

6 Watts

- 2:1 Input range
- DIP24 Industry standard package
- Single and dual outputs
- Optional isolation up to 3500VDC
- -40 to +85°C Operation
- Plastic case optional
- 3 Year warranty



The GCB06 series of low cost DC/DC converters come in both single and dual outputs in a DIP 24 pin package. Inputs are available in 12, 24 & 48V versions with a 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:

1.25 x 0.8 x 0.4" (31.75 x 20.32 x 10.16mm)

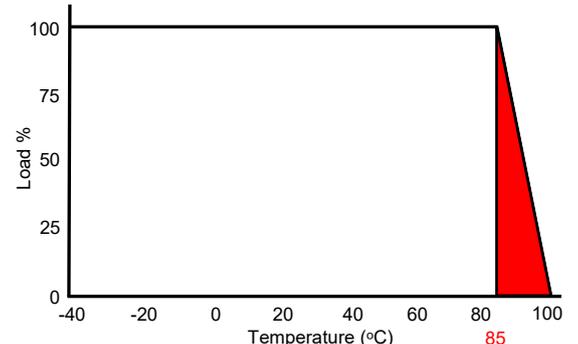
Models & Ratings

Model Number ⁽²⁾⁽³⁾	Input Voltage	Output Voltage	Output Current	Input Current		Maximum Capacitive Load	Efficiency
				No Load	Full Load		
GCB061203	9-18V	3.3V	1400mA	30mA	527mA	1000uF	73%
GCB061205		5V	1200mA	30mA	649mA	1000uF	77%
GCB061212		12V	500mA	30mA	617mA	330uF	81%
GCB061215		15V	400mA	30mA	625mA	220uF	80%
GCB061224		24V	250mA	30mA	625mA	68uF	80%
GCB061203D		±3.3V	±909mA	30mA	527mA	±680uF	73%
GCB061205D		±5V	±600mA	30mA	649mA	±330uF	77%
GCB061212D		±12V	±250mA	30mA	625mA	±100uF	80%
GCB061215D		±15V	±200mA	30mA	632mA	±47uF	79%
GCB061224D		±24V	±125mA	30mA	625mA	±33uF	80%
GCB062403	18-36V	3.3V	1400mA	20mA	256mA	1000uF	75%
GCB062405 ⁽¹⁾		5V	1200mA	20mA	313mA	1000uF	80%
GCB062412		12V	500mA	20mA	313mA	330uF	80%
GCB062415		15V	400mA	20mA	304mA	220uF	82%
GCB062424		24V	250mA	20mA	305mA	68uF	82%
GCB062403D		±3.3V	±909mA	20mA	333mA	±680uF	75%
GCB062405D		±5V	±600mA	20mA	321mA	±330uF	78%
GCB062412D		±12V	±250mA	20mA	312mA	±100uF	80%
GCB062415D		±15V	±200mA	20mA	312mA	±47uF	80%
GCB062424D		±24V	±125mA	20mA	312mA	±33uF	80%
GCB064803	36-72V	3.3V	1400mA	12mA	128mA	1000uF	75%
GCB064805		5V	1200mA	12mA	156mA	1000uF	80%
GCB064812		12V	500mA	12mA	156mA	330uF	80%
GCB064815		15V	400mA	12mA	151mA	220uF	83%
GCB064824		24V	250mA	12mA	151mA	68uF	83%
GCB064803D		±3.3V	±909mA	12mA	171mA	±680uF	73%
GCB064805D		±5V	±600mA	12mA	158mA	±330uF	79%
GCB064812D		±12V	±250mA	12mA	156mA	±100uF	80%
GCB064815D		±15V	±200mA	12mA	156mA	±47uF	80%
GCB064824D		±24V	±125mA	12mA	156mA	±33uF	80%

Notes

1. High stock items
2. Add 'P' to model number for plastic case
3. Add 'H' to model number for 3500VDC isolation.
4. Under no load conditions the unit may not meet all specifications
5. 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 24VDC Max. 24V Models 40VDC Max. 48V Models 80VDC 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			±1.5	%	3.3 and ±3.3V outputs
			±0.5		All other outputs
Minimum load			0	%	
Ripple & Noise			60	mV pk-pk	Measured with 1uF ceramic capacitor
Short circuit protection					Continuous with automatic recovery
Maximum capacitive load					See Model and Ratings table

General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	73		83	%	See Model & Ratings table
Isolation	1500		3500	VDC	Plastic case, Input to output
			1000		Metal case, input to output
Isolation resistance			1000	M Ohm	
Isolation capacitance		500		pF	
Switching frequency		266		KHz	
Power density			15	W/ln ³	
MTBF		>1.121		KHrs	As per MIL-HDBK-217F, 25°C GB

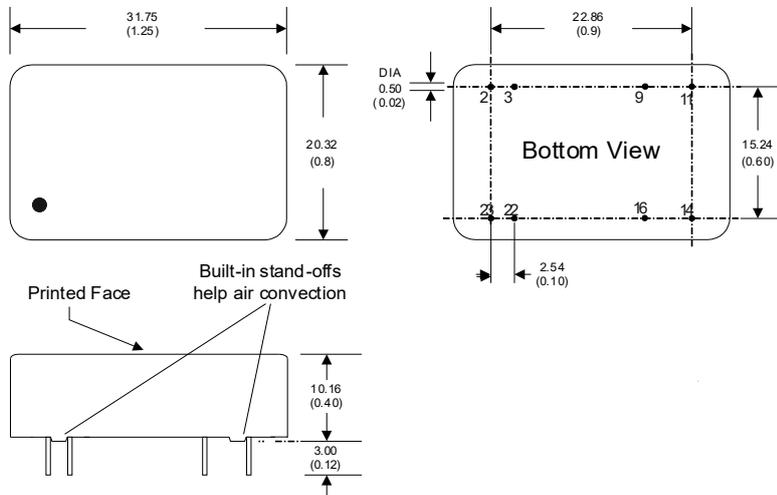
Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		85	°C	Full power to 85°C, derating to 0% at 100°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	

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 0.50 ± 0.05 (0.02 ± 0.002)
3. Case tolerance ± 0.5 (± 0.002)

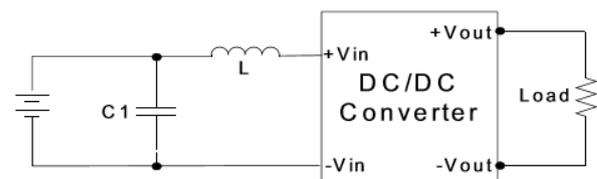
Physical

Parameter	Rating
Case material	Nickel coated copper (standard) Non-conductive black plastic (UL94V-0)
Pin material	0.5mm Brass solder coated
Potting material	Epoxy (UL94V-0)
Weight	17g Metal case. 13.5g Plastic case
Dimensions	1.25 x 0.8 x 0.4"
Soldering temperature	1.5mm from case, 10s and 260°C max.

Application notes

EMI Filter

The input filter components C1 and L1 can be fitted to help meet conducted emission requirements for the system. They should be mounted as close as possible to the module. Lead lengths should be minimized and where possible avoid running input and output tracks under the module as part of good design practice for best EMC performance. If the module is embedded in a system running from a AC/DC converter, this will have its own additional immunity protection and EMI filtering that will impact the overall system EMI performance.



C1	L1
100uF, 100V	12uH