

MIH[®] Photovoltaic Power Converter

YCH-L240

Datasheet



Key Features:

- High efficiency Si-based MIH[®] VMJ PV cells
- Optimized for 915nm through 980nm laser sources
- Low cost, high reliability laser diode wavelengths
- Efficiency at 1W input: ~26% without heatsinking
- Efficiency at 3.5W input: ~24% with heatsinking
- Up to 7 volts output; 6.5 volts output with 3.5W input
- FC / ST connector available

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 milliwatts to over 10 watts (higher power available upon request), while output voltage levels are possible from 4 volts to over 30 volts. MHGP's PPC product line operates most efficiently with wavelengths in the range of 900nm to 1,000nm, 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 watt. Device efficiencies of greater than 28% are achievable with appropriate heat sinking.

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.

Availability: FC and ST models in stock.

Electrical Characteristics *

Optical Power (mW)	1,000
Pmax (mW)	250.0
Vmax (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

* Tested with FC connector model; ST connector model has slightly lower efficiency (~1% lower)



YCH-L240 PPC with heatsink

Passive Heatsinking Option:

The YCH-L240 PPC with a heatsink is illustrated to demonstrate the adaptability of the YCH-L240 PPC. 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 3.5W input is achieved.

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

Optical Power(mW)	1,000	2,000	3,000	3,500
Pmax (mW)	287.4	528.4	747.3	824.3
Vmax (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

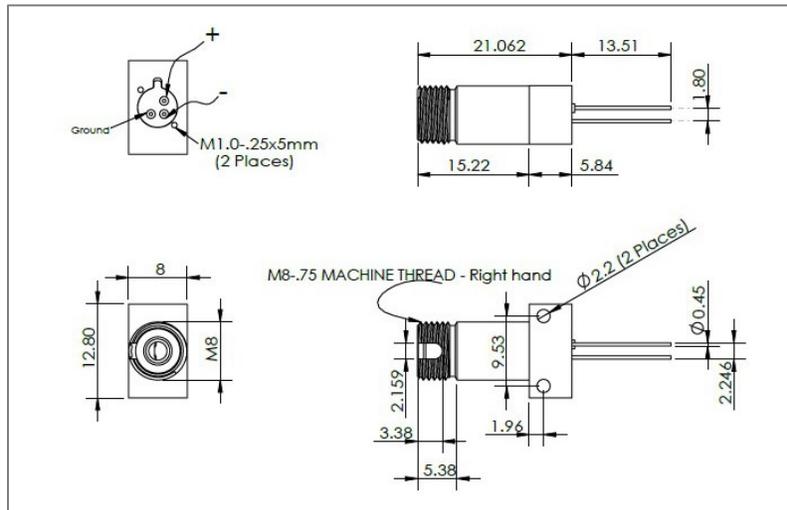
** Tested with 975 nm wavelength laser

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

** Tested with FC connector model; ST connector model has slightly lower efficiency (~1% lower)

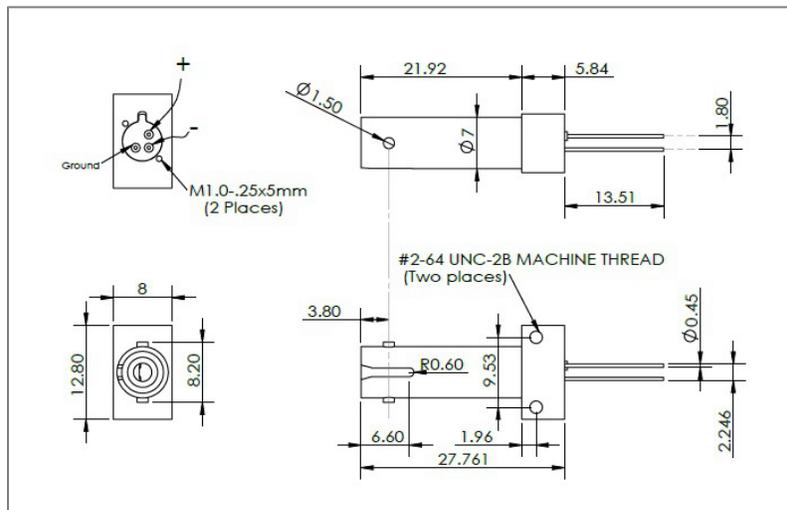
Mechanical Dimensions

FC Connector



Net weight: 9g

ST Connector



Net weight: 9g