# TIL305
# 5 × 7 ALPHANUMERIC DISPLAY

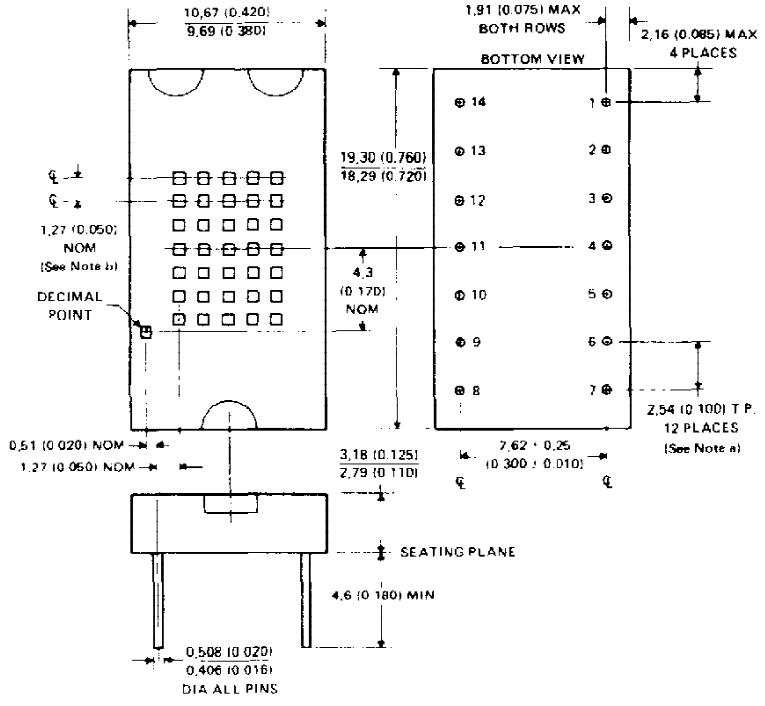
SODS002 D1033, MAY 1971 - REVISED MARCH 1983

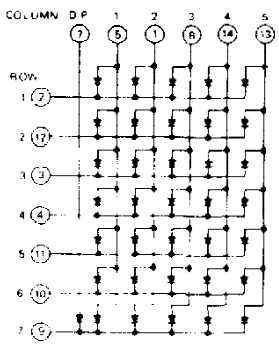
## SOLID-STATE DISPLAY WITH RED TRANSPARENT PLASTIC ENCAPSULATION

- 7,62-mm (0.300-inch) Character Height
- High Luminous Intensity
- Low Power Requirements
- Wide Viewing Angle
- 5 X 7 Array with X-Y Select and Decimal
- Compatible with USASCII and EBCDIC Codes

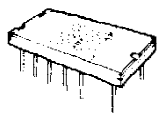
### mechanical data

This assembly consists of a display chip mounted on a printed circuit board with a red molded plastic body. Multiple displays may be mounted on 11,43-mm (0.450-inch) centers.




TOP VIEW ORIENTATION



NOTES: a. The true position spacing is 2,54 mm (0.100 inch) between lead centerlines. Each pin centerline is located within 0,25 mm (0.010 inch) of its true longitudinal position.

b. Vertical and horizontal spacing between centerlines of rows and columns nominally 1,27 mm (0.050 inch).

ALL DIMENSIONS ARE IN MILLIMETERS AND PARENTHETICALLY IN INCHES

CL-37



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## absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

| | |
|---|---|
| Reverse Voltage at 25°C Free-Air Temperature | 3 V |
| Peak Forward Current, Each Diode | 100 mA |
| Average Forward Current (see Note 1): | |
| Each Diode | 10 mA |
| Total | 200 mA |
| Operating Free-Air Temperature Range | 0° to 70°C |
| Storage Temperature Range | −25°C to 85°C |

## operating characteristics of each diode at 25°C free-air temperature (unless otherwise noted)

| PARAMETER | | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| $I_V$ | Luminous Intensity (see Note 2) | $I_F$ = 10 mA | 40 | 110 | | μcd |
| $\lambda_p$ | Wavelength at Peak Emission | | | 660 | | nm |
| $\Delta$ | Spectral Bandwidth | | | 20 | | nm |
| $V_F$ | Static Forward Voltage | | 1.5 | 1.65 | 2 | V |
| $\alpha_{VF}$ | Average Temperature Coefficient of Static Forward Voltage | $I_F$ = 10 mA, $T_A$ = 0°C to 70°C | | −1.4 | | mV/°C |
| $I_R$ | Static Reverse Current | $V_R$ = 3 V | | 10 | | μA |
| C | Anode-to-Cathode Capacitance | $V_R$ = 0, f = 1 MHz | | 80 | | pF |

NOTES: 1. This average value applies for any 1 ms period.
2. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (International Commission on Illumination) eye-response curve.

## TYPICAL CHARACTERISTICS

RELATIVE LUMINOUS INTENSITY
vs
FREE-AIR TEMPERATURE

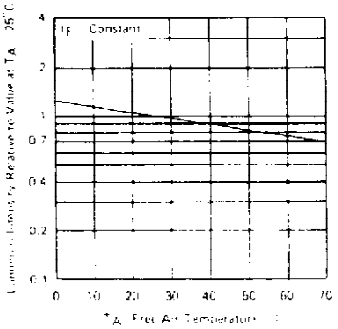


FIGURE 1

RELATIVE LUMINOUS INTENSITY
vs
FORWARD CURRENT

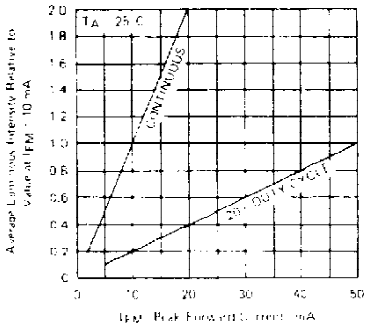


FIGURE 2

FORWARD CONDUCTION
CHARACTERISTICS

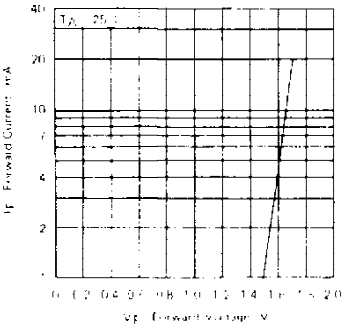


FIGURE 3

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## PACKAGING INFORMATION

| Orderable Device | Status (1) | Package Type | Package Drawing | Pins | Package Qty | Eco Plan (2) | Lead/Ball Finish | MSL Peak Temp (3) |
|---|---|---|---|---|---|---|---|---|
| TIL305 | OBSOLETE | | | 14 | | TBD | Call TI | Call TI |

(1) The marketing status values are defined as follows:
**ACTIVE:** Product device recommended for new designs.
**LIFEBUY:** TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.
**NRND:** Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.
**PREVIEW:** Device has been announced but is not in production. Samples may or may not be available.
**OBSOLETE:** TI has discontinued the production of the device.

(2) Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS) or Green (RoHS & no Sb/Br) - please check http://www.ti.com/productcontent for the latest availability information and additional product content details.
**TBD:** The Pb-Free/Green conversion plan has not been defined.
**Pb-Free (RoHS):** TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.
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(3) MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

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