

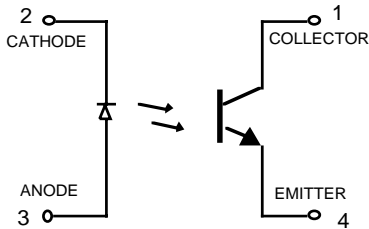


ISO LINK

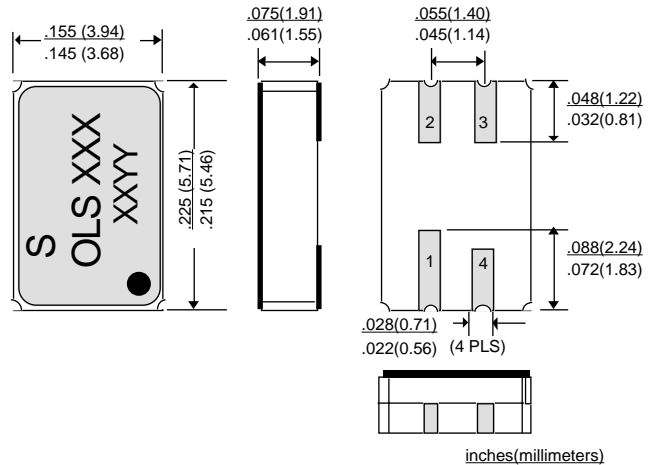
OLS010

Phototransistor

Hermetic Surface Mount Optocoupler



SCHMATIC



PACKAGE OUTLINE

Features

- ◆ *Miniature hermetic surface mount package*
- ◆ *Current transfer ratio guaranteed over -55°C to +125°C ambient temp. range*
- ◆ *1000 Vdc electrical isolation*
- ◆ *High current transfer ratio*
- ◆ *Hi-Rel screening available*

Description

The OLS010 is designed especially for hi-rel applications requiring optical isolation with high current transfer ratio and low saturation V_{ce}. Each optocoupler consists of a light emitting diode and a NPN silicon phototransistor electrically isolated but optically coupled inside a hermetic 4-pin leadless chip carrier package. Electrical parameters are similar to the JEDEC registered 4N49U optocoupler. 100% hi-rel screened parts are available.

Device mounting is achieved with reflow soldering or conductive epoxies.

NOTES:

1. Measured between pins 1 and 4 shorted together and pins 2 and 3 shorted together. T_a = 25°C and duration = 1 second.
2. Derate linearly at 3.0 mW / °C above 25 °C
3. Value applies for P_w ≤ 1 μS, PRR ≤ 300 pps.
4. Derate linearly at 1.0 mW / °C above 65 °C

Absolute Maximum Ratings

Coupled	
Input to Output Isolation Voltage ¹	± 1000 Vdc
Storage Temperature Range	-65°C to +150°C
Operation Temperature Range	-55°C to +125°C
Soldering Temperature (heated collet, 5 sec)	260°C
Soldering Temperature (vapor phase reflow, 30 sec)	215°C
Input Diode	
Average Input Current	40 mA
Peak Forward Current (≤ 1mS duration)	1 A
Reverse Voltage	2.0 V
Power Dissipation	60 mW ⁴
Output Detector	
Collector - Emitter Voltage	60 V
Emitter - Collector Voltage	5 V
Continuous Collector Current	50 mA
Power Dissipation	300 mW ²

ELECTRICAL CHARACTERISTIC (T_A = -55 °C to +125°C, Unless Otherwise Specified)

Parameter	Symbol	Min	Max	Units	Test Conditions	Fig.	Note
On-State Collector Current	I _C (on)	1.0		mA	I _F = 1 mA, V _{CE} = 5.0V	2,3	
		1.0		mA	I _F = 10mA, V _{CE} = 5.0V		
Saturation Voltage	V _{CE(SAT)}		0.3	V	I _F = 10mA, I _C = 2.0mA		
Breakdown Voltage Collector to Emitter	BV _{CEO}	60		V	I _{CE} = 1 mA, T _A = 25 °C		
	Emitter to Collector	BV _{EBO}	5		V	I _{EC} = 100 μA, T _A = 25 °C	
Leakage Current Collector to Emitter	I _{CE(OFF)}		100	nA	V _{CE} = 20V, T _A = 25 °C		
			100	μA	V _{CE} = 20V, T _A = 100 °C		
Input Forward Voltage	V _F	1.1	1.8	V	I _F = 10mA, T _A = -55 °C	1	
		0.9	1.6	V	I _F = 10mA, T _A = 25 °C	1	
		0.7	1.3	V	I _F = 10mA, T _A = 100 °C	1	
Input Reverse Current	I _R		100	μA	V _R = 2.0V		
Input to Output Resistance	r _{I-O}	10 ¹¹	1.0	μA	V _{I-O} = ±1000 Vdc		1
Input to Output Capacitance	C _{I-O}		5	pF	V _{I-O} = 0V, f = 1 Mhz		1
Rise Time	t _r		20	μS	V _{CC} = 10V, R _L = 100 Ω	4	3
Fall Time	t _f		20	μS	I _F = 10mA		

The information in this data sheet is subject to change without notice.

TYPICAL PERFORMANCE CURVES

