

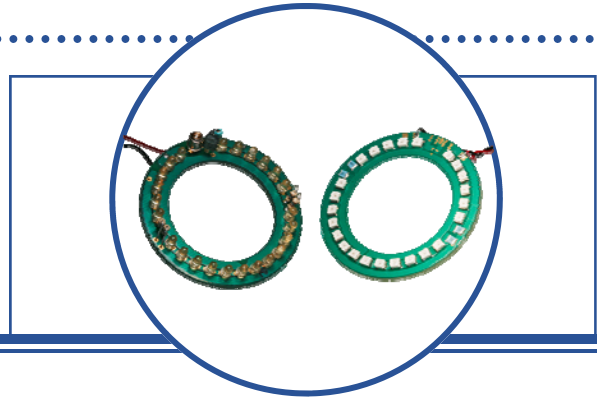
Near Infrared Light Ring Series

OPA80 and OPA83 Series



Features

- Designed for Near Infrared wavelength Cameras
- Daylight Light sensor available
- Variety of ring sizes
- Surface Mount or Through Hole Emitters



Description:

The OPA80 through OPA83 series are designed to easily illuminate an area with infrared light for a variety of uses including security cameras, spot lighting, etc..

The light ring can be purchased with an ambient light sensing device for minimal current drain during high ambient light conditions. This is great for battery usage and for security cameras during daylight.

A choice of through hole and surface mount LED packages and ring sizes are available.

Custom mounting, electrical, cabling and connectors are available. Contact your local representative or OPTEK for more information.

Applications include:

- Security camera lighting
- Spot lighting
- Flash lighting

Ordering Information

| | | | |
|--------------|------------|----------|--|
| OPA80 | _ 5 | _ | Vcc 12 Volts, Light Ring with Daylight Light Sensor |
| OPA81 | _ 5 | _ | Vcc 12 Volts, Light Ring with NO Daylight Light Sensor |
| OPA82 | _ 5 | _ | Vcc 5 Volts, Light Ring with Daylight Light Sensor |
| OPA83 | _ 5 | _ | Vcc 5 Volts, Light Ring with NO Daylight Light Sensor |

Type of Optical component Package = **W** _____
 Through Hole - 3 mm package T3
 Surface Mount - SM

 Near IR 850 nm center wavelength = **5** _____

| | | | | |
|----------|----------|----------------------------------|---------------------|-----------------------------|
| W | 5 | Y | Z | |
| | | | | Z = Meets RoHS requirements |
| | | | | Qty of LEDs |
| | | | | 12 Volt 5 Volt |
| | | Y = Ring Size ID & OD | | |
| | | A | .625" ID & 1.25" OD | 12 10 |
| | | B | 1.0" ID & 1.75" OD | 18 16 |
| | | C | 1.25" ID & 2.0" OD | 18 16 |
| | | D | 1.5" ID & 2.25" OD | 24 20 |

Example: OPA80T35CZ

12 VDC power,
 Light Ring with Daylight Light Sensor,
 Through Hole 3mm package,
 IR - 850 nm center wavelength LED,
 Ring Size = 1.25" ID & 2.0" OD with 18 LEDs



RoHS

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| | |
|--|-----------------------|
| Storage Temperature | -40° C to +100° C |
| Operating Temperature | -40° C to +85° C |
| Lead Soldering Temperature (1/16" (1.6mm) from case for 5 seconds with soldering iron) | 260° C ⁽¹⁾ |
| Reverse Voltage per Emitter | 2.0 V |
| Continuous Forward Current | 50 mA |
| Peak Forward Current (2 μs pulse width, 0.1% duty cycle) | 1.0 A |

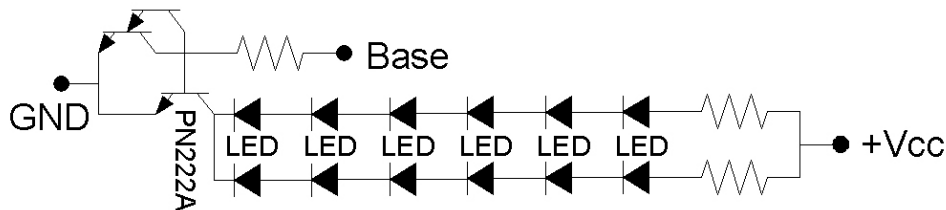
Notes:

(1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.

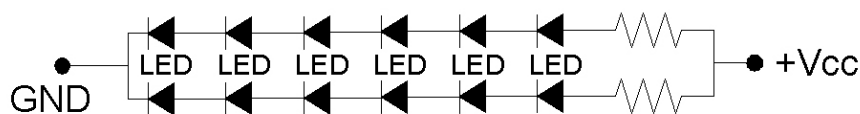
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | CONDITIONS |
|---------------------------|--|-----------|-----------|-----------|-------|--|
| V_F | Forward Voltage (each LED) | | | | | |
| | 850 nm LED | 1.20 | 1.35 | 1.80 | Volts | $I_F = 20\text{ mA}$ |
| $2\frac{1}{2}\text{IH-H}$ | Viewing Angle (at 50% power points, each component) | | | | | |
| | 3 mm—T3 Package | — | 18° | — | Deg. | Total inclusive angle at 50% of maximum optical power. |
| Surface Mount—SM Package | — | 25° | — | Deg. | | |
| V_{CC} | Power Supply Voltage OPA80, OPA81 OPA82, OPA83 | 11 4.5 | 12 5.0 | 13 5.5 | Volts | I_{CC} varies with V_{CC} |

OPBA80 & OPBA82 Series

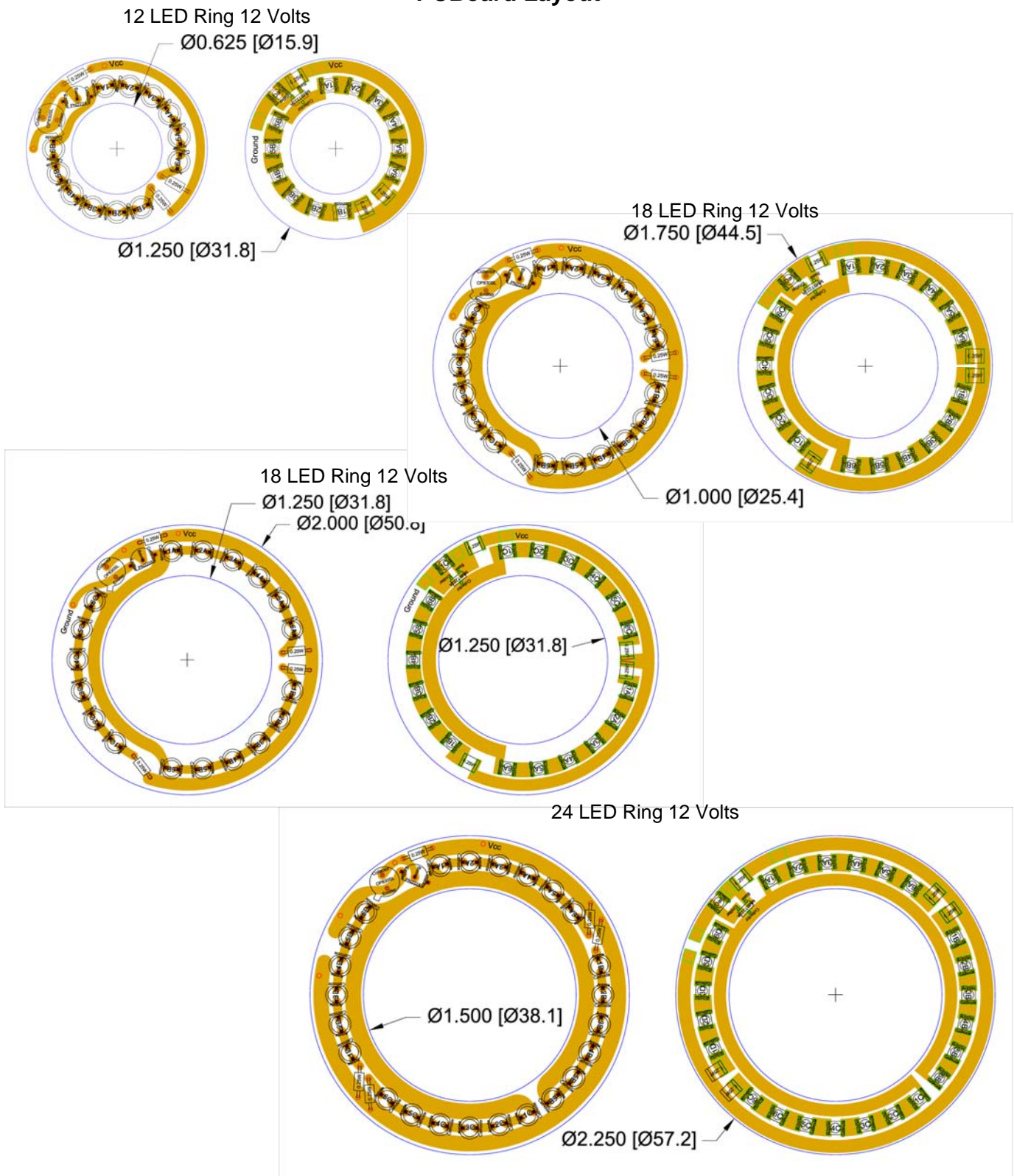


OPBA81 & OPBA83 Series



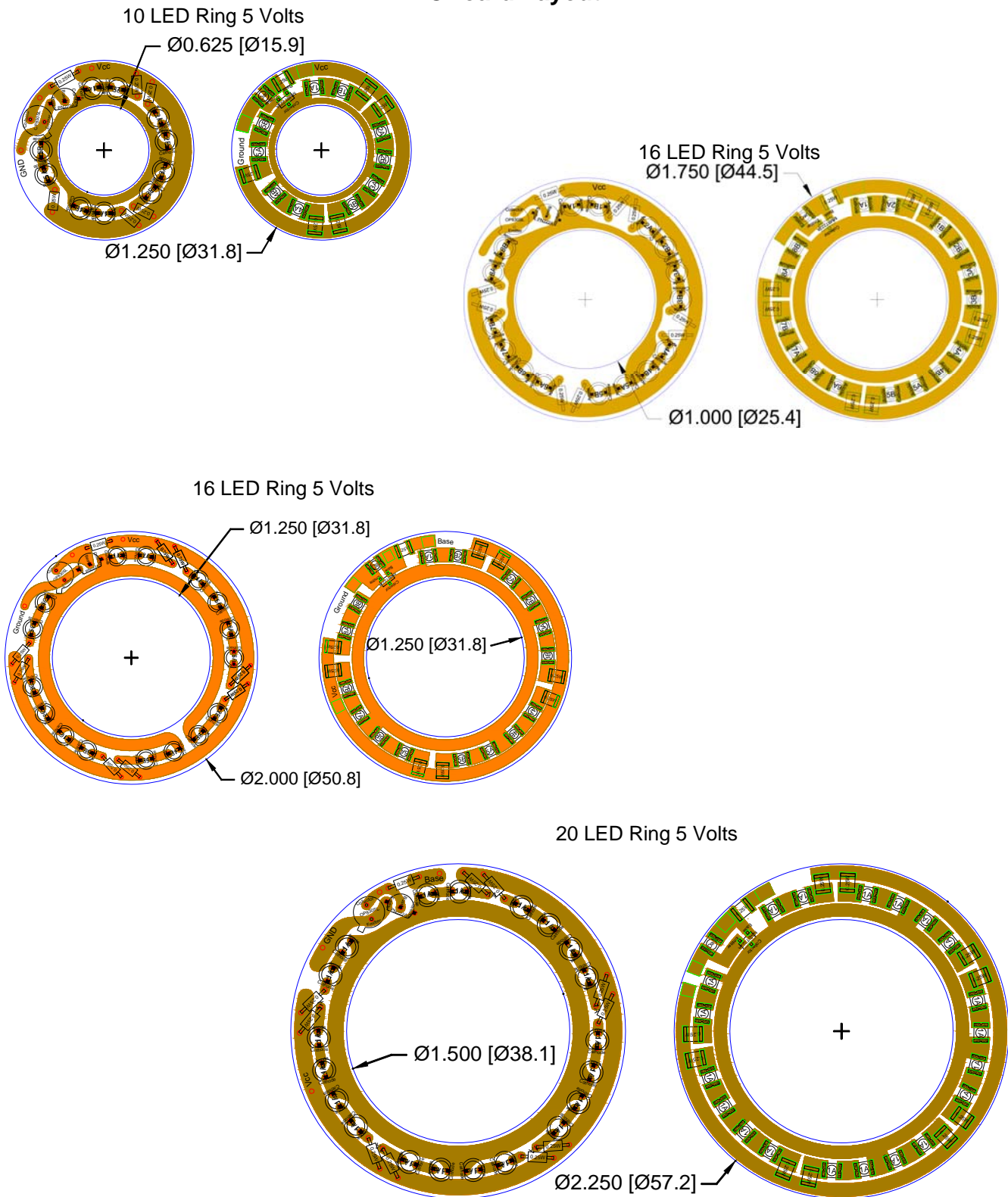
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PCBoard Layout



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