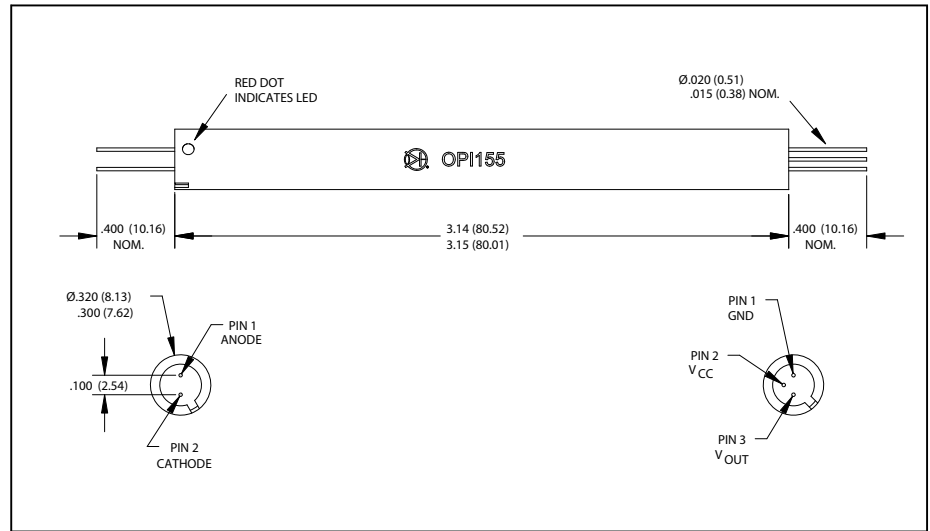


High Speed Optically Coupled Isolator Type OPI155



Features

- 50 kV electrical isolation
- High speed >5MBd
- Hermetically sealed LED and photosensor

Description

The OPI155 contains a high speed monolithic photo-IC comprised of a photodiode and DC amplifier driving an open collector output Schottky transistor. It is optically coupled by means of an internal light pipe and mounted in a high dielectric plastic housing. The LED and sensor are in hermetically sealed packages. It is designed for applications requiring high speed and high voltage isolation between input and output.

Absolute Maximum Ratings $(T_A = 25^\circ \text{C}$ unless otherwise noted)

Input-to-Output Isolation Voltage $\pm 50 \text{ kV}$
Storage Temperature Range -40°C to $+85^\circ \text{C}$
Operating Temperature -40°C to $+85^\circ \text{C}$
Lead Soldering Temperature (1/16 inch [1.6 mm] from case for 5 sec. with soldering iron). 260°C

Input Diode

Continuous Forward Current 50 mA
Reverse Voltage 3.0 V
Power Dissipation 200 mW

Output Phototransistor

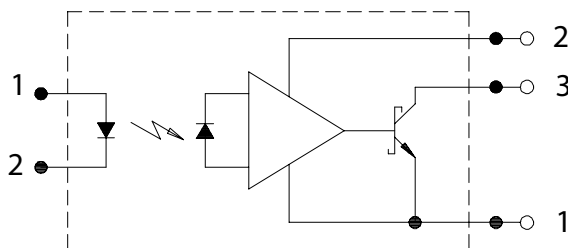
Supply Voltage. -0.5 to 7.0 V
Output Voltage. -0.5 to 18.0 V
Output Current. 25 mA
Open Collector Power Dissipation. 40 mW

Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.
- (2) Derate linearly mW/C above 25°C .
- (3) Measured with input and output leads shorted and relative humidity of less than 50%.

Schematic

This device is susceptible to damage from electrostatic discharge (ESD). Normal static precautions should be taken in the handling of this device to prevent ESD damage.



Type OPI155

Electrical Characteristics (T_A = 25° C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode						
V _F	Forward Voltage		1.2	1.55	V	I _F = 10 mA
I _R	Reverse Current		.1	100	μA	V _R = 3.0 V
Output Sensor						
I _{OH}	High Level Output Current			250	μA	V _O = 18 V, I _F = 0, V _{CC} = Open
I _{CCH}	High Level Supply Current			6.5	mA	V _{CC} = 5.25 V, I _F = 0, V _O = Open
I _{CCL}	Low Level Supply Current			10	mA	V _{CC} = 5.25 V, I _F = 10 mA, V _O = 0
V _{OL}	Low Level Output Voltage			0.50	V	V _{CC} = 5.25 V, I _F = 10 mA, I _O = 8 mA
Switching Characteristics						
T _{phl}	Propagation Delay, high to low		120	150	ns	V _{CC} = 5 V, I _F = 10 mA, R _L = 360Ω
T _{plh}	Propagation Delay, low to high		70	100	ns	V _{CC} = 5 V, I _F = 10 mA, R _L = 360Ω