T-41-21

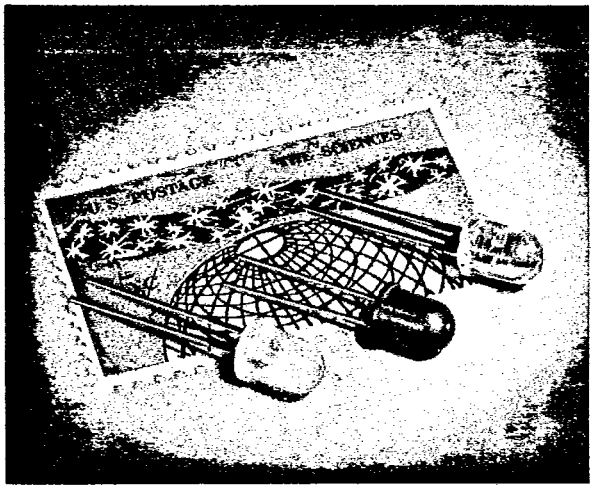
eldema/genisco solid-state lamps

GaAsP LED Panel Lamps
135-3500
135-3510
135-3520

D. S. No. SSD-400—2/73

HIGH INTENSITY, LARGE AREA PANEL INDICATOR LED LAMPS

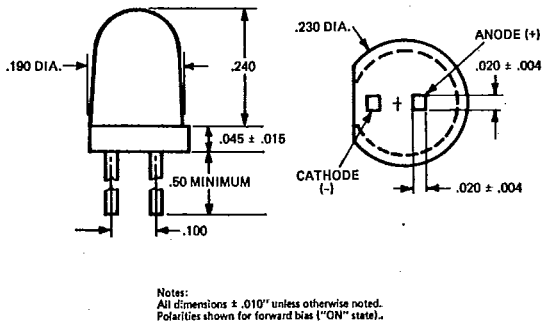
- **LOW IN COST**
- **FIT UP TO 1/8"-THICK PANELS**
- **LOW POWER CONSUMPTION**
- **WIDE RANGE OF APPLICATIONS**



Models 135-3500, 135-3510, and 135-3520 gallium arsenide phosphide (GaAsP) light emitting diode (LED) lamps are highly reliable, low in cost, and have fast "turn-on/off" times. They can be driven directly from low level digital integrated circuit outputs, and provide a highly intense (2 mcd), large-area light source with a wide viewing angle (>30 to 60°), emitting light in the 600 to 700 nm red region of the spectrum.

Model 135-3500 is encapsulated in red diffused plastic. Model 135-3510 is a clear, uncolored, non-diffused lens version, and Model 135-3520 is a diffused, milky white lens version. The lamps are shock and vibration resistant, and are suitable for many applications where IC compatibility and solid-state reliability are required, such as circuit status monitoring, panel lighting, back lighting, etc.

PHYSICAL DIMENSIONS



Notes:
All dimensions ± .010" unless otherwise noted.
Polarities shown for forward bias ("ON" state).

Maximum Ratings

Forward DC Current	50 mA
Peak Forward Current (1 μsec pulse, 300 pps)	1A
Reverse Voltage	3 V
Power Dissipation Derate 1.6 mW/°C above 25°C	120 mW
Storage Temperature	-55 to +100°C
Operating Temperature	-55 to +100°C
Relative Humidity @ 65°C	98%
Solder Temperature 0.1" from Case for 5 seconds	260°C

Electrical Characteristics (25°C)

Characteristic	Symbol	Units	Minimum	Typical	Maximum
Forward Voltage @ I_F = 20 mA	V_F	V	—	1.7	2.0
Reverse Breakdown Voltage @ I_R = 10 μA	BV_R	V	3.0	8.0	—

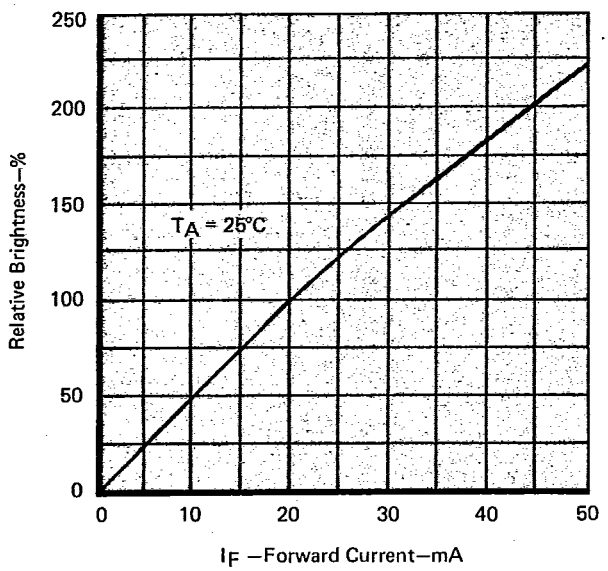
Optoelectronic Characteristics @ I_F = 20 mA (25°C)

Characteristic	Symbol	Units	Minimum	Typical 135-3500/135-3520	Typical 135-3510
Luminous Intensity	I	mcd	0.8	2.0	2.0
Luminance	L	mcd/cm^2 (Note 1)	—	10	670
Average Emitting Area	A	cm^2 (Note 2)	—	0.2	3.0×10^{-3}
Wavelength @ Peak Emission	λ_{pk}	nm	—	665	665
Rise and Fall Times	t_r and t_f	ns (Note 3)	—	10	10

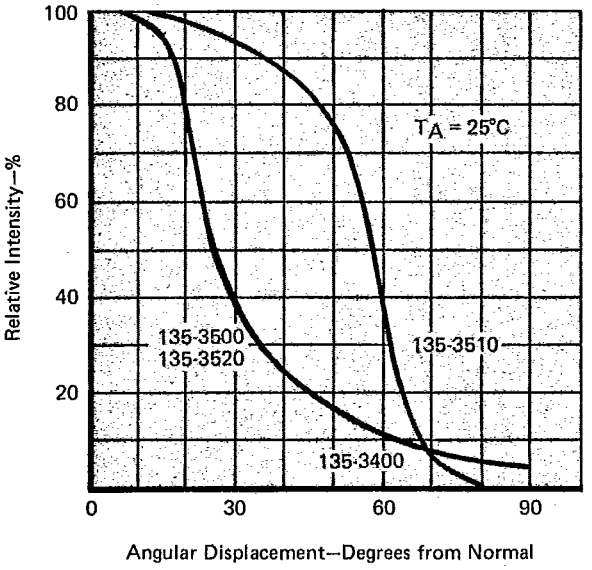
NOTES:
1. Measured on mechanical axis of package.
2. 1 cd/cm^2 = 2.92 x 10^3 ft lamberts.
3. Time for a 10%—90% change in light intensity with a step change in current.

TYPICAL PERFORMANCE CURVES (135-3500, 135-3510, 135-3520)

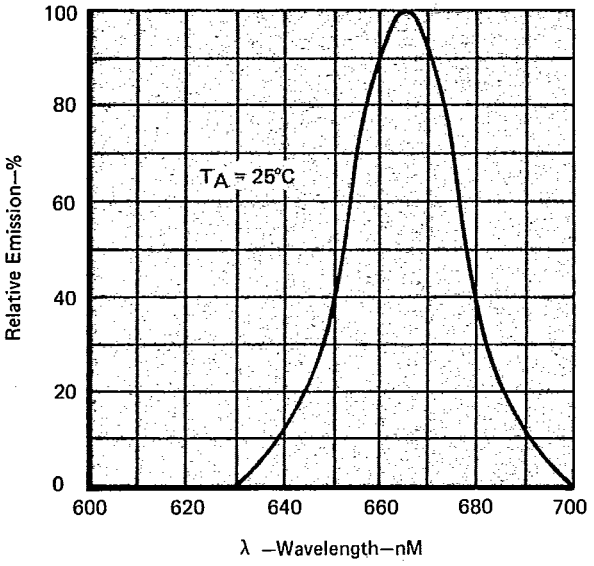
Intensity Vs. Forward Current (Note 4)



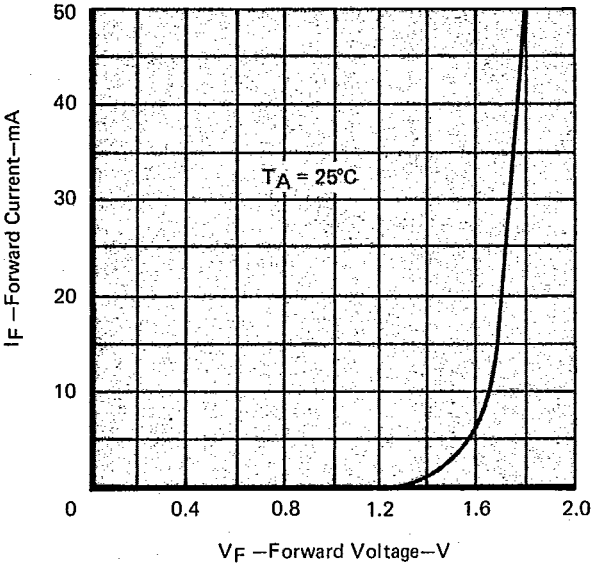
Intensity Vs. Viewing Angle (I_F = 20 mA)



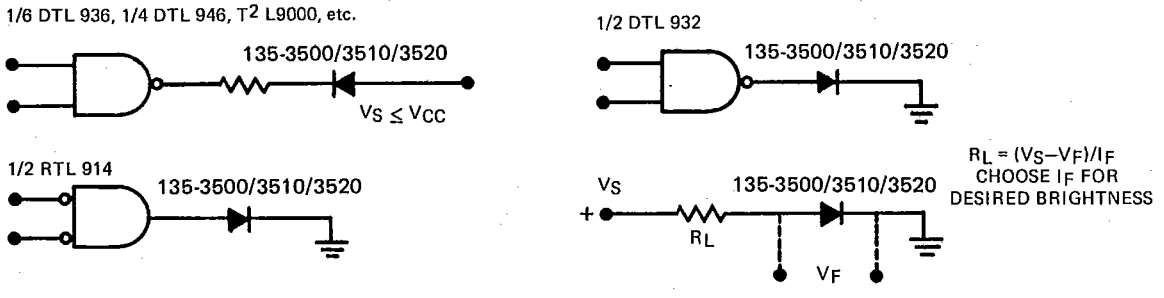
Emission Spectrum



Forward Current Vs. Forward Voltage



TYPICAL DRIVE CIRCUITS



Note 4: Luminous intensity curve coincides with radiant intensity curve for pulse excitation (for average currents of 20 mA or less).

ELDEMA DIVISION
GENISCO TECHNOLOGY CORPORATION
18435 SUSANA ROAD
COMPTON, CALIFORNIA 90221
(213) 537-4750 • TWX: 910-346-6773