

ACNT-H61L

Low Power 10 MBd Digital CMOS Optocoupler
in 14.2 mm Creepage/Clearance Stretched SO8 Package



Product Brief - Preliminary

(ALL SPECIFICATIONS ARE TARGETED SPECIFICATIONS AND ARE SUBJECTED TO CHANGES BEFORE FINAL PRODUCTION RELEASE. AVAGO RESERVES THE FINAL DECISION TO RELEASE THE PRODUCT TO PRODUCTION.)

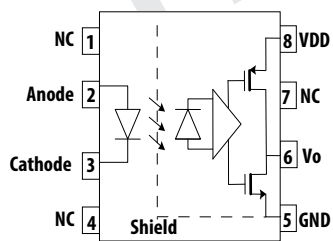
Description

The ACNT-H61L is a stretched wide optically coupled optocoupler that combines an AlGaAs light-emitting diode and an integrated high gain photo detector to address low power need for isolated interface. The optocoupler consumes extremely low power, at maximum 2 mA across temperature. The LED forward current operates from 5 mA.

This optocoupler supports both 3.3 V and 5 V supply voltage with guaranteed AC and DC operational parameters from temperature range -40 °C to +105 °C. The output of the detector IC is a CMOS output. The internal Faraday shield provides a guaranteed common mode transient immunity specification of 20 kV/ μ s.

ACNT-H61L of 14.2 mm creepage/clearance and high voltage insulation capability suit for isolated communicate logic interface and control in high-voltage power systems such as 690 V_{AC} drives, renewable inverters, medical equipment.

Functional Diagram



**TRUTH TABLE
(POSITIVE LOGIC)**

| LED | OUTPUT V _O |
|-----|-----------------------|
| ON | L |
| OFF | H |

A 0.1 μ F bypass capacitor must be connected between pins V_{DD} and GND

Features

- Low I_{DD} power supply consumption: 2 mA max.
- Input current capability: 5 mA min.
- Package: Stretched SO-8
- 20 kV/ μ s minimum Common Mode Rejection (CMR) at V_{CM} = 1000 V
- High Speed: 10 MBd min.
- Guaranteed AC and DC performance over wide temperature: -40 °C to +105 °C
- Safety Approval (Pending)
 - UL 1577 recognized - 7500 V_{rms} for 1 minute
 - CSA Approval
 - IEC/EN/DIN EN 60747-5-5 V_{IORM} = 2262 V_{peak} for Reinforced Insulation

Applications

- Communication Interface: RS-485, CAN Bus
- Digital isolation for A/D, D/A conversion
- High-voltage power systems, e.g., 690 V drives
- Renewable energy inverters
- Medical imaging and patient monitoring

This preliminary data is provided to assist you in the evaluation of product(s) currently under development. Until Avago Technologies releases this product for general sales, Avago Technologies reserves the right to alter prices, specifications, features, capabilities, functions, release dates, and remove availability of the product(s) at anytime.

CAUTION: It is advised that normal static precautions be taken in handling and assembly of this component to prevent damage and/or degradation which may be induced by ESD.

Ordering Information

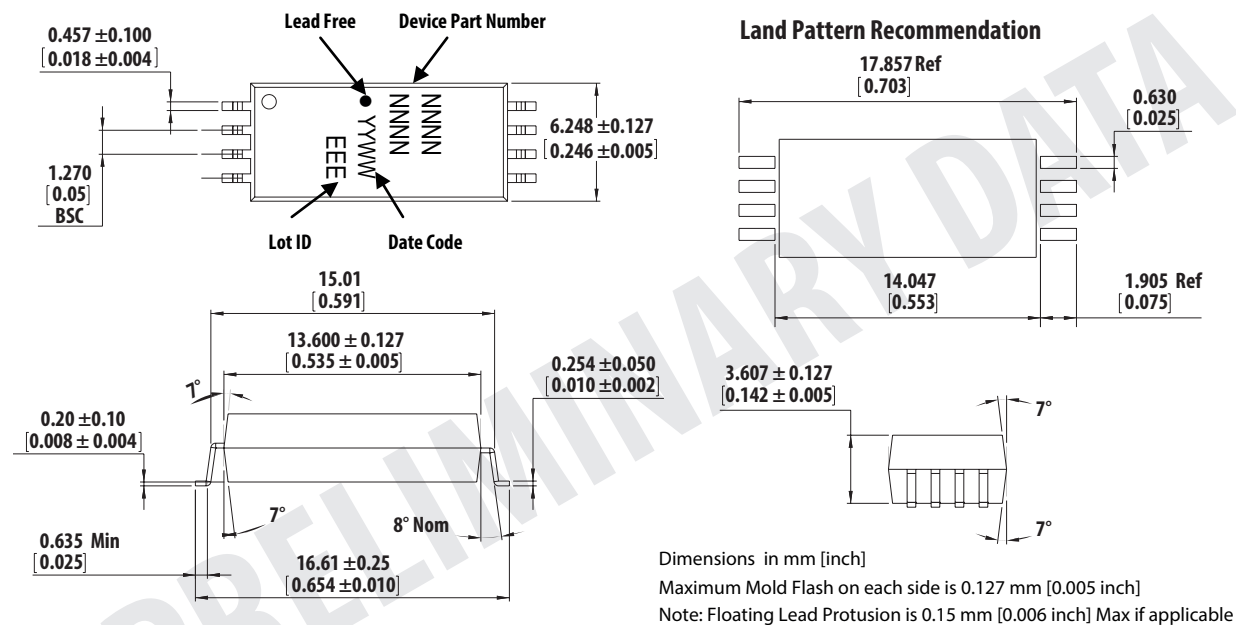
ACNT-H61L is UL Recognized with 7500 V_{rms} for 1 minute per UL 1577.

| Part Number | Option | | Surface Mount | Tape & Reel | IEC/EN/DIN EN | | Quantity |
|-------------|----------------|---------------|---------------|-------------|---------------|-----------|---------------|
| | RoHS Compliant | Package | | | UL 1577 | 60747-5-5 | |
| ACNT-H61L | -000E | 14.2 mm | X | | X | X | 80 per tube |
| | -500E | Stretched S08 | X | X | X | X | 1000 per reel |

To order, choose a part number from the Part Number column and combine with the desired option from the Option column to form an order entry.

Package Outline Drawing

ACNT-H61L Stretched S0-8 Package



Insulation and Safety Related Specifications

| Parameter | Symbol | ACNT-H61L | Unit | Conditions |
|--|--------|-----------|------|--|
| Minimum External Air Gap (External Clearance) | L(101) | 14.2 | mm | Measured from input terminals to output terminals, shortest distance through air. |
| Minimum External Tracking (External Creepage) | L(102) | 14.2 | mm | Measured from input terminals to output terminals, shortest distance path along body. |
| Minimum Internal Plastic Gap (Internal Clearance) | | 0.5 | mm | Through insulation distance conductor to conductor, usually the straight line distance thickness between the emitter and detector. |
| Tracking Resistance (Comparative Tracking Index) | CTI | >300 | V | DIN IEC 112/VDE 0303 Part 1 |
| Isolation Group | | IIIa | | Material Group (DIN VDE 0110, 1/89, Table 1) |

For product information and a complete list of distributors, please go to our web site: www.avagotech.com

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 AV02-4494EN - June 30, 2014

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