



MINIATURE LAMP DEPARTMENT

SOLID STATE LAMPS
BULLETIN 3-8011

LAMP TYPE—SOLID STATE SSL-1, SSL-6

APPLICATION—INDICATOR, PHOTOCELL DRIVER

DESCRIPTION—The Miniature Lamp Department expands its line of solid state lamps (also known as L.E.D.'s or light emitting diodes). First the SSL-1 and now the SSL-6, a semi-conductor crystal (Silicon Carbide) lamp with visible light output of .8 footlamberts per milliamp.

These low voltage lamps are mounted on standard TO-46 gold headers. Solderable wire terminal leads will fit into a *standard* transistor socket.

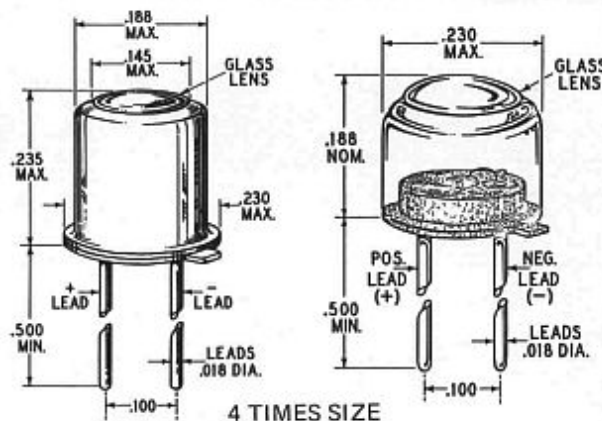
SSL-1

MECHANICAL SPECIFICATIONS

Maximum Overall Length—0.235 inches (excluding leads)

Maximum Diameter:
Header — 0.230 inches
Case — 0.188 inches

Leads — .016 — .019 inches diameter; 0.5 inches length



SSL-6

MECHANICAL SPECIFICATIONS

Nominal Overall Length — 0.188 inches (excluding leads)

Maximum Diameter — 0.230 inches

Leads — .016 — .019 inches diameter; 0.5 inches length

The solid state construction of the SSL lamps offer these advantages:

- LONG LIFE
no theoretical failure if operated at ratings shown.
- MORE RUGGED
than any filament or glow lamps
- VIBRATION AND SHOCK RESISTANT
- FAST SWITCHING
- HIGH RELIABILITY
- SMALL SIZE — LOW VOLTAGE
- LESS SENSITIVE TO AMBIENT CHANGE
than electroluminescent and two to five times brighter.

ELECTRICAL SPECIFICATIONS (SSL-1 and SSL-6)

MAXIMUM DC RATINGS

Reverse Voltage	5 volts
Reverse Current @ 5 volts	5 milliamps
Forward Direct Current	75 milliamps
Operating and Storage Temperature	−65°C to 125°C

DC CHARACTERISTICS AT 25°C AMBIENT

V _f (Forward Voltage @ 50 ma)	2.5 — 5.1 volts
Brightness (Crystal Surface @ 50 ma)	25 — 65 footlamberts
Rise Time to 2/3 max. Brightness @ 50 ma.	< 100 microseconds
Fall Time to 1/3 max. Brightness @ 50 ma.	< 100 microseconds
Peak Spectral Emission	5900 angstroms
.707 Peak Band Width	5500-6300 angstroms

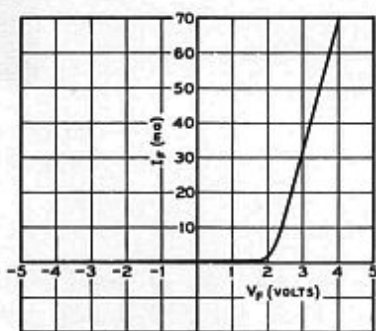
Typical Characteristics Curves
Shown on Reverse Side



TYPICAL CHARACTERISTICS

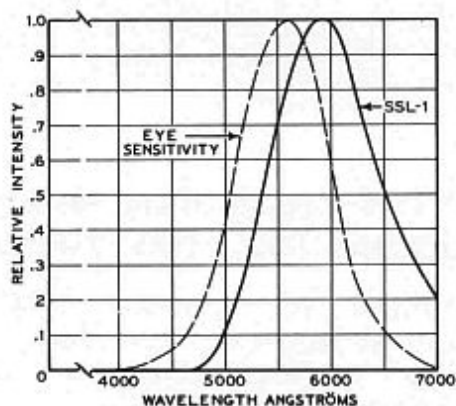
SSL-1
SSL-6

VOLTAGE
vs
CURRENT

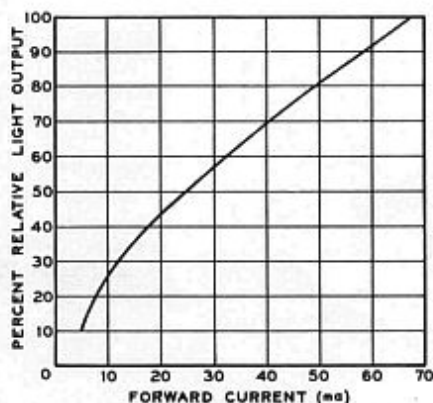


SSL-1
SSL-6

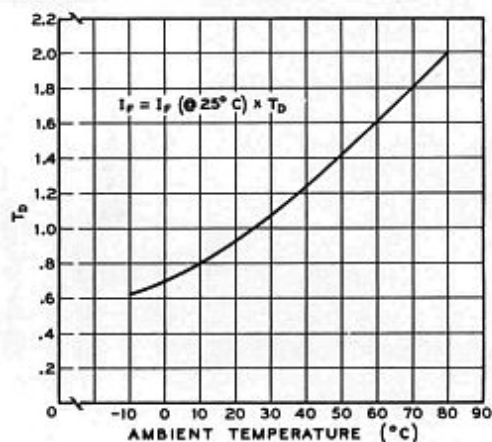
WAVELENGTH
vs
RELATIVE INTENSITY



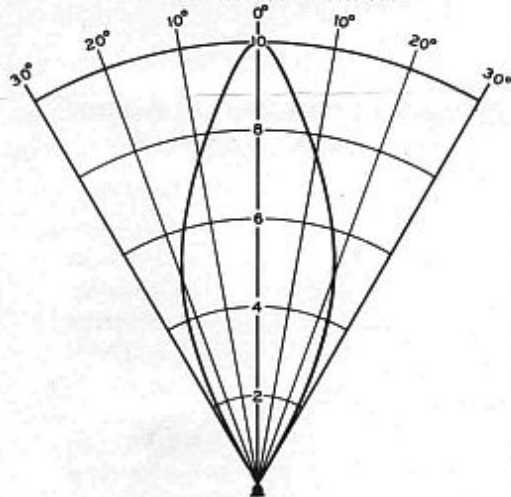
SSL-1 FORWARD CURRENT
vs
SSL-6 PERCENT RELATIVE LIGHT OUTPUT



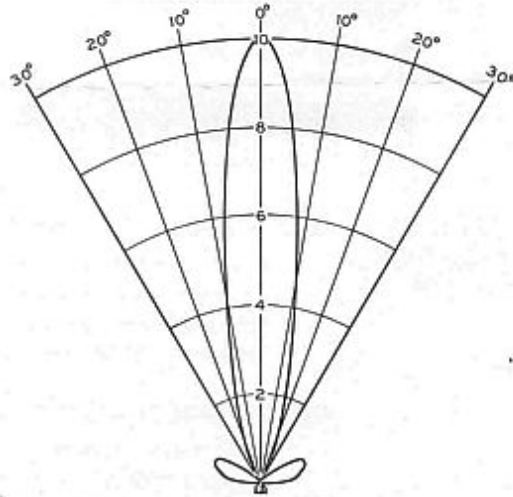
SSL-1
SSL-6 TEMPERATURE DERATING CURVE



SSL-1 TYPICAL RADIATION PATTERN



SSL-6 TYPICAL RADIATION PATTERN



MINIATURE LAMP DEPARTMENT

GENERAL  ELECTRIC

3-8011
(Replaces #3-7041 and #3-7235)