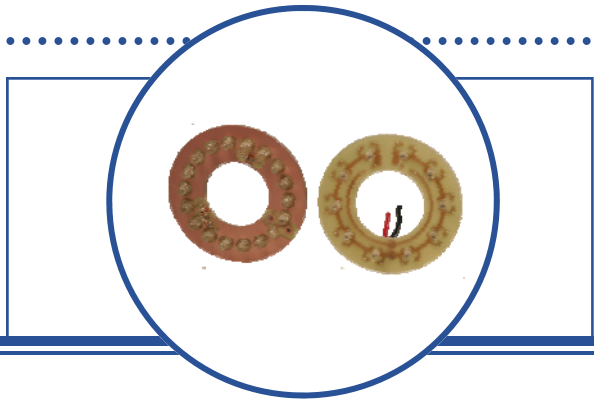
Near Infrared Light Ring Series
OPA80 and OPA83 Series

TT electronics
OPTEK Technology

Features

- 3 Near Infrared Wavelength Light sources available
- Ambient Light sensor available
- Variety of ring sizes
- Surface Mount or Through Hole Emitters



Description:

The OPA80 and OPA83 series are designed to easily illuminate an area with infrared light for a variety of uses including cameras and mood lighting.

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, near infrared wavelength 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
- Under counter lighting

Ordering Information

OPA80	_	_	_	Vcc 12 Volts, Light Ring with Ambient Light Sensor
OPA81	_	_	_	Vcc 12 Volts, Light Ring with NO Ambient Light Sensor
OPA82	_	_	_	Vcc 5 Volts, Light Ring with Ambient Light Sensor
OPA83	_	_	_	Vcc 5 Volts, Light Ring with NO Ambient Light Sensor

W X Y Z

Type of Optical component Package = **W**

Through Hole - 3 mm package T3

Surface Mount - SM

Color of Optical Component = **X**

Near IR 850 nm center wavelength 5

Near IR 880 nm center wavelength 8

Z = Meets RoHS requirements

Y = Ring Size ID & OD

		Qty of LEDs 12 Volt	Qty of LEDs 5 Volt
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: OPA80T38CZ

Light Ring with Ambient Light Sensor,
Through Hole 3mm package,
IR - 880 nm center wavelength LED,

Pb
RoHS

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

OPTEK Technology Inc. — 1645 Wallace Drive, Carrollton, Texas 75006
Phone: (972) 323-2200 or (800) 341-4747 FAX: (972) 323-2396 sensors@optekinc.com www.optekinc.com

Absolute Maximum Ratings (T_A = 25° 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)

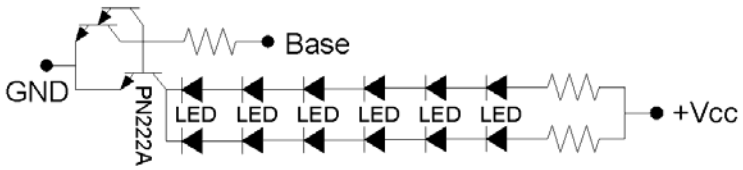
Reverse Voltage per Emitter	2.0 V
Continuous Forward Current	100 mA
Peak Forward Current (2 µs pulse width, 0.1% duty cycle)	1.0 A

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

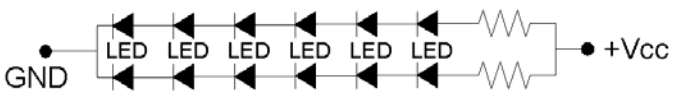
Electrical Characteristics (T_A = 25° C unless otherwise noted)

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 mA
	880 nm LED	1.20	1.35	1.80		
2 ½lH-H	Viewing Angle (at 50% power points, each component)					
	3 mm—T3 Package	—	18°	—	Deg.	Total inclusive angle at 50% of maximum optical power.
	5 mm—T5 Package					
	Surface Mount—SM Package		25°			
V_{CC}	Power Supply Voltage	11	12	13	Volts	I_{CC} varies with V_{CC}
OP	Total Optical Power 12 LEDs 18 LEDs 24 LEDs	—	TBD	—	mW	Vcc = 12 VDC

OPBA80 & OPBA82 Series



OPBA81 & OPBA83 Series



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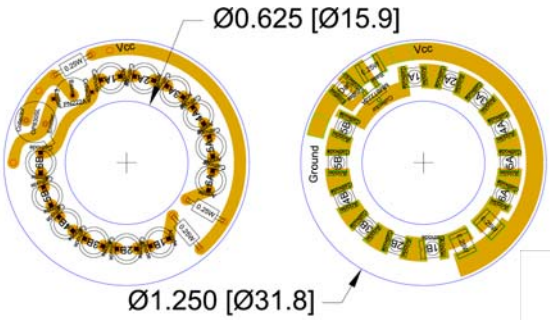
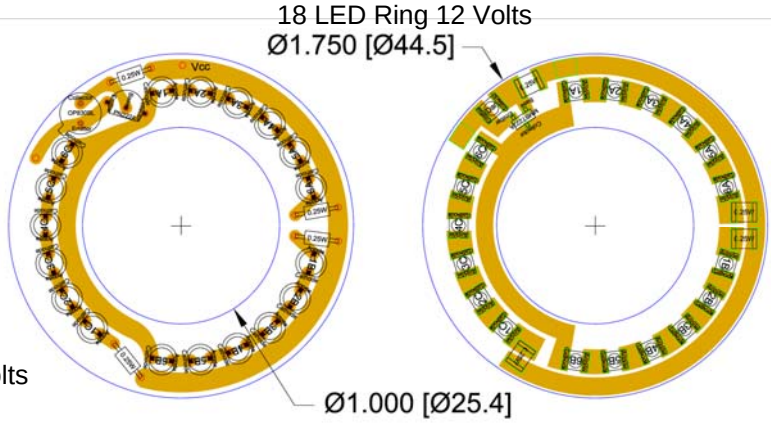
PCBoard Layout

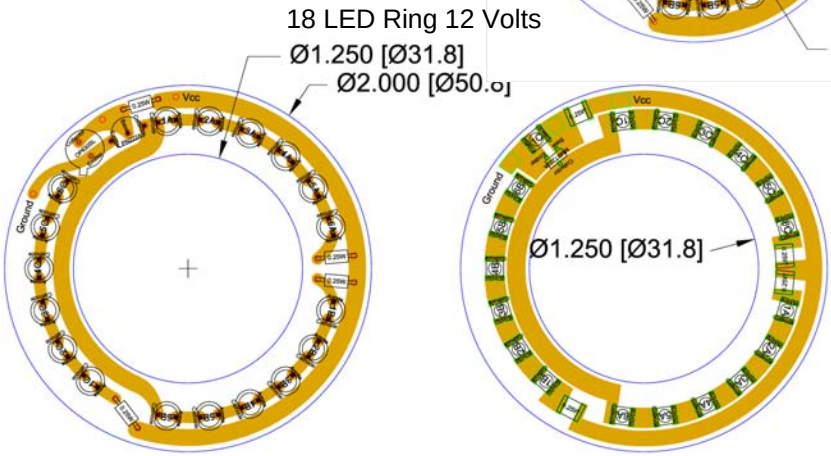
12 LED Ring 12 Volts



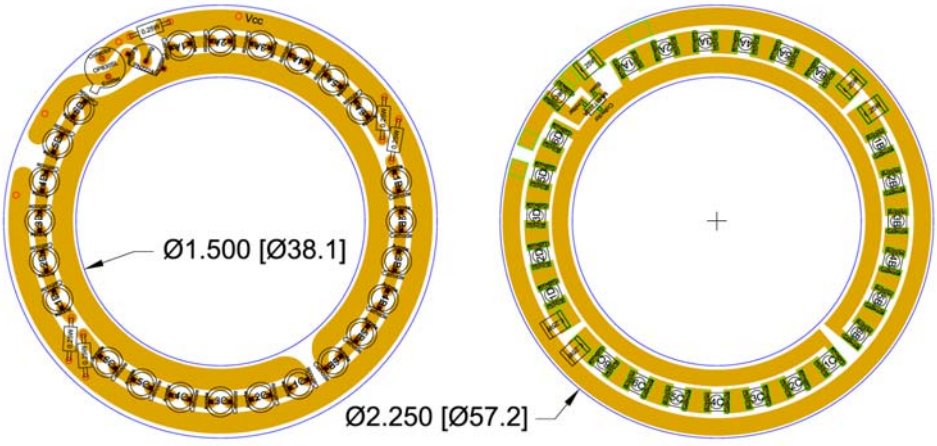
18 LED Ring 12 Volts



18 LED Ring 12 Volts



24 LED Ring 12 Volts



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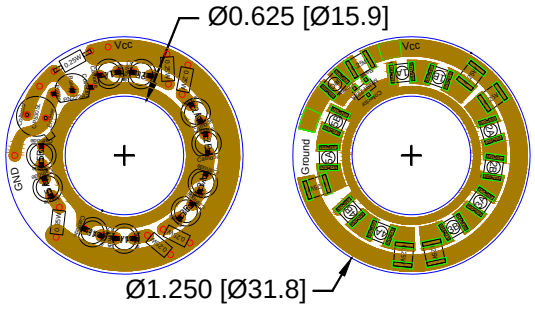
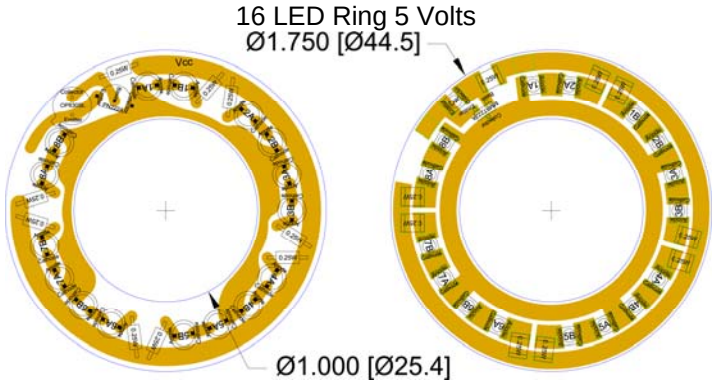
PCBoard Layout

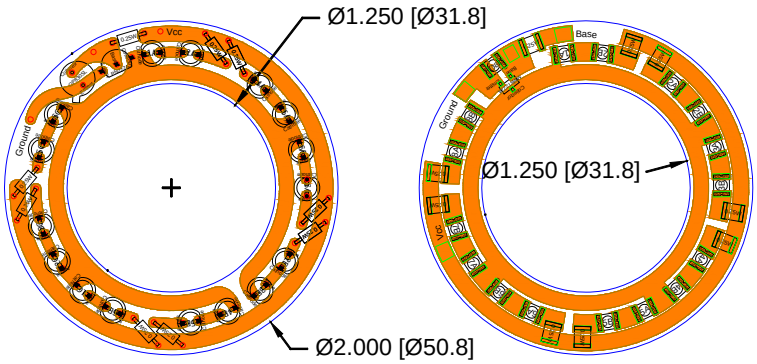
10 LED Ring 5 Volts



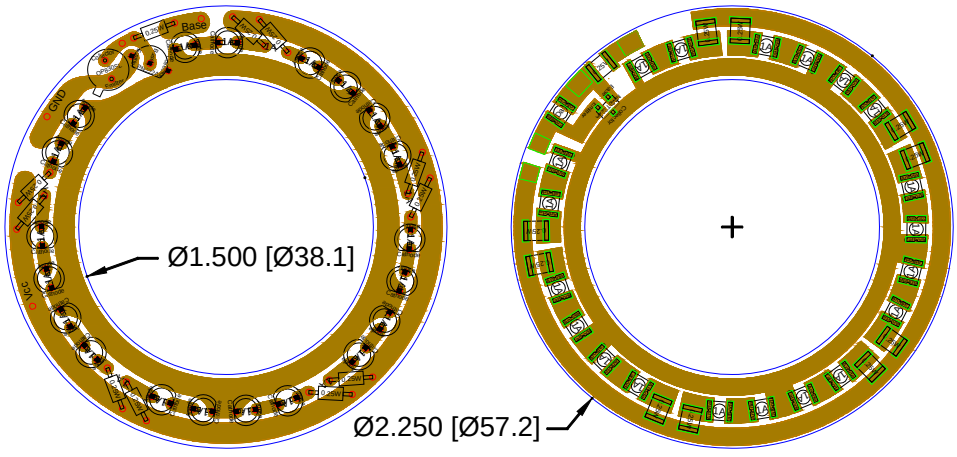
16 LED Ring 5 Volts



16 LED Ring 5 Volts



20 LED Ring 5 Volts



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