

## 6 Watts

- 4:1 Input range
- DIP24 Industry standard package
- Single and dual outputs
- Meet Class A EMC (No extra components)
- Optional isolation up to 3000VDC
- Plastic case
- 5 Year warranty



The GTP06 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 nominal versions with a 4:1 range and outputs from 3.3 to 24V single and dual. The units operate from -40 to +85°C. The unit meets EN55022 level A with no external components. All models have a FIDUS 5 year warranty.

**Dimensions:**

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

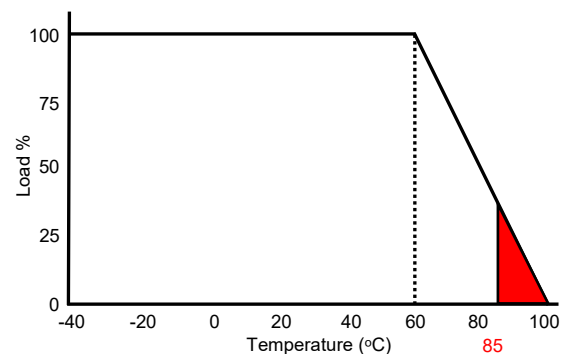
## Models & Ratings

Model Number <sup>(2)</sup>	Input Voltage	Output Voltage	Output Current	Input Current		Maximum Capacitive Load	Efficiency
				No Load	Full Load		
GTP062403	9 -36V	3.3V	1400mA	10mA	257mA	470uF	76%
GTP062405 <sup>(1)</sup>		5V	1200mA	10mA	316mA	470uF	80%
GTP062412		12V	500mA	10mA	301mA	100uF	84%
GTP062415		15V	400mA	10mA	301mA	100uF	84%
GTP062424		24V	250mA	10mA	301mA	47uF	84%
GTP062405D		±5V	±600mA	10mA	309mA	±220uF	82%
GTP062412D		±12V	±250mA	10mA	301mA	±100uF	84%
GTP062415D		±15V	±200mA	15mA	301mA	±100uF	84%
GTP062424D		±24V	±125mA	20mA	309mA	±47uF	82%
GTP064803	18-75V	3.3V	1400mA	7mA	128mA	470uF	76%
GTP064805		5V	1200mA	7mA	154mA	470uF	82%
GTP064812		12V	500mA	7mA	151mA	100uF	84%
GTP064815		15V	400mA	7mA	149mA	100uF	85%
GTP064824		24V	250mA	7mA	149mA	47uF	85%
GTP064805D		±5V	±600mA	7mA	154mA	±220uF	82%
GTP064812D		±12V	±250mA	7mA	151mA	±100uF	84%
GTP064815D		±15V	±200mA	7mA	151mA	±100uF	84%
GTP064824D		±24V	±125mA	10mA	156mA	±47uF	81%

### 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

### Derating curve



Input	
Parameter	Rating
Input voltage range	See table
Input reflected ripple current	20mA pk-pk through 12uH inductor
Under voltage lockout	24V Models Module on/off 8.5VDC / 7VDC typ. 48V Models Module on/off 16.5VDC / 14.5VDC typ.
Input surge (100mS max)	24V nom. models 50Vdc, 48V nom. Models 100Vdc
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			±2	%	
Line regulation			±0.5	%	Low line to High line
Load regulation			±1.2	%	0 to 100% load change
Minimum load	0			%	
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	76		85	%	See Model & Ratings table
Isolation	1500		3000	VDC	Input to output
Isolation resistance			1000	M Ohm	
Isolation capacitance		1000		pF	
Switching frequency		330		KHz	
Power density			15	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 to 60°C. 40% 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	

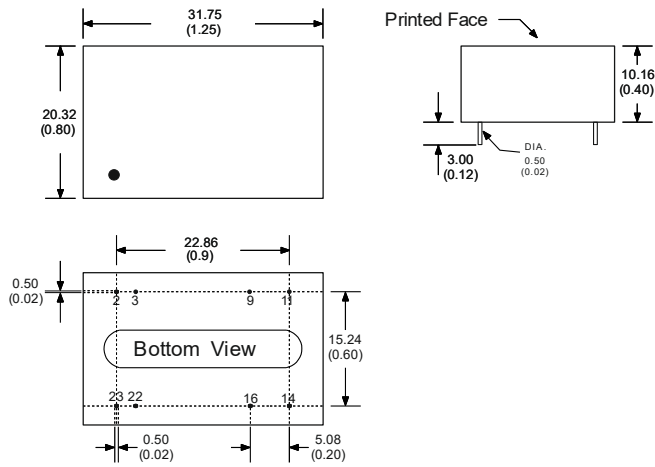
## EMC: Emissions

	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	3	A	
Radiated	EN61000-4-3	10V/m	A	
EFT/Burst	EN61000-4-4	3	A	
Surges	EN61000-4-5	Installation class 2	A	Requires a 220uF/100V capacitor
Conducted	EN61000-4-6	10Vrms	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	13g
Dimensions	1.25 x 0.8 x 0.4"
Soldering temperature	1.5mm from case, 10s and 260°C max.