

## 3 Watts

- 2:1 Input range
- DIP24 Industry standard package
- Single and dual outputs
- Meet Class A EMC (No extra components)
- Optional isolation up to 3000VDC
- Metal case optional
- 5 Year warranty



The GCA03 series of DC/DC converters come in both single and dual outputs in a DIP24 pin package. Inputs are available in 12, 24 & 48V versions with a 2:1 input range and outputs from 3.3 to 24V single and dual. No components required to meet EN55022 level A conducted noise. High volumes are held in stock for the popular models. All models have a FiDUS 5 year warranty.

Dimensions:

1.25 x 0.8 x 0.4" (31.8 x 20.3 x 10.2mm)

## Models & Ratings

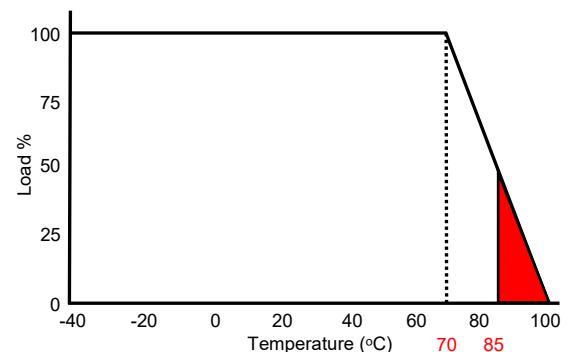
Model Number <sup>(2)</sup>	Input Voltage	Output Voltage	Output Current	Input Current		Maximum Capacitive Load	Efficiency
				No Load	Full Load		
GCA031203	9-18V	3.3V	900mA	7mA	339mA	470uF	74%
GCA031205		5V	600mA	7mA	325mA	470uF	78%
GCA031212		12V	250mA	10mA	313mA	100uF	81%
GCA031215		15V	200mA	10mA	313mA	100uF	81%
GCA031224		24V	125mA	20mA	316mA	47uF	80%
GCA031205D		±5V	±300mA	10mA	325mA	±220uF	78%
GCA031212D		±12V	±125mA	15mA	313mA	±100uF	81%
GCA031215D		±15V	±100mA	20mA	313mA	±100uF	81%
GCA031224D		±24V	±63mA	35mA	319mA	±47uF	80%
GCA032403	18-36V	3.3V	900mA	7mA	172mA	470uF	73%
GCA032405 <sup>(1)</sup>		5V	600mA	7mA	164mA	470uF	77%
GCA032412		12V	250mA	7mA	156mA	100uF	81%
GCA032415		15V	200mA	7mA	156mA	100uF	81%
GCA032424		24V	125mA	10mA	156mA	47uF	81%
GCA032405D		±5V	±300mA	7mA	160mA	±220uF	79%
GCA032412D		±12V	±125mA	10mA	156mA	±100uF	81%
GCA032415D		±15V	±100mA	15mA	156mA	±100uF	81%
GCA032424D		±24V	±63mA	20mA	158mA	±47uF	81%
GCA034803	36-75V	3.3V	900mA	7mA	84mA	470uF	75%
GCA034805		5V	600mA	7mA	80mA	470uF	79%
GCA034812		12V	250mA	7mA	78mA	100uF	81%
GCA034815		15V	200mA	7mA	78mA	100uF	81%
GCA034824		24V	125mA	7mA	78mA	47uF	81%
GCA034805D		±5V	±300mA	7mA	78mA	±220uF	81%
GCA034812D		±12V	±125mA	7mA	78mA	±100uF	81%
GCA034815D		±15V	±100mA	7mA	78mA	±100uF	81%
GCA034824D		±24V	±63mA	15mA	81mA	±47uF	79%

### Notes

1. High stock items
2. Add 'H' to model number for 3000VDC isolation
3. Under no load conditions the unit may not meet all specifications
4. Do not operate continuously in the red area of the derating curve

Input	
Parameter	Rating
Input voltage range	See table
Input reflected ripple current	20mA pk-pk through 12uH inductor
Under voltage lockout	12V Models Module on/off 8.5VDC / 7VDC typ. 24V Models Module on/off 16.5VDC / 14.5VDC typ. 48V Models Module on/off 34.5VDC / 30VDC typ.
Input surge (100mS max)	12V Models 25VDC max, 24V Models 50VDC max, 48V Models 100VDC max.

### Derating curve



## Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	3.3		24	VDC	See Model & Ratings table
Set point accuracy			±2	%	
Line regulation			±0.5	%	Low line to High line
Load regulation			±1.2	%	0 to 100% load change
Cross regulation			±5	%	On dual output models when one load is varied by 25 to 100% and the other is 100% load.
Ripple & Noise			80	mV pk-pk	All models measured with 1uF ceramic capacitor. 20 MHz bandwidth
			100	mV pk-pk	Dual output 24V
Transient response			±5	% Deviation	Single output 3.3V
			±3		All other outputs. 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	74		81	%	See Model & Ratings table
Isolation			1000	VDC	Input to output. With metal case.
	1500		3000		Input to output. Without case.
Isolation resistance			1000	M Ohm	
Isolation capacitance		1000		pF	
Switching frequency		330		KHz	
Power density			7.5	W/in <sup>3</sup>	
MTBF		>800		KHrs	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. Derates to 50% at 85°C
Storage temperature	-55		125	°C	
Case temperature			100	°C	
Cooling					Convection cooled
Humidity			95	% RH	Non-condensing
Temperature coefficient			±0.02	%/°C	

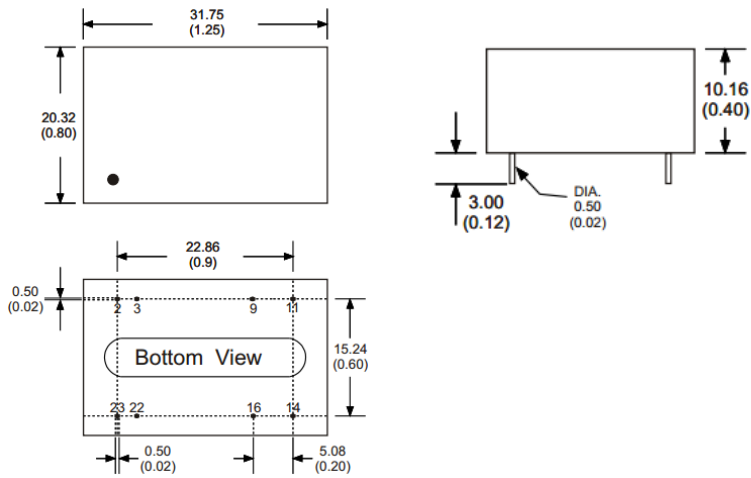
## EMC: Emissions

	Standard	Test level	Notes & Conditions
Conducted	EN55022	Class A	
Radiated	EN55022	Class A	

## EMC: Immunity

	Standard	Test level	Criteria	Notes & Conditions
ESD	EN61000-4-2	Level 3	A	
Radiated	EN61000-4-3	20V rms	A	
EFT/Burst	EN61000-4-4	Level 3	A	
Surges	EN61000-4-5	Installation class 2	A	An external capacitor input capacitor required 220uF/100V
Conducted	EN61000-4-6	3V rms	A	
Magnetic fields	EN61000-4-8	1A/m	A	

## Mechanical Details



Pin Connections		
Pin	Single	Dual
2	-Vin	-Vin
3	-Vin	-Vin
9	N.P	0V
11	N.C	-Vout
14	+Vout	+Vout
16	-Vout	0V
22	+Vin	+Vin
23	+Vin	+Vin

### Notes

1. All dimensions shown in millimetres (inches)
2. Pin diameter  $0.5 \pm 0.05$  ( $0.02 \pm 0.002$ )
3. Case tolerance  $\pm 0.5$  ( $\pm 0.002$ )

### Physical

Parameter	Rating
Case material	Non-conductive Black plastic (UL94V-0)
Pin material	0.5mm Brass solder coated
Potting material	Epoxy (UL94V-0)
Weight	16.5g
Dimensions	1.25 x 0.8 x 0.4"
Soldering temperature	1.5mm from case ,10s and 260°C max.