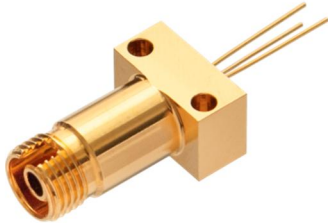


MIH[®] Photovoltaic Power Converter

YCH-L240

Datasheet



Key Features:

- High efficiency Si-based MIH[®] VMJ PV cells
- Optimized for 915 nm through 980 nm laser sources
- Efficiency at 1.0 W input: ~26% without heatsinking
- Efficiency at 3.5 W input: ~24% with heatsinking
- Up to 7 V output; 6.5 V output with 3.5 W input

Applications:

- Current Measurement (ECTs)
- Remote Sensors
- Power Electronics
- EMC Testing
- RF over Fiber & 5G

Product Description

MH GoPower offers the only photovoltaic power converter (PPC) product line capable of delivering a wide range of power and voltage outputs. Power output levels range from tens of mW to over 10 W (higher power available upon request), while output voltage levels are possible from 4 V to over 30 V. MHGP's PPC product line operates most efficiently with wavelengths in the range of 900 nm to 1 000 nm, and with fiber with an NA of 0.22 to 0.27.

The MHGP YCH-L240 is MHGP's low power PPC offering for applications requiring power up to ~1 W. Device efficiencies of greater than 28% are achievable with appropriate heatsinking.

Target applications include powering remote and embedded sensors, current sensors, optical network components, as well as other applications requiring voltage isolation between the power source, and embedded electronics in high voltage or high noise environments.

Electrical Characteristics of YCH-L240 PPC *

Optical Power (mW)	1000
P _{max} (mW)	250
V _{max} (V)	7.3
I _{max} (mA)	34.3
Efficiency (%)	25%

* Typical converter performance with ambient temp of ~25 °C

* Tested with 975 nm wavelength laser

* PPC held in free space, with no additional heatsinking, or airflow



YCH-L240 PPC with heatsink

Passive Heatsinking Option:

The YCH-L240 PPC with a heatsink is illustrated to demonstrate its adaptability. Custom heatsinking can be easily applied to the YCH-L240 PPC to generate higher power output, and higher performance. Heatsink size will depend on the application's operating conditions and power requirements. The below summarizes the performance of the YCH-L240 PPC with 42 x 25 x 25 mm aluminum heatsink. An efficiency of ~24% with 3.5 W input is achieved.

Electrical Characteristics of YCH-L240 PPC with Passive Heatsinking **

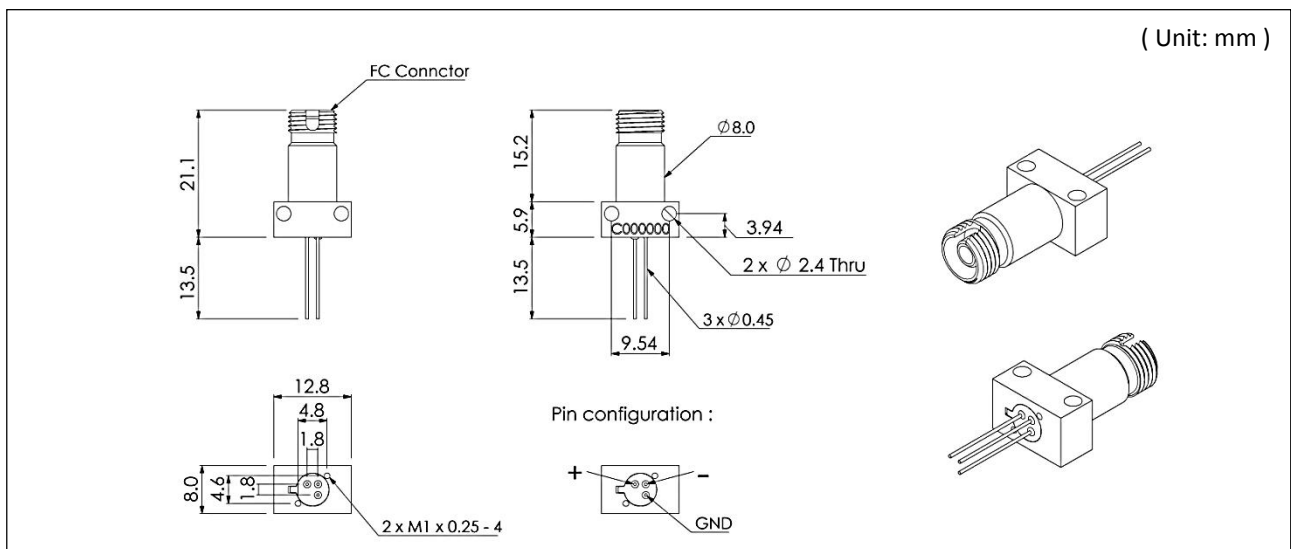
Optical Power (mW)	1000	2000	3000	3500
P _{max} (mW)	287.4	528.4	747.3	824.3
V _{max} (V)	7.1	6.9	6.8	6.5
I _{max} (mA)	40.5	77.0	109.4	126.2
Efficiency (%)	28.7%	26.4%	24.9%	23.6%

** Typical converter performance with ambient temp of ~25 °C

** Tested with 975 nm wavelength laser

** PPC and heatsink held in free space, with no active airflow over the heatsink fins or PPC

Mechanical Dimensions



Net weight: 9 g