

8 Watts

- High power density
- 2:1 Input range
- DIP24 Industry standard package
- Single and dual outputs
- EN55032 class A
- -40 to +85°C Operation
- 3 Year warranty



The GCT08 series of high efficiency 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 range and outputs from 3.3 to 15V single and dual. The units operate from -40 to +85°C. All models have a FIDUS 3 year warranty.

Dimensions:

1.25 x 0.8 x 0.40" (31.8 x 20.3 x 10.2mm)

Models & Ratings

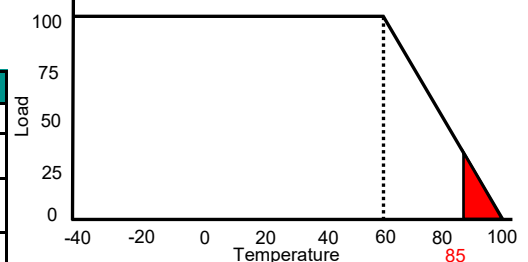
Model Number	Input Voltage	Output Voltage	Output Current	Input Current		Maximum Capacitive Load	Efficiency
				No Load	Full Load		
GCT081203	9-18V	3.3V	2000mA	20mA	687mA	3300uF	80%
GCT081205		5V	1500mA	20mA	762mA	2200uF	82%
GCT081207		7.2V	1111mA	20mA	803mA	1000uF	83%
GCT081209		9V	888mA	20mA	794mA	470uF	84%
GCT081212		12V	665mA	20mA	784mA	470uF	85%
GCT081215		15V	535mA	20mA	803mA	220uF	83%
GCT081205D		±5V	±800mA	20mA	813mA	±1000uF	82%
GCT081207D		±7.2V	±555mA	20mA	803mA	±470uF	83%
GCT081209D		±9V	±444mA	20mA	794mA	±330uF	84%
GCT081212D		±12V	±335mA	20mA	794mA	±220uF	84%
GCT081215D		±15V	±265mA	20mA	794mA	±100uF	84%
GCT082403		18-36V	3.3V	2000mA	15mA	344mA	3300uF
GCT082405	5V		1500mA	15mA	381mA	2200uF	82%
GCT082407	7.2V		1111mA	15mA	396mA	1000uF	84%
GCT082409	9V		888mA	15mA	387mA	470uF	86%
GCT082412	12V		665mA	15mA	392mA	470uF	85%
GCT082415	15V		535mA	15mA	397mA	220uF	84%
GCT082405D	±5V		±800mA	15mA	407mA	±1000uF	82%
GCT082407D	±7.2V		±555mA	15mA	396mA	±470uF	84%
GCT082409D	±9V		±444mA	15mA	392mA	±330uF	85%
GCT082412D	±12V		±335mA	15mA	402mA	±220uF	83%
GCT082415D	±15V		±265mA	15mA	392mA	±100uF	85%
GCT084803	36-72V		3.3V	2000mA	15mA	172mA	3300uF
GCT084805		5V	1500mA	15mA	191mA	2200uF	82%
GCT084807		7.2V	1111mA	15mA	198mA	1000uF	84%
GCT084809		9V	888mA	15mA	198mA	680uF	84%
GCT084812		12V	665mA	15mA	198mA	470uF	84%
GCT084815		15V	535mA	15mA	198mA	220uF	84%
GCT084805D		±5V	±800mA	15mA	203mA	±1000uF	82%
GCT084807D		±7.2V	±555mA	15mA	198mA	±1000uF	84%
GCT084809D		±9V	±444mA	15mA	198mA	±680uF	84%
GCT084812D		±12V	±335mA	15mA	196mA	±220uF	85%
GCT084815D		±15V	±265mA	15mA	196mA	±100uF	85%

Notes

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

Input	
Parameter	Rating
Input voltage range	See table
Input reflected ripple current	35mA pk-pk through 12uH inductor and 47uF source capacitor
Input surge (100mS max)	12V Models 25VDC Max. 24V Models 50VDC Max. 48V Models 100VDC Max.
Input filter	Pi type

Derating curve



Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	3.3		15	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
			±1.5		3.3V output. 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			75	mV pk-pk	All models measured with 1uF ceramic capacitor. 20 MHz bandwidth
Transient response	±3		±5	% Deviation	For a 25% load change, recovery to within 3% within 250uS typically. ±3 single ±5 dual
Short circuit protection					Continuous with automatic recovery
Over Current Protection		150		%	
Maximum capacitive load					See Model and Ratings table

General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	80		86	%	See Model & Ratings table
Isolation			1500	VDC	Input to output
Isolation resistance	1000			M Ohm	
Isolation capacitance		1000		pF	
Switching frequency		330		KHz	
Power density			20	W/in ³	
MTBF		>0.91		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 60°C . 40% load 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	

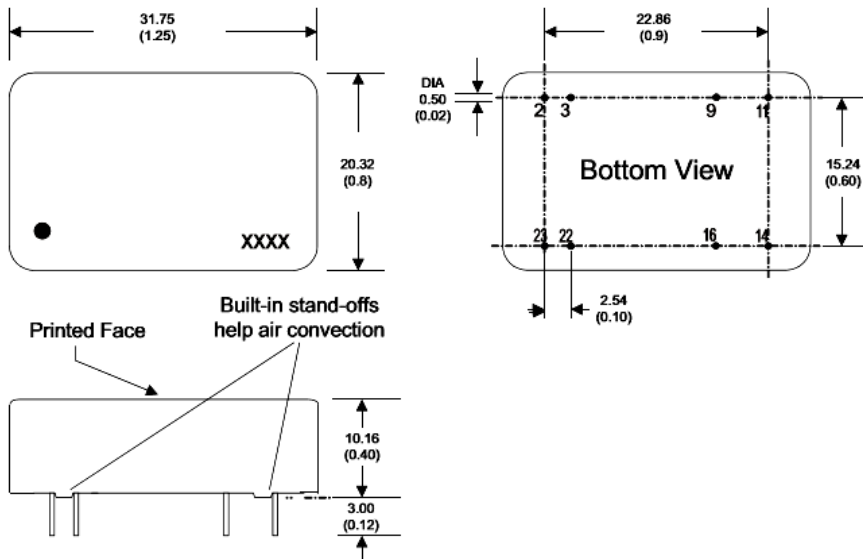
EMC: Emissions

	Standard	Test level	Notes & Conditions
Conducted	EN55032	Class A	Class A—see application note
Radiated	EN55032	Class A	

EMC: Immunity

	Standard	Test level	Criteria	Notes & Conditions
ESD	EN61000-4-2	3	A	8KV Air, 6KV Contact
Radiated	EN61000-4-3	3	A	80-1000MHz, 10V/m 80% AM (1KHz)
EFT/Burst	EN61000-4-4	3	A	An external capacitor required 220uF/100V. 2KV
Surges	EN61000-4-5	2	A	An external capacitor required 220uF/100V. 1KV
Conducted	EN61000-4-6	3	A	10Vrms 80% AM (1KHz)
Magnetic fields	EN61000-4-8	1A/m	A	50Hz

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

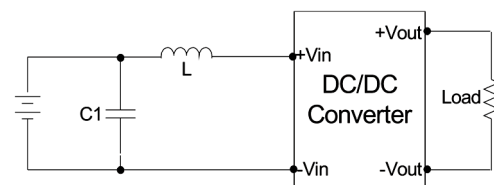
Physical

Parameter	Rating
Case material	Nickel coated copper
Pin material	0.5mm Brass solder coated
Potting material	Epoxy (UL94V-0)
Weight	17g
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 must 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	L
100uF/100V	12uH