



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



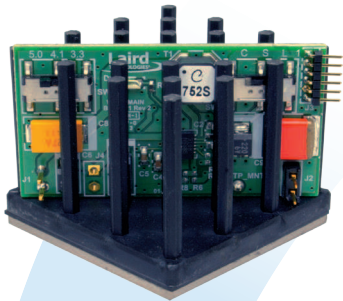
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The WPG-1 is a self-contained thin-film thermoelectric power generator that harvests waste heat and converts it to usable output DC power. Due to its compact size, output power generation and ability to regulate voltage this device is suitable for use in applications to power wireless sensors and wireless sensor networks.

One WPG-1 can produce up to 1.5 mW of usable output power and can handle a wide range of load resistances. An ultra-low voltage step-up converter is incorporated to provide usable output power at low temperature differentials, < 20°K. The output power can be regulated to accommodate three voltage set points: 3.3V, 4.1V or 5.0V. Custom design services are available to accommodate alternate heat absorption and heat dissipation mechanisms or output power requirements, however MOQ applies.

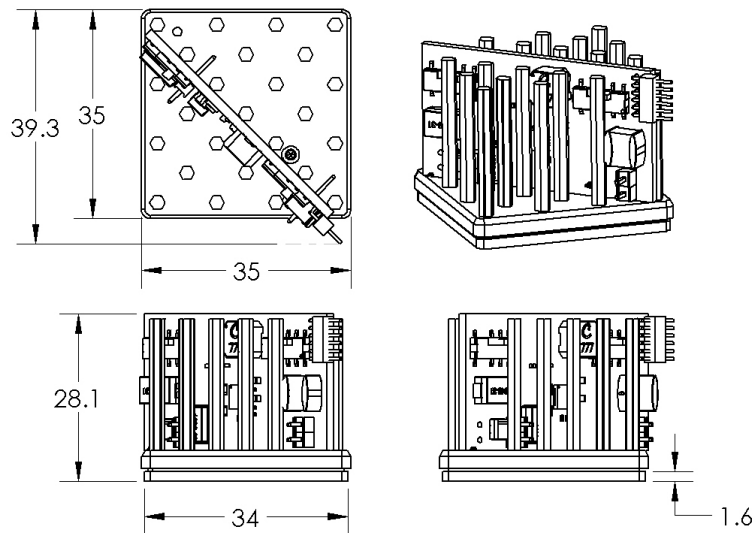
FEATURES

- Compact form factor
- Regulated output voltage
- High waste heat conversion ratio
- Ultra-low voltage converter
- Reliable solid state operation

APPLICATIONS

- Wireless sensors and transmitters
- LED lighting
- Battery charger

Heat is absorbed through a flat heat exchanger plate, energy is harvested by the thin-film thermoelectric and heat is exhausted into ambient environment by the pin fin heat sink.



Note: Unit of measure is in mm's

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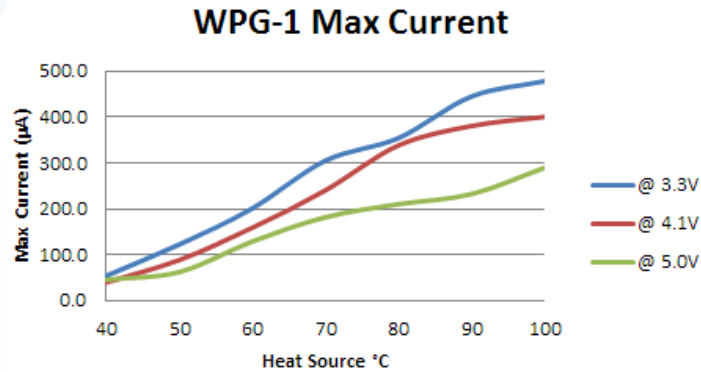
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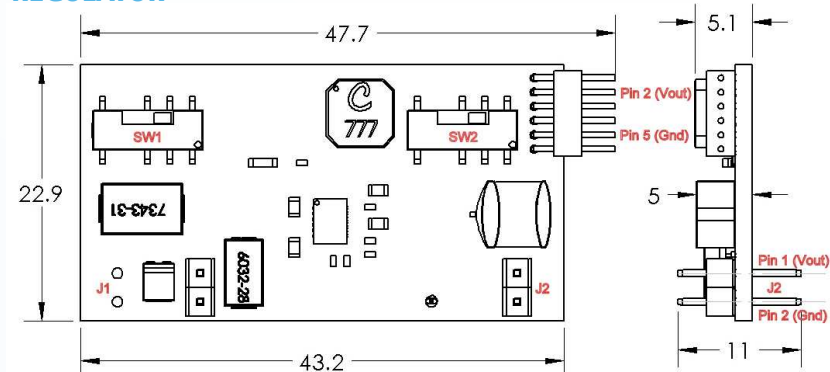
OUTPUT POWER CURVES

Maximum Output Current vs. Heat Source Temperature
(Natural Convection, $T_{amb}=24^{\circ}C$)



| OPERATING RANGE | |
|----------------------|------------|
| Max Heat Source Temp | 100°C |
| Ambient Temp | 24°C |
| Temp Differential | 15 to 76°C |

REGULATOR



SETTINGS

| SW-1 - VOLTAGE SELECTOR | | | |
|-------------------------|-------|-------|-------|
| Silkscreen | 5.0 | 4.1 | 3.3 |
| Vout | 5.0 V | 4.1 V | 3.3 V |

| SW2 - LOAD AND STORAGE SELECTOR | | | |
|---------------------------------|----------------|--------------------|-----|
| Silkscreen | C | S | L |
| Load | J2 and J3 | J2 and J3 | LED |
| Storage | Off-board only | Onboard 1000uF Cap | N/A |

CAUTION

- Keep areas around the heat sink clear for optimal air flow
- Avoid excessive shock or vibration
- Avoid exposure to water or high moisture environments

THR-DS-WPG-1 0613

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