pi type

Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	3.3		24	VDC	See Model & Ratings table
Set point accuracy			±1	%	
Line regulation			±0.5	%	Low line to High line
Load regulation			±0.5	%	Single outputs. 0 to 100% load change
			±1		Dual outputs. 0 to 100% load change
Ripple & Noise			100	mV pk-pk	All models measured with 1uF ceramic capacitor. 20 MHz bandwidth
Transient response			±3	% Deviation	For a 25% load change, recovery to within 3% within 300uS typically.
Short circuit protection					Continuous with automatic recovery
Maximum capacitive load					See Model and Ratings table

General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	80		87	%	See Model & Ratings table
Isolation			1500	VDC	Input to output
Isolation resistance	1000			M Ohm	
Isolation capacitance		500		pF	
Switching frequency		200		KHz	
Power density			18.75	W/In ³	
MTBF		>1.121		MHrs	As per MIL-HDBK-217F, 25°C GB

Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		85	°C	100% load at 70°C. 50% at 85°C
Storage temperature	-40		125	°C	
Case temperature			100	°C	
Cooling					Convection cooled
Humidity			95	% RH	Non-condensing
Temperature coefficient			±0.02	%/°C	

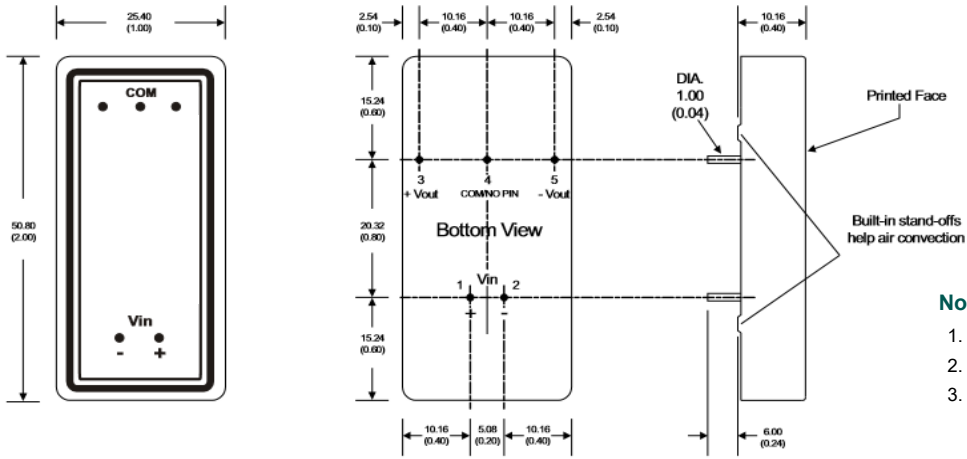
EMC: Emissions

	Standard	Test level	Notes & Conditions
Conducted	EN55022	Class A	See application notes
Radiated	EN55022	Class A	

EMC: Immunity

	Standard	Test level	Criteria	Notes & Conditions
ESD	EN61000-4-2		A	
Radiated	EN61000-4-3		A	
EFT/Burst	EN61000-4-4		A	
Surges	EN61000-4-5		A	Requires a 220uF/100V capacitor
Conducted	EN61000-4-6		A	
Magnetic fields	EN61000-4-8		A	

Mechanical Details



Pin Connections		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	N.P	0V
5	-Vout	-Vout

Notes

1. All dimensions shown in millimetres (inches)
2. Pin diameter 1.0 ± 0.05 (0.04 ± 0.002)
3. Case tolerance ± 0.5 (± 0.002)

Physical

Parameter	Rating
Case material	Nickel coated brass
Pin material	1.0mm Brass solder coated
Potting material	Epoxy (UL94V-0)
Weight	31g
Dimensions	2.00 x 1.00 x 0.40"
Soldering temperature	1.5mm from case ,10s and 260°C max.