LDA210

Solid State Current Sensors



	LDA210	Units
Break Down Voltage	20	V
Current Transfer Ratio	1000	%
Saturation Voltage	.8	V
Input Control Current	2	mA

Description

LDA210 is a dual optocoupler with a single or darlington transistor output. A bi-directional or uni-directional input is available depending on which model you choose. Current transfer ratios range from 33% to 1000%

Features

- AC and DC Input Versions Available
- Small 8 Pin DIP Package
- 100mA Continuous Load Rating
- 3750V_{RMS} Input/Output Isolation
- Machine Insertable, Wave Solderable
- Surface Mount and Tape & Reel Versions Available

Applications

- Telecom Switching
- Tip/Ring Circuits
- Modem Switching (Laptop, Notebook, Pocket Size)
- Loop Detect
- Ring Detect
- °Current Sensing

Approvals

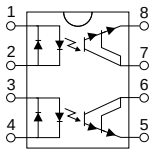
- UL Recognized: File Number E76270
- CSA Certified: File Number LR 43639-10
- BSI Certified:
  - BS EN 60950:1992 (BS7002:1992) Certificate #:7344
  - BS EN 41003:1993 Certificate #:7344

Ordering Information

Part #	Description
LDA210	8 Pin DIP (50/Tube)
LDA210S	8 Pin Surface Mount (50/Tube)
LDA210STR	8 Pin Surface Mount (1000/Reel)

Pin Configuration

LDA210 Pinout



Absolute Maximum Ratings (@ 25º C)

Parameter	Min	Typ	Max	Units
Input Power Dissipation	-	-	150[1]	mW
Input Control Current	-	-	100	mA
Peak (10ms)	-	-	1	A
Reverse Input Voltage	-	-	5	V
Phototransistor	-	-	150[2]	mW
Power Dissipation				
Total Package Dissipation	-	-	800[3]	mW
Isolation Voltage				
Input to Output	3750	-	-	V_{RMS}
Operational Temperature	-40	-	+85	˚C
Storage Temperature	-40	-	+125	˚C
Soldering Temperature				
DIP Package	-	-	+260	˚C
Surface Mount Package (10 Seconds Max.)	-	-	+220	˚C

[1] Derate Linearly 1.33 mw/ºC
[2] Derate Linearly 2.0 mw/ºC
[3] Derate Linearly 6.67 mw/ºC

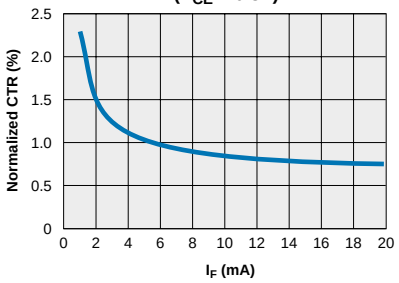
Absolute Maximum Ratings are stress ratings. Functional operation of the device at these or any other conditions beyond those indicated in the operational sections of this data sheet is not implied. Exposure of the device to the absolute maximum ratings for an extended period may degrade the device and effect its reliability.

Electrical Characteristics

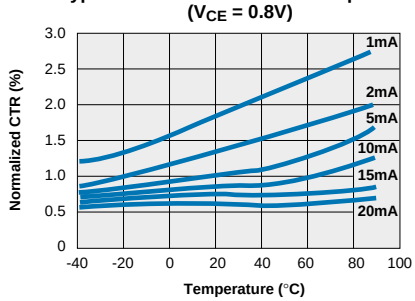
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Output Characteristics @ 25°C						
Phototransistor Blocking Voltage	I_C=10µA	BV_{CEO}	20	50	-	V
Phototransistor Output Current	V_{CE}=5V, I_F=0mA	I_{CEO}	-	100	500	nA
Saturation Voltage	I_C=2mA, I_F=16mA	V_{SAT}	-	-	0.5	V
I_C=.15mA, I_F=.05mA	V_{SAT}	-	-	0.5	-	V
Current Transfer Ratio	I_F=6mA, V_{CE}=0.5V	CTR	300	1000	-	%
Output Capacitance	50V, f=1 MHz	C_{OUT}	-	3	-	pF
Capacitance Input to Output	-			3	-	pF
Input Characteristics @ 25°C						
Input Control Current	I_C=2mA, V_{CE}=0.5V	I_F	6	2	100	mA
Input Voltage Drop	I_F=5mA	V_F	0.9	1.2	1.4	V
Input Reverse Voltage (LDA201, LDA211)	-	V_R	-	-	5	V
Input Reverse Current (LDA201, LDA211)	V_R=5V	I_R	-	-	10	nA
Common Characteristics @ 25°C						
Input to Output Isolation	-	$V_{I/O}$	3750	-	-	V_{RMS}

Performance Data

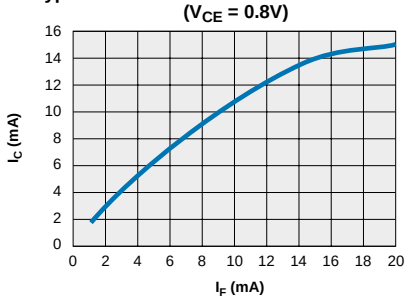
LDA210/LDA211
Typical Normalized CTR vs. Forward Current
(V_{CE} = 0.8V)



LDA210/LDA211
Typical Normalized CTR vs. Temperature
(V_{CE} = 0.8V)



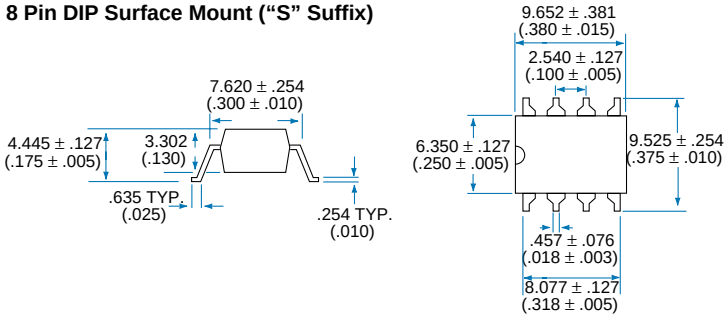
LDA210/LDA211
Typical Collector Current vs. Forward Current
(V_{CE} = 0.8V)



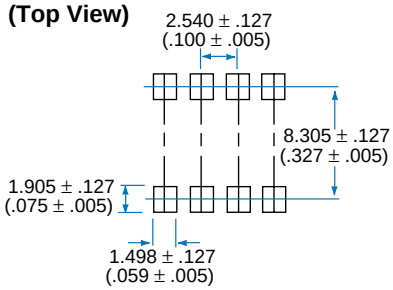
*The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

Mechanical Data

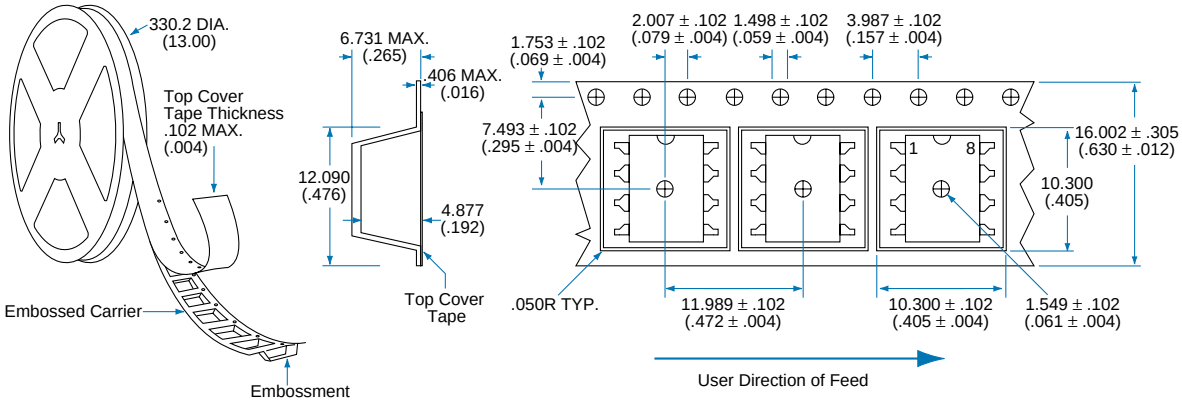
8 Pin DIP Surface Mount ("S" Suffix)



PC Board Pattern (Top View)



Tape and Reel Packaging for 8 Pin Surface Mount Package



Dimensions
mm
(inches)

CLARE

Micro Chips.
Macro Solutions.

Worldwide Sales Offices

CLARE LOCATIONS

Clare Headquarters
78 Cherry Hill Drive
Beverly, MA 01915
Tel: 1-978-524-6700
Fax: 1-978-524-4900
Toll Free: 1-800-27-CLARE

Clare Micronix Division
145 Columbia
Aliso Viejo, CA 92656-1490
Tel: 1-949-831-4622
Fax: 1-949-831-4628

SALES OFFICES

AMERICAS

Americas Headquarters
Clare
78 Cherry Hill Drive
Beverly, MA 01915
Tel: 1-978-524-6700
Fax: 1-978-524-4900
Toll Free: 1-800-27-CLARE

Eastern Region
Clare
P.O. Box 856
Mahwah, NJ 07430
Tel: 1-201-236-0101
Fax: 1-201-236-8685
Toll Free: 1-800-27-CLARE

Central Region
Clare Canada Ltd.
3425 Harvester Road, Suite 202
Burlington, Ontario L7N 3N1
Tel: 1-905-333-9066
Fax: 1-905-333-1824

Western Region
Clare
1852 West 11th Street, #348
Tracy, CA 95376
Tel: 1-209-832-4367
Fax: 1-209-832-4732
Toll Free: 1-800-27-CLARE

Canada
Clare Canada Ltd.
3425 Harvester Road, Suite 202
Burlington, Ontario L7N 3N1
Tel: 1-905-333-9066
Fax: 1-905-333-1824

EUROPE

European Headquarters
CP Clare nv
Bampslaan 17
B-3500 Hasselt (Belgium)
Tel: 32-11-300868
Fax: 32-11-300890

France
Clare France Sales
Lead Rep
99 route de Versailles
91160 Champlan
France
Tel: 33 1 69 79 93 50
Fax: 33 1 69 79 93 59

Germany
Clare Germany Sales
ActiveComp Electronic GmbH
Mitterstrasse 12
85077 Manching
Germany
Tel: 49 8459 3214 10
Fax: 49 8459 3214 29

Italy
C.L.A.R.E.s.a.s.
Via C. Colombo 10/A
I-20066 Melzo (Milano)
Tel: 39-02-95737160
Fax: 39-02-95738829

Sweden
Clare Sales
Comptronic AB
Box 167
S-16329 Spånga
Tel: 46-862-10370
Fax: 46-862-10371

United Kingdom
Clare UK Sales
Marco Polo House
Cook Way
Bindon Road
Taunton
UK-Somerset TA2 6BG
Tel: 44-1-823 352541
Fax: 44-1-823 352797

ASIA PACIFIC

Asian Headquarters
Clare
Room N1016, Chia-Hsin, Bldg II,
10F, No. 96, Sec. 2
Chung Shan North Road
Taipei, Taiwan R.O.C.
Tel: 886-2-2523-6368
Fax: 886-2-2523-6369

http://www.clare.com

Clare cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in this Clare product. No circuit patent licenses nor indemnity are expressed or implied. Clare reserves the right to change the specification and circuitry, without notice at any time. The products described in this document are not intended for use in medical implantation or other direct life support applications where malfunction may result in direct physical harm, injury or death to a person.

Specification: DS-LDA210-R1
©Copyright 2001, Clare, Inc.
All rights reserved. Printed in USA.
02/23/01