# Quarton inc.

# **IR Economical Laser**

## VLM-850-03 Series



### **FEATURES:**

- Economical Infrared Dot Laser.
- Economical solution for invisible IR Laser application.
- This module has integrated optic, laser diode, and APC driver circuit.
- APC Driver Circuit enables the Laser output power safe and constant.
- Aspherical plastic lens provides Dot Laser.
- Dimensions : Ø7 x 21 mm (Ø 0.276" x 0.827").
- Wavelength: 850 nm
- Laser power output: LPT Class I less than 0.7mW

LPA - Class IIIb - less than 3mW.

- Beam Divergence (Half Angle): 0.6 mRad
- 2.6~6 VDC operation.
- Connection type : Lead wire.

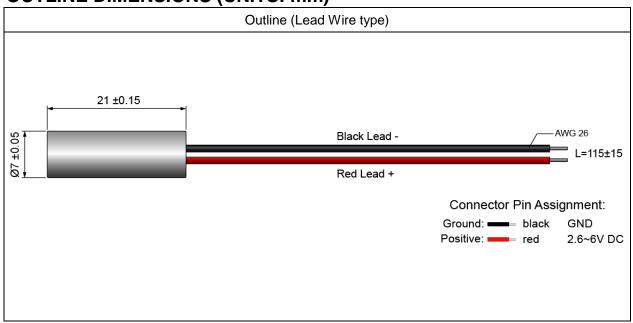
#### **APPLICATIONS:**

- Invisible IR Dot Laser for positioning, measuring, pointing and laser sighting device.
- Wood processing.
- Metal processing.
- Stone processing.
- Textile industry.
- Food industry.
- Automotive industry.
- Medical science.

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## **OUTLINE DIMENSIONS (UNITS: mm)**



## **SPECIFICATIONS**

| SPECIFICATIONS |                                  | VLM-850-03                         |               |  |
|----------------|----------------------------------|------------------------------------|---------------|--|
|                |                                  | LPT                                | LPA           |  |
| 1              | Dimensions                       | Ø7 x 21 mm (Ø0.276" x 0.827")      |               |  |
| 2              | Operating voltage (Vop)          | 2.6~6 VDC                          |               |  |
| 3              | Operating current (lop)          | Less than 30mA                     |               |  |
| 4              | Laser power output               | Less than 0.7mW                    | Less than 3mW |  |
| 5              | Laser class                      | Class I                            | Class IIIb    |  |
| 6              | Wavelength at peak emission (λp) | 840~865nm                          |               |  |
| 7              | Collimating lens                 | Aspherical plastic lens            |               |  |
| 8              | Output aperture                  | 3mm                                |               |  |
| 9              | Beam shape                       | Ellipse                            |               |  |
| 10             | Spot size at 5M                  | 6±1 mm                             |               |  |
| 11             | Divergence (Half Angle)          | 0.6 mRad                           |               |  |
| 12             | Operating temp. range*           | +15°C ~+30°C (Room Temperature)    |               |  |
| 13             | Storage temp. range              | -20°C ~+65°C                       |               |  |
| 14             | Housing                          | Steel                              |               |  |
| 15             | Potential of housing**           | VDD(+)                             |               |  |
| 16             | Electrostatic discharge (ESD)    | 20KV                               |               |  |
| 17             | Moisture sensitivity level (MSL) | Level 1 - acc to JEDEC J-STD-020E. |               |  |



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| 18 | Connection type                  | 1007-26 AWG             |  |
|----|----------------------------------|-------------------------|--|
| 19 | Cable length                     | 115±15mm                |  |
| 20 | Mean time to failure (MTTF) 25°C | 5000hrs                 |  |
| 21 | Application                      | Economic type           |  |
| 22 | Suggestion work distance         | 1~10 meters / 3~40 feet |  |

<sup>\*</sup> Operation temperature: it means within this temperature range, the laser spot/line will not be affected to change the spot size/line width. It can still work over this range, but the laser spot size or laser line width will be larger.

### **ORDER CODE**

| Order Code     | Wavelength | Laser power output | Laser class | Connection Type |
|----------------|------------|--------------------|-------------|-----------------|
| VLM-850-03 LPA | 850 nm     | Less than 3mW      | Class IIIb  | Lead Wire       |
| VLM-850-03 LPT | 850 nm     | Less than 0.7mW    | Class I     | Lead Wire       |

## **SAFETY LABEL**

**CLASS I LASER PRODUCT** 



<sup>\*\*</sup> Laser module housing is an electrical positive surface, it is imperative that contact between the laser module and the machine be avoided. This is to prevent damage from the machine electrical leakage. Surge protected power supply to the laser module is strongly recommended.