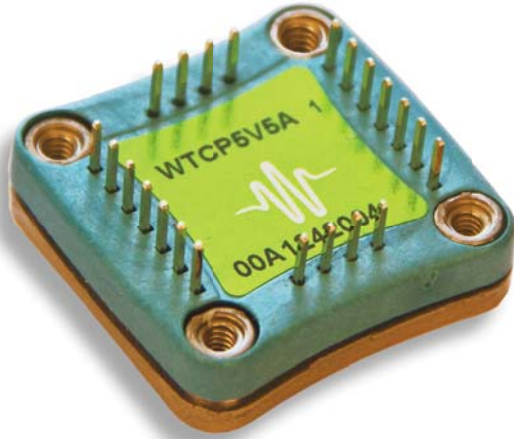


WTCP5V5A

5 Amp PWM Temperature Controller



FEATURES

- Compact 22-pin PCB-mounted component
- Output up to ± 5 amps at 5 volts
- Drive TECs or Heaters
- High-efficiency PWM design usually requires no additional heatsinking
- Compatible with thermistors
- Can be operated from a single 5 V supply
- Separate electronics and load power supplies can be used when lower noise is required
- Cost-efficient design requires minimal board space, and no additional heatsinking or fan
- Few external components required
- Component selector calculator simplifies development
- WTCPEVAL evaluation board speeds development time and reduces costs
- OEM board is available, and can be preloaded at the factory with components tuned to optimize your temperature control application

COMPACT, POWERFUL, EFFICIENT

The WTCP5V5A Temperature Controller delivers all the advantages of Pulse Width Modulated (PWM) control in a compact PCB-mounted package. The WTCP is highly efficient, and usually does not require any additional heatsinking.

The WTCP temperature controller is perfectly suited for applications requiring high efficiency, low power dissipation, and high stability. Portable, airborne, and other space-constrained laser control applications are ideal places to use the WTCP.

DESIGNED FOR EASY INTEGRATION

The WTCP5V5A can operate from a single 5 V power supply, or the WTCP and load can be driven from separate power supplies when even lower output current noise is required.

The available WTCPEVAL evaluation circuit board includes everything needed to quickly configure the WTCP for a wide range of applications and load conditions. The on-board feedback loop parameter adjustment switches simplify tuning, and dramatically reduce your development time.

An OEM module board is also available, and can be preloaded at the factory with components fine-tuned for your application.

PRACTICAL FEATURES, ROBUST DESIGN

Thoughtfully designed features provide valuable benefits, and help ensure the long-term reliability of your application:

- Separate heating and cooling current limits protect the load from operational anomalies.
- External passive components fine-tune the operating range for maximum control sensitivity and accuracy.
- Versatile interface signals simplify integration of the WTCP into a wide range of applications.
- Easy-to-use component selection calculator simplifies system design and configuration.

VALUABLE SAFETY FEATURES

Built-in safety features make the WTCP robust to real-world operating conditions: current limit and voltage limit. Long-term reliability means better up-time, fewer service calls, and more satisfied and successful customers.

COUNT ON WAVELENGTH ELECTRONICS

Our Sales Engineers have the experience to help you choose and use the WTCP temperature controller. Call today or visit our website to find out how Wavelength Electronics can help you succeed.

WTCP5V5A

5 Amp PWM Temperature Controller

WTCP5V5A SPECIFICATIONS

SPECIFICATION	VALUE	UNIT	NOTE
CONTROLLER OUTPUT			
Maximum Output Current	4.5	A	$V_{DD,P} = 5\text{ V}$
Maximum Output Current	5.0	A	$V_{DD,P} = 5.5\text{ V}$, 0.9 Ω Load
Compliance Voltage	$V_{DD,P} - 0.35$	V	$V_{DD,P} = 5.5\text{ V}$, 1 Ω Load
Short Term Stability, 1 hr	< 0.001	$^{\circ}\text{C}$	Using 10 k Ω thermistor
Long Term Stability, 24 hr	< 0.002	$^{\circ}\text{C}$	Using 10 k Ω thermistor
Temperature Coefficient	< 200	ppm / $^{\circ}\text{C}$	
POWER SUPPLY REQUIREMENTS			
Electronics Supply Voltage, $V_{DD,A}$	4.5 – 5.5	VDC	Must source >15 mA
Load Supply Voltage, $V_{DD,P}$	4.5 – 5.5	VDC	Must source 1.1-times the maximum load current
Max Internal Power Dissipation	22.5	W	Refer to Safe Case Operating Temperature chart in datasheet.
ABSOLUTE MAXIMUM RATINGS			
Electronics Supply Voltage, $V_{DD,A}$	5.5	VDC	
Load Supply Voltage, $V_{DD,P}$	5.5	VDC	
Efficiency	83 – 95	%	Depending on Load Impedance
Case Operating Temperature	-45 to 85	$^{\circ}\text{C}$	
Case Storage Temperature	-40 to 125	$^{\circ}\text{C}$	
Weight	0.6	oz	17 g
Size	1.28 x 1.3 x 0.31	in	32.5 x 33.0 x 7.9 mm

Additional specifications are available in the product datasheet; download at
www.teamWavelength.com/products/product.asp?part=204

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
WTCP5V5A	5 V, 5 A PWM Temperature Controller
WTCPEVAL	Evaluation PCB for WTCP5V5A
WTCPOEM	Base Preloaded OEM Integration Board

Free, effective, and responsive technical support is available to simplify integration of Wavelength products into your OEM design. Standard product can be modified to meet your unique application requirements.

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