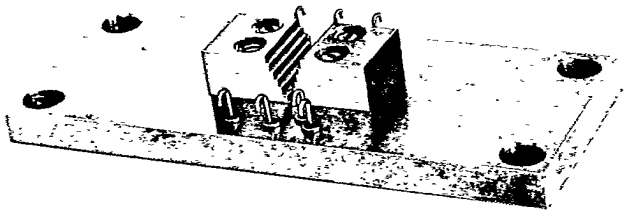
GaAs and GaAlAs LASER DIODE ARRAYS FOR PULSED OPERATION



FEATURES

- High Efficiency at Low Drive Currents
- Up to 1200 Watts Peak Power Output
- 904 nanometer (LD) 850 nanometer (LA) Peak Wavelength Emission at 25° C
- Wavelength selection available 800-880 nanometers, upon request
- Custom Arrays Available

DESCRIPTION

The 300 Series of injection laser diodes are high power arrays designed for pulsed operation. The LD Series are single-heterostructure GaAs diodes with an emission wavelength of 904nm. The LA Series are multiheterojunction GaAlAs diodes with emission wavelength of 850nm. Wavelengths from 800-880nm are available on special order. These arrays, mounted on copper blocks, offer peak output powers of up to 1200 Watts and may be driven at 0.1% duty cycle with the use of thermoelectric cooling. Selected units can be operated to 70° C. In addition to these standard arrays, a wide variety of custom arrays are available. Applications for these units include: ceilometers, range finders and illuminators.

CHARACTERISTICS OF A PACKAGED DIODE @ 25°C

	LD-330	LD-360	LD-390†	LA-330	LA-360	LA-390††	Units
Total Peak Radiant Flux Min. at max. rated I fm Typ.	300 380	600 700	1000 1200	240 320	480 550	800 1000	Watt
Total Number of Diodes	36	66	120	36	66	120	
Emitting Area	115x 65	156x 105	156x 185	115 x65	156 x105	156 x185	mils
Max. Peak Forward Curr. (Ifm)	40	40	40	30	30	30	amps
Typ. Threshold Current (I th)	10	10	10	12	12	12	amps
Typical Peak Forward @I fm Voltage @50mA	235 44	*215 *40	*150 *28	235 48	*215 *44	*150 *31	volts
Duty Factor at Ifm	**0.02	**0.02	**0.02	0.01	0.01	0.01	%
Max. Pulse Width	200	200	200	80	80	80	ns
Number of Ports	1	2	5	1	2	5	

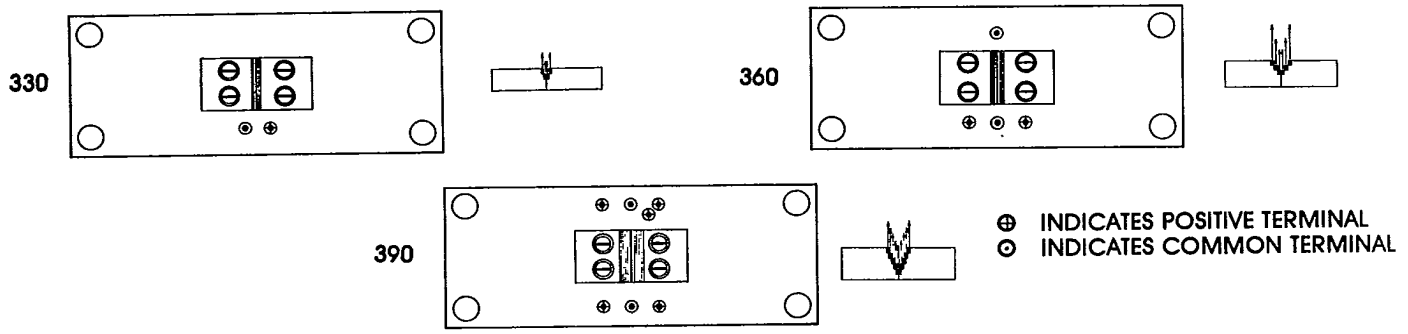
*Per Port
**Up to 0.1% with thermoelectric cooling to maintain Tc at 25°C

†Formerly LD-410
††Formerly LA-410

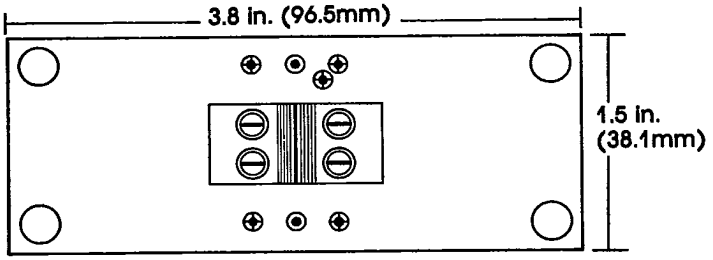
ELECTRO-OPTICAL CHARACTERISTICS OF THE DIODE AT 25°C

	Symbol	Min.	Typ.	Max.	Units
Wavelength of Peak Intensity (LD Series)	λ		905		nm
Wavelength of Peak Intensity (LA Series)	λ		850		nm
Spectral Width-50% points	$\Delta\lambda$		10	20	nm
Rise Time of Radiant Flux 10%-90% pts.	Tr		<1		ns
Pulse Width-50% pts. @Ifm (LD-Series)	Tpm			200	ns
Storage Temperature	Ts	-196		+100	°C
Operating Temperature	Tc	-50		+60(70*)	°C

*Selected Units



PACKAGE DRAWING

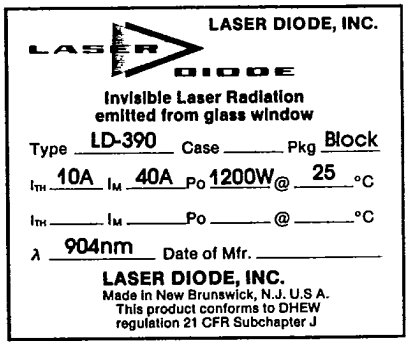


"A" DIM	
330	0.25 in. (6.2mm)
360	0.28 in. (7.1mm)
390	0.34 in. (8.6mm)

LASER SAFETY

Gallium arsenide lasers emit infrared radiation which is invisible to the human eye. When in use, safety precautions should be taken to avoid the possibility of eye damage.

Do not stare directly at the device or view an operating laser at close range. If viewing is required, the beam should only be observed by reflection from a matte surface utilizing an image convertor or by use of a suitable fluorescent screen.



CAUTION: **Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.**

LASER DIODE, Inc., reserves the right to make changes at any time as deemed practical and/or necessary to improve the design and to supply the best possible product.

Information provided is believed at this time to be accurate and reliable. No responsibility is assumed for its use, nor for any infringements on the rights of others.

*For further information on this product or others of LASER DIODE, Inc., please call:

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