

TYPE TIL149 SOURCE AND SENSOR ASSEMBLY

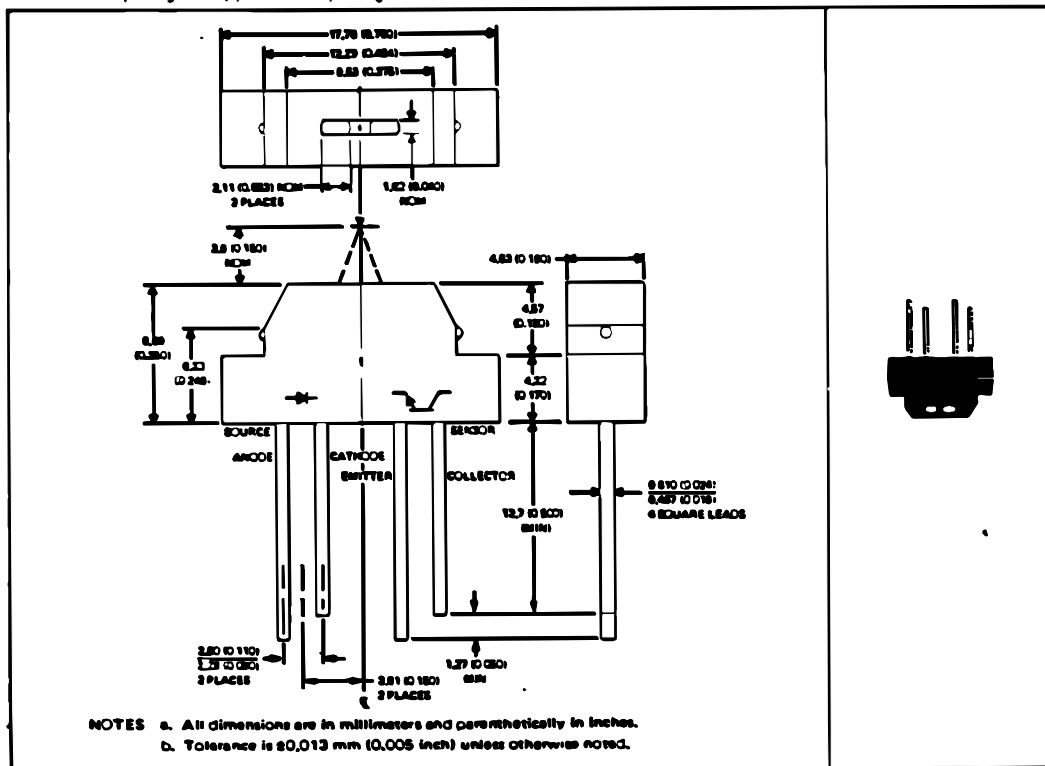
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OPTOELECTRONIC MODULE FOR REFLECTIVE SENSING APPLICATIONS

- Adaptable for Printed Circuit Board Mounting
- Designed for Sensing Applications such as Line Finders, Batch Counters, Level Indicators, and Beginning-of-Tape/End-of-Tape Indicators

mechanical data

The assembly consists of a TIL32 gallium arsenide infrared-emitting diode and an n-p-n silicon phototransistor similar to TIL78 mounted in a molded ABS[†] plastic housing. The assembly will withstand soldering temperature with no deformation and device performance characteristics remain stable when operated in high-humidity conditions. Total assembly weight is approximately 0.9 grams.



absolute maximum ratings at 25°C free-air temperature (unless otherwise noted)

Source Reverse Voltage	2 V
Source Continuous Forward Current (See Note 1)	40 mA
Sensor Collector-Emitter Voltage	30 V
Sensor Emitter-Collector Voltage	7 V
Sensor Continuous Dissipation at (or below) 25°C Free-Air Temperature (See Note 2)	50 mW
Storage Temperature Range	-40°C to 85°C
Lead Temperature 1.6 mm (1/16 Inch) Inch from Assembly for 5 Seconds	240°C

NOTES

1. Derate linearly to 80°C free-air temperature at the rate of 0.73 mA/°C.

2. Derate linearly to 80°C free air temperature at the rate of 0.91 mW/°C.

[†]ABS thermoplastics are derived from acrylonitrile, butadiene, and styrene

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electrical characteristics at 25°C free-air temperature

PARAMETER	TEST CONDITIONS [†]	MIN	TYP	MAX	UNIT
V(BR)CEO Collector-Emitter Breakdown Voltage	I _C = 100 μA, I _F = 0	30			V
V(BR)ECO Emitter-Collector Breakdown Voltage	I _E = 100 μA, I _F = 0	7			V
I _{C(off)} Off-State Collector Current	V _{CE} = 15 V, I _F = 0			100	nA
I _{C(on)} On-State Collector Current	V _{CE} = 5 V, I _F = 40 mA, See Note 3	25	275		μA
V _F Input-Diode Static Forward Voltage	I _F = 40 mA		1.2	1.6	V

[†]Stray irradiation outside the range of device sensitivity may be present. A satisfactory condition has been achieved when the parameter being measured approaches a value that cannot be altered by further irradiation shielding.

NOTE 3: Reflective surface is aluminum foil typical of beginning-of-tape/end-of-tape strips. It is 0.025 mm (0.001 inch) thick and placed 3.81 mm (0.150 inch) from the read head.

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