

# BLUE - VIOLET LASER DIODE

## DL-5146-101S

**Panasonic**

Ver.1 May. 2012

### Features

- Wavelength : 405nm(Typ.)
- Output power : 40mW
- Threshold current :  $I_{th}=35\text{mA}$ (Typ.)
- Package :  $\phi 5.6\text{mm}$  with PD

### Applications

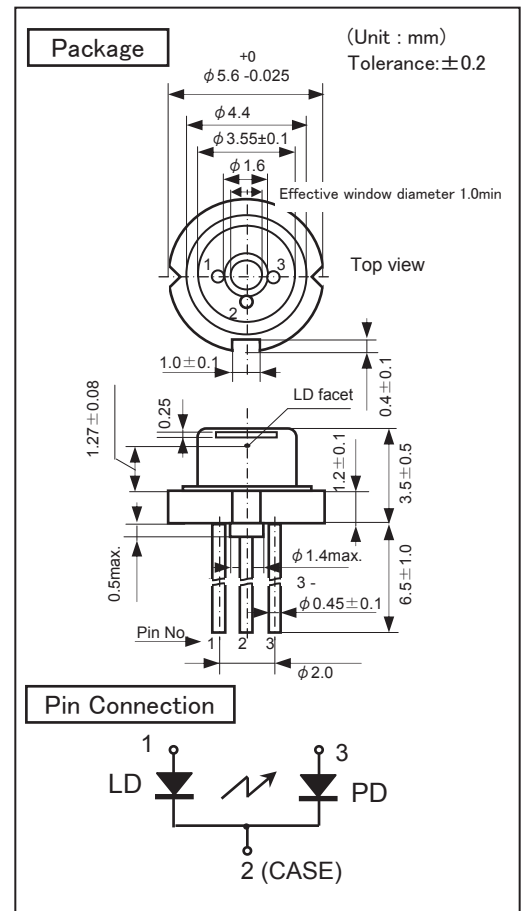
- Laser module
- Industrial Use

### Absolute Maximum Ratings

( $T_c=25^\circ\text{C}$ )

| Parameter                           | Symbol           | Ratings    | Unit             |
|-------------------------------------|------------------|------------|------------------|
| Light Output                        | $P_o(\text{CW})$ | 45         | mW               |
| Reverse Voltage (LD)                | VR               | 2          | V                |
| Operating Temperature <sup>1)</sup> | $T_{opr}$        | 0 to +75   | $^\circ\text{C}$ |
| Storage Temperature <sup>1)</sup>   | $T_{stg}$        | -40 to +85 | $^\circ\text{C}$ |

1) Case temperature.



### Electrical and Optical Characteristics <sup>2) 3) 4) 5)</sup>

( $T_c=25^\circ\text{C}$ )

| Parameter                     | Symbol        | Condition         | Min.              | Typ. | Max. | Unit  |          |
|-------------------------------|---------------|-------------------|-------------------|------|------|-------|----------|
| Threshold Current             | $I_{th}$      | CW                | -                 | 35   | 55   | mA    |          |
| Operating Current             | $I_{op}$      | $P_o=40\text{mW}$ | -                 | 70   | 100  | mA    |          |
| Operating Voltage             | $V_{op}$      | $P_o=40\text{mW}$ | -                 | 5.2  | 5.7  | V     |          |
| Lasing Wavelength             | $L_p$         | $P_o=40\text{mW}$ | 395               | 405  | 415  | nm    |          |
| Beam <sup>6)</sup> Divergence | Perpendicular | $Q_v$             | $P_o=40\text{mW}$ | 16   | 19   | 23    | $^\circ$ |
|                               | Parallel      | $Q_h$             | $P_o=40\text{mW}$ | 6    | 8    | 12    | $^\circ$ |
| Off Axis Angle                | Perpendicular | $dQ_v$            | $P_o=40\text{mW}$ | -3   | -    | 3     | $^\circ$ |
|                               | Parallel      | $dQ_h$            | $P_o=40\text{mW}$ | -3   | -    | 3     | $^\circ$ |
| Differential Efficiency       | SE            | $P_o=40\text{mW}$ | 0.8               | 1.2  | -    | mW/mA |          |
| Monitoring Output Current     | $I_m$         | $P_o=40\text{mW}$ | 0.1               | 0.3  | 1.0  | mA    |          |

2) Initial Values. 3) All the above values are evaluated with panasonic's measuring apparatus.

4) It makes a typical value a Reference Value. 5) Measurement condition : CW. 6) Full angle at half maximum.

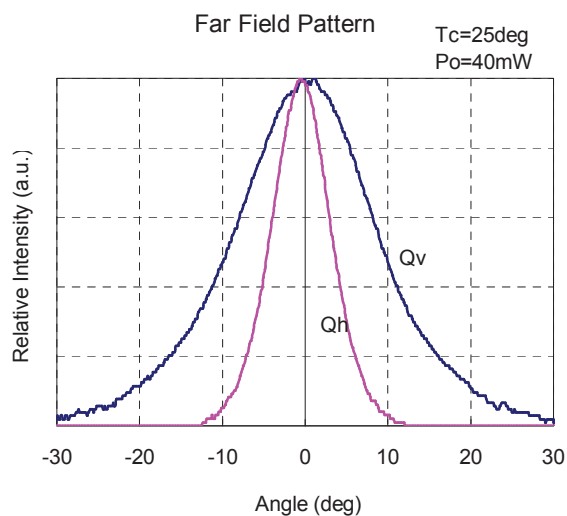
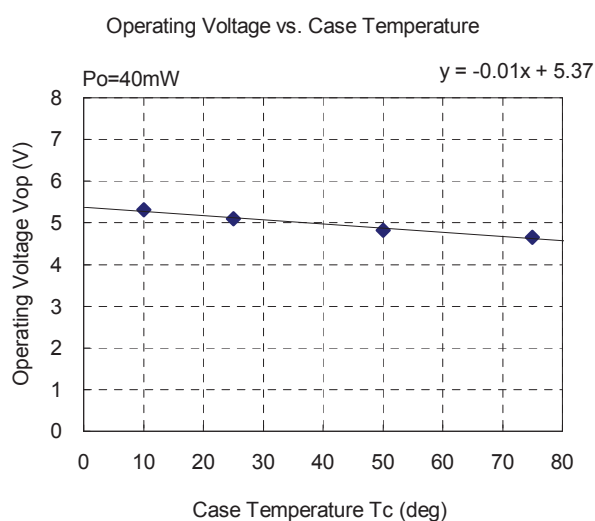
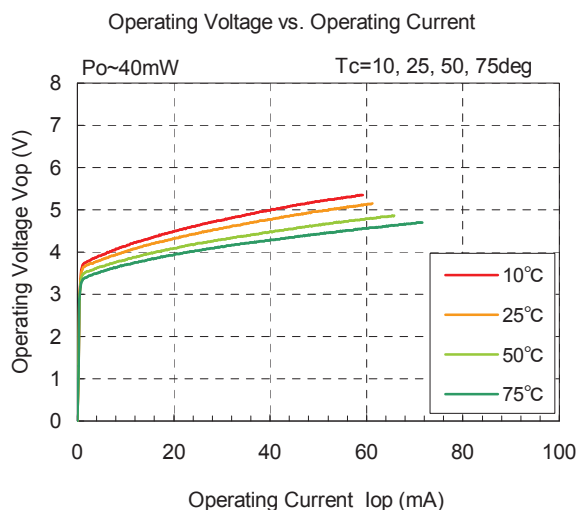
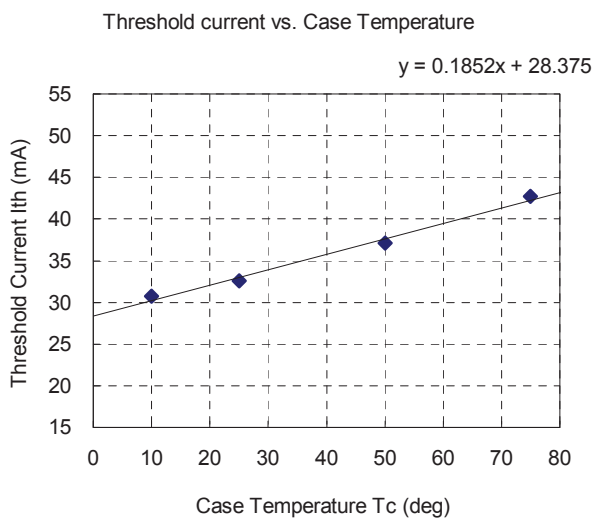
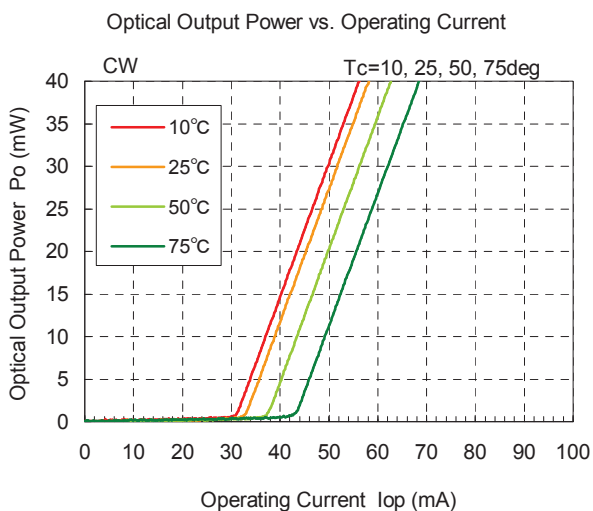
**Note : The above product specification are subject to change without notice.**

**Panasonic**

Industrial Devices Company, Panasonic Corporation  
<http://panasonic.net/id/jp/>

# Panasonic Characteristics Data for DL-5146-101S

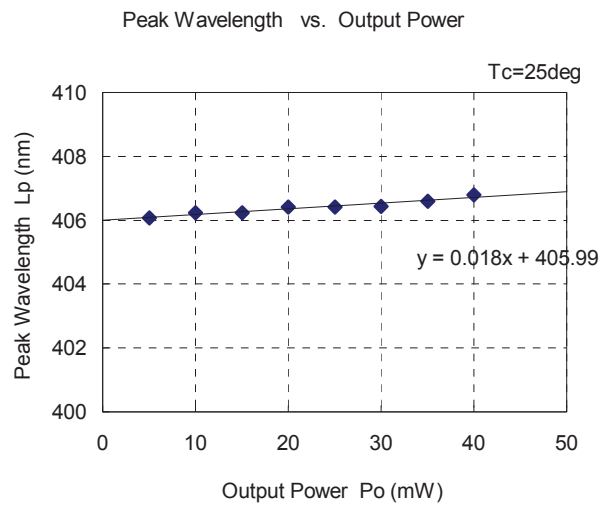
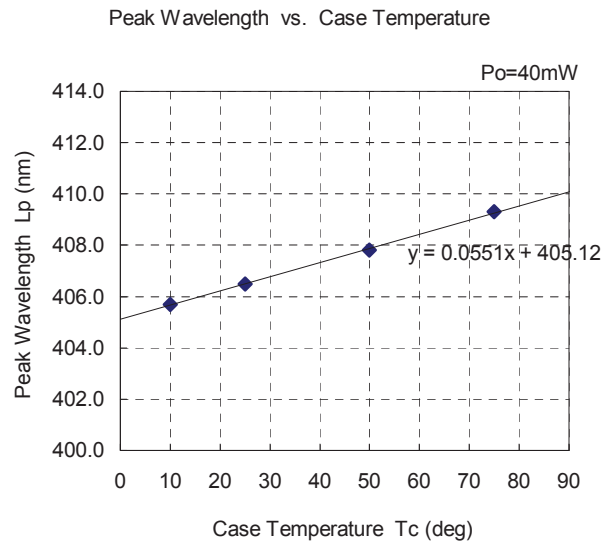
## Reference Data



\*Those are typical data for \*Those are typical data for customers reference and may not represent all products.

# Panasonic Characteristics Data for DL-5146-101S

**Reference Data**

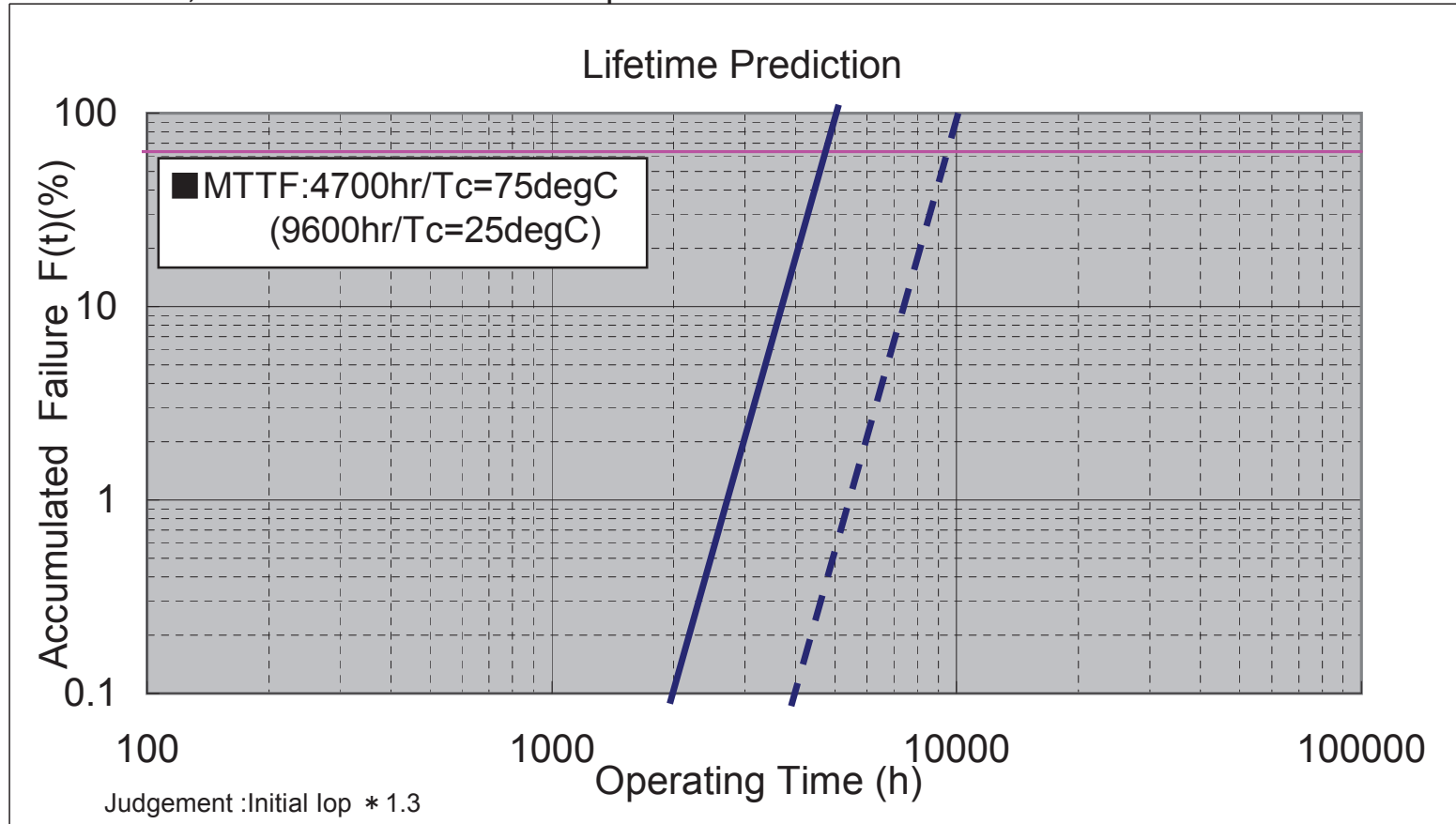


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# Lifetest Data for DL-5146-101S

## Reference Data

Conditions;  $P_o=40\text{mW}/T_c=75^\circ\text{C}/n=20\text{pcs}$



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