

3.3 Data Cams High Speed - 10 MBit / Logic Gate Oper HCPL062N

Description

The HCPL062N optocouplers consist of an AlGaAs LED, optically coupled to a very high speed integrated photo-detector logic gate consisting of bipolar transistors on a CMOS process for reduced power consumption. The output features an open collector, thereby permitting wired OR outputs. The devices are housed in a compact small-outline package. The coupled parameters are guaranteed over the temperature range of -40°C to +85°C. An internal noise shield and provides superior common mode rejection.

Features

- Compact SO8 Package
- Very High Speed – 10 MBit/s
- Superior CMR – 25 kV/μs Minimum (1,000 Volts Common Mode)
- Logic Gate Output
- Wired OR–open Collector
- Fixed Threshold Detector Design Minimizes Thermal Impact on Switching Times
- U.L. Recognized (File # E90700)

Applications

- Ground Loop Elimination
- Field Buses
- Line Receiver, Data Transmission
- Data Multiplexing
- Switching Power Supplies
- Pulse Transformer Replacement
- Computer–peripheral Interface
- Instrumentation Input/Output Isolation

TRUTH TABLE (POSITIVE LOGIC)

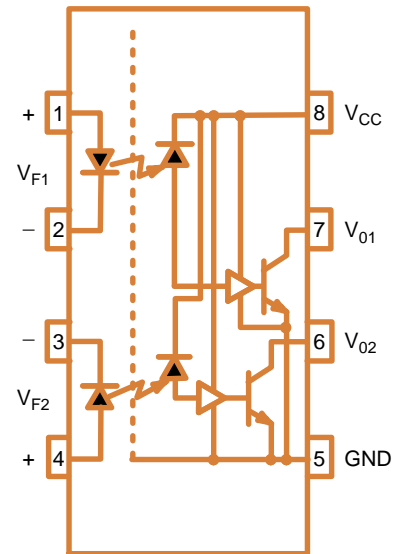
Input	Output
H	L
L	H

A 0.1 μF bypass capacitor must be connected between pins 8 and 5.

MARKING DIAGRAM

S = Assembly package code

CIRCUIT DRAWING (Note 1)



NOTE:

1. The V_{CC} supply to each optoisolator must be bypassed by a 0.1 μF capacitor or larger. This can be either a ceramic or solid tantalum capacitor with good high frequency characteristic and should be connected no further than 3 mm from the V_{CC} and GND pins of each device.

ORDERING INFORMATION

See detailed ordering and marking information on page 3 of this data sheet.
11 = One digit year code ranging from 01 to 09
YY = Two digit work week ranging from 01 to 53

HCPL062N

ABSOLUTE MAXIMUM RATINGS (No derating required up to 85°C)

Symbol	Parameter	Value	Unit
T _{STG}	Storage Temperature	-40 to +125	°C
T _{OPR}	Operating Temperature	-40 to +85	°C

EMITTER

I _F	DC/Average Forward Input Current (Each Channel)	50	mA
V _R	Reverse Input Voltage (Each Channel) Reverse Input Voltage (Each Channel)	0.01	V

HCPL062N

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TYPICAL PERFORMANCE CURVES (Continued)

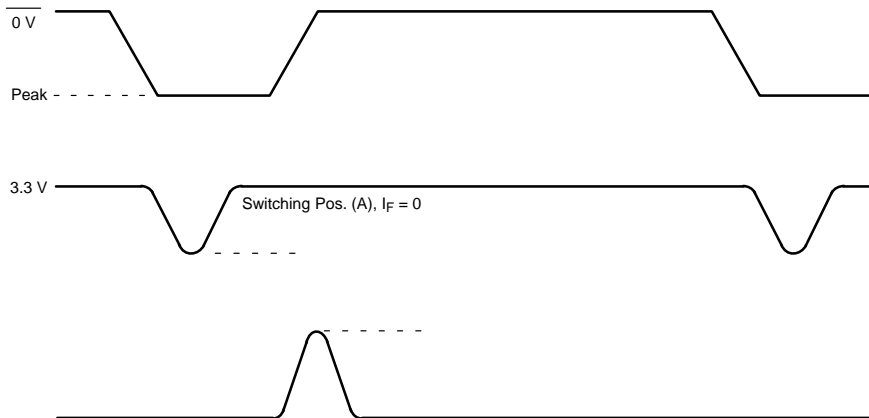
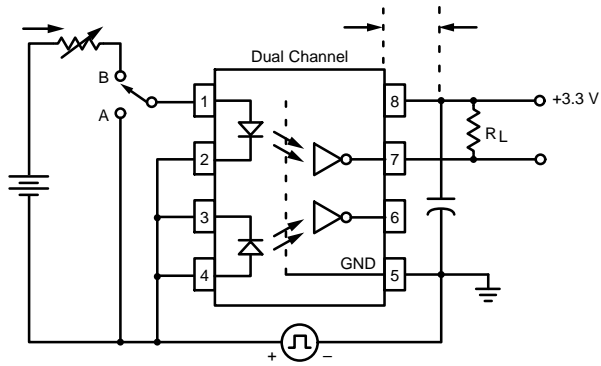
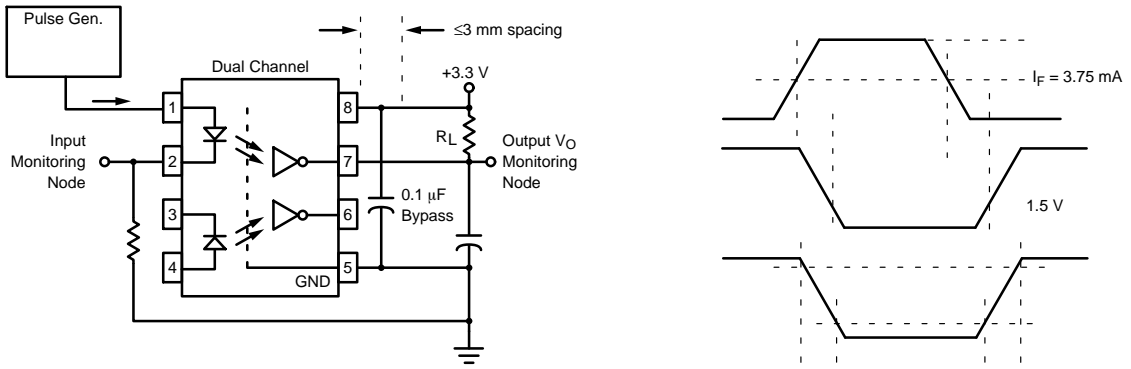
Figure 7. Propagation Delay vs. Ambient Temperature

Figure 8. Rise and Fall Times vs. Ambient Temperature

Figure 9. Low Level Output Voltage vs. Ambient Temperature

HCPL062N

TEST CIRCUITS



HCPL062N

REFLOW PROFILE

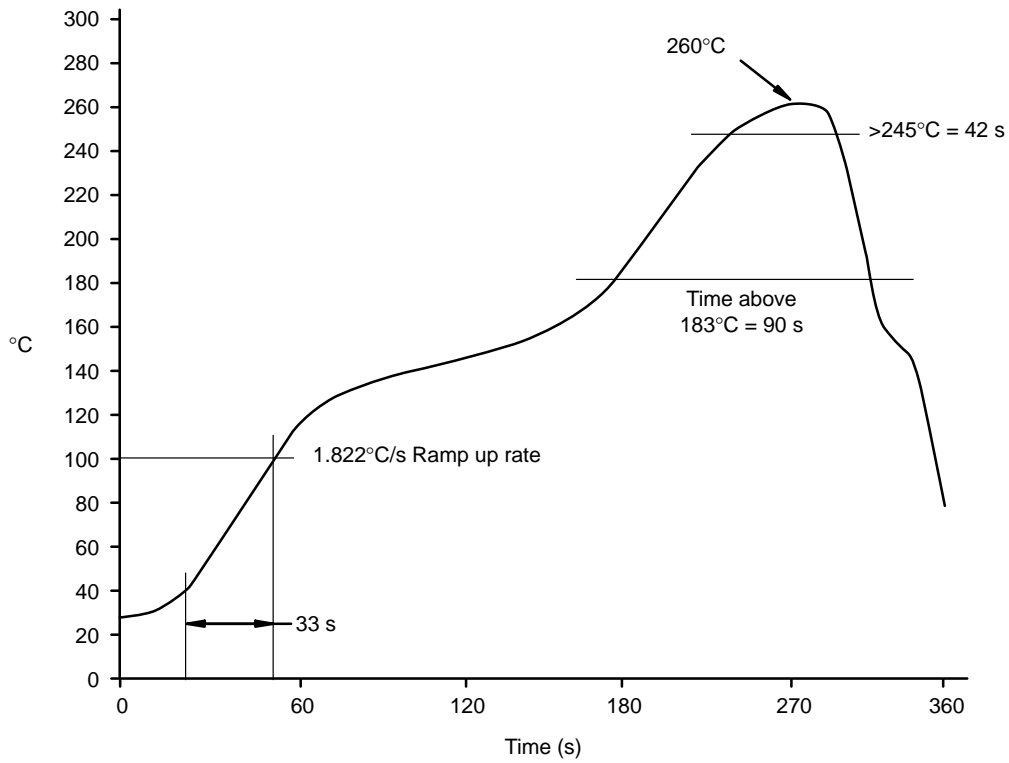


Figure 12. Reflow Profile

ORDERING INFORMATION

Option	Order Entry Identifier	Package Type	Shipping [†]
No Suffix	HCPL062N	SOIC8 (Pb-Free)	50 Units / Tube
R2	HCPL062NR2		2500 / Tape & Reel

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

SOIC8
CASE 751DZ
ISSUE O

DATE 30 SEP 2016

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ALL DIMENSIONS

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