

3 Watts

- 4:1 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 GTV03 series of wide input DC/DC converters come in both single and dual outputs in a DIP24 pin package. Inputs are available in 24 & 48V versions with 4:1 range and outputs from 3.3 to 24V 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" (31.75 x 20.32 x 10.16mm)

Models & Ratings

Model Number	Input Voltage	Output Voltage	Output Current	Input Current		Maximum Capacitive Load	Efficiency	
				No Load	Full Load			
GTV032403	9-36V	3.3V	900mA	16mA	165mA	680uF	75%	
GTV032405		5V	600mA	16mA	160.3mA	470uF	78%	
GTV032407		7.2V	416mA	16mA	160.3mA	100uF	78%	
GTV032409		9V	333mA	16mA	156.3mA	100uF	80%	
GTV032412		12V	250mA	16mA	156.3mA	68uF	80%	
GTV032415		15V	200mA	16mA	156.3mA	47uF	80%	
GTV032418		18V	166mA	16mA	156.3mA	47uF	80%	
GTV032424		24V	125mA	16mA	156.3mA	22uF	80%	
GTV032403D		±3.3V	±454mA	16mA	165mA	±330uF	75%	
GTV032405D		±5V	±300mA	16mA	160.3mA	±220uF	78%	
GTV032407D		±7.2V	±208mA	16mA	160.3mA	±47uF	78%	
GTV032409D		±9V	±166mA	16mA	156.3mA	±47uF	80%	
GTV032412D		±12V	±125mA	16mA	156.3mA	±33uF	80%	
GTV032415D		±15V	±100mA	16mA	156.3mA	±22uF	80%	
GTV032418D		±18V	±83mA	16mA	156.3mA	±22uF	80%	
GTV032424D		±24V	±63mA	16mA	156.3mA	±10uF	80%	
GTV034803		18-72V	3.3V	900mA	14mA	82.5mA	680uF	75%
GTV034805			5V	600mA	14mA	80.1mA	470uF	78%
GTV034807	7.2V		416mA	14mA	80.1mA	100uF	78%	
GTV034809	9V		333mA	14mA	78.1mA	100uF	80%	
GTV034812	12V		250mA	14mA	78.1mA	68uF	80%	
GTV034815	15V		200mA	14mA	78.1mA	47uF	80%	
GTV034818	18V		166mA	14mA	78.1mA	47uF	80%	
GTV034824	24V		125mA	14mA	78.1mA	22uF	80%	
GTV034803D	±3.3V		±454mA	14mA	83.3mA	±330uF	75%	
GTV034805D	±5V		±300mA	14mA	80.1mA	±220uF	78%	
GTV034807D	±7.2V		±208mA	14mA	80.1mA	±47uF	78%	
GTV034809D	±9V		±166mA	14mA	78.1mA	±47uF	80%	
GTV034812D	±12V		±125mA	14mA	78.1mA	±33uF	80%	
GTV034815D	±15V		±100mA	14mA	78.1mA	±22uF	80%	
GTV034818D	±18V		±83mA	14mA	78.1mA	±22uF	80%	
GTV034824D	±24V		±63mA	14mA	78.1mA	±10uF	80%	

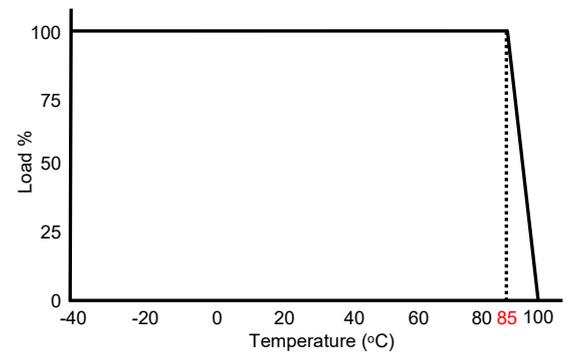
Notes

1. Add 'P' to model number for plastic case version.
2. Add 'H' to model number for 3500VDC isolation (for plastic case versions only).
3. Under no load conditions the unit may not meet all specifications.

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)	24V Models 40VDC Max. 48V Models 80VDC Max.
Input filter	Pi type

Derating curve



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	%	3.3V and ±3.3V outputs. 0 to 100% load change
			±0.5		All other outputs. 0 to 100% load change
Ripple & Noise			60	mV pk-pk	All models measured with 1uF ceramic capacitor. 20 MHz bandwidth
Short circuit protection					Continuous with automatic recovery
Maximum capacitive load					See Model and Ratings table

General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	75		80	%	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			7.5	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	Derate linearly from 100% load at 85°C to 0% load 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

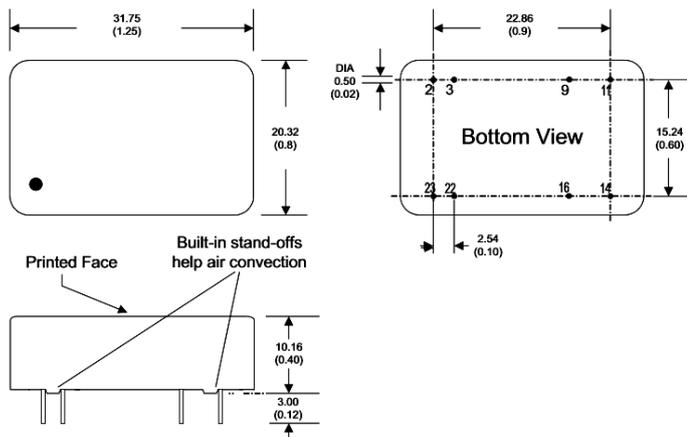
	Standard	Test level	Notes & Conditions
Conducted	EN55032	Class A	See application notes
Radiated	EN55032	Class A	

EMC: Immunity

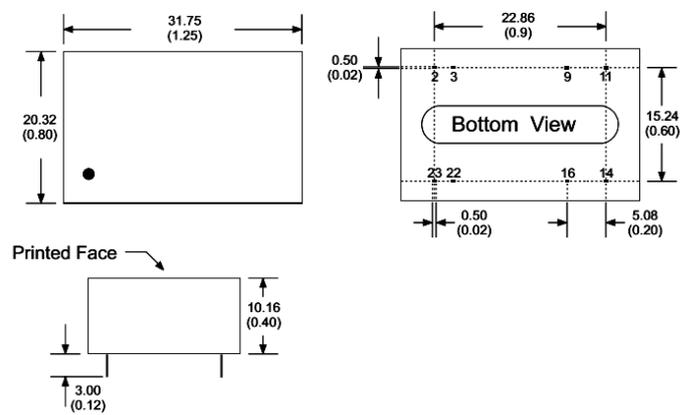
	Standard	Test level	Criteria	Notes & Conditions
ESD	EN61000-4-2	3	A	8kV air discharge, 6kV contact discharge
Radiated	EN61000-4-3	3	A	80~1000 MHz, 10V/m, 80% AM (1kHz)
EFT/Burst	EN61000-4-4	3	A	Power line : 2kV
Surges	EN61000-4-5	2	A	1.2/50 μ s Open Circuit Voltage, 8/20 μ s Short Circuit Current, DC Port, Line to ground : 1kV. (Requires 220 μ F,100V capacitor)
Conducted	EN61000-4-6	3	A	0.15 ~ 80 MHz, 10Vrms, 80% AM (1kHz)
Magnetic fields	EN61000-4-8	1A/m	A	50Hz

Mechanical Details

Metal case version



Plastic case version



Notes

- All dimensions shown in millimetres (inches)
- Pin diameter 0.5 ± 0.05 (0.02 ± 0.002)
- 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 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.

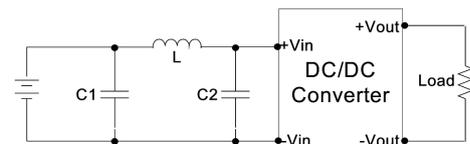
Pin Connections

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

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	C2
68 μ F, 100V	12 μ H	33 μ F, 100V